



PRINCE GEORGE'S COUNTY FIRE/EMERGENCY MEDICAL SERVICES DEPARTMENT

Safety Investigation Team Report

6404 57th Avenue
Riverdale Heights, Maryland
Incident Date: February 24, 2012



A reward of \$5,000 is being offered for information that leads to the arrest and indictment of the person(s) responsible for the arson that occurred at 6404 57th Avenue, Riverdale, Maryland on the night of February 24, 2012. Several firefighters were seriously injured as a result of this fire. Anyone with information is urged to immediately call ATF and your identity will remain confidential - you can call 24 hours a day.

1-888-ATF-FIRE



House Fire with Significant Firefighter Injuries



THE PRINCE GEORGE'S COUNTY GOVERNMENT

Fire/EMS Department
Support Services Command



Marc S. Bashoor, Fire Chief
Prince George's County Fire/Emergency Medical Services Department
9201 Basil Court, Fourth Floor East
Largo, Maryland 20774

Dear Chief Bashoor:

On February 24, 2012, the Prince George's County Fire/Emergency Medical Services (EMS) Department experienced a house fire in Riverdale Heights that resulted in significant injuries to several of our members. Due to the severe impact this had on our organization and in compliance with General Order 08-18, Safety and Investigation Team, the Safety Investigation Team (SIT) was assembled in order to determine the direct and indirect factors that resulted in the serious injuries sustained by our members and to prevent similar incidents from reoccurring in the future.

As the Team set out on our task, it was decided that we would use the previously written Safety Report of the Meadowood Court incident from the Loudon County Department of Fire, Rescue, and Emergency Management as our template. This decision was made because of that report's highly organized nature and ease of readability.

On behalf of the Team, as Co-Chairs, we are honored to submit for your review a thorough and detailed analysis of the incident, along with recommendations, that hopefully will prevent incidents like this from happening again.

Sincerely,

The handwritten signature of Scott K. Hoglander.

Scott K. Hoglander
Deputy Fire Chief

The handwritten signature of Sayshan Conver-White.

Sayshan Conver-White
Battalion Chief

4621-A Boston Way
Lanham, Maryland 20706
Voice: 301-306-5686 Fax: 301-306-5693

INVESTIGATIVE TEAM

Deputy Fire Chief Scott K. Hoglander, Co-Chair
Prince George's County Fire/EMS Department

Battalion Chief Sayshan L. Conver-White, Co-Chair
Prince George's County Fire/EMS Department

Fire Chief Richard R. Bowers, Jr.
Montgomery County Fire and Rescue Service

Deputy Fire Chief William Goldfeder
Loveland-Symmes Fire Department, Ohio

Assistant Fire Chief Michael Nelson
Montgomery County Fire and Rescue Service

Volunteer Safety Division Chief Stefan C. Gansert
Prince George's County Fire/EMS Department

Paramedic Captain Roland D. Berg
Prince George's County Fire/EMS Department

Fire Lieutenant Philip Bird, Jr.
International Association of Firefighters, Local 1619

Fire Lieutenant Daniel R. Schrader
Prince George's County Fire/EMS Department

Fire Investigator Aaron Tyler
Prince George's County Fire/EMS Department

Fire Protection Engineer Lee McCarthy
Bureau of Alcohol, Tobacco, Firearms & Explosives

President Charles W. Walker
Prince George's County Volunteer Fire & Rescue Association

Administrative Aide II Xiomara Lozano-Chevez
Prince George's County Fire/EMS Department

ACKNOWLEDGEMENTS

The Safety Investigative Team is extremely grateful to all those who participated and assisted in the development and progress of this report. Their cooperation and assistance was vital with making this report possible.

Specifically, the Team would like to recognize the following individuals and organizations for their assistance with this project and thank them for their contributions and insight.

Prince George's County Fire/Emergency Medical Services Department

Tyrone Forby, Assistant Fire Chief
Adon Snyder, Assistant Fire Chief (retired)

Prince George's County Fire Commission

Leslie Garrett, Fire Commissioner
Nancy Roberts, Administrative Aide III

Prince George's County Public Safety Communications

Charlynn Flaherty, Associate Director
Wayne McBride, Division Chief
Dave Beck, Assistant Operations Manager
Donald Aker, Training Supervisor
Tom Provenza, Radio System Manager

Bureau of Alcohol, Tobacco, Firearms & Explosives

Adam St. John, Fire Research Engineer

Colerain Township Fire/EMS Department, Ohio

Bruce Smith, Fire Chief

Loudon County Department of Fire, Rescue, and Emergency Management

W. Keith Brower Jr., Fire-Rescue Chief

Montgomery County Fire and Rescue Service

Scott Goldstein, Assistant Fire Chief
Michael Bobrow, Master Firefighter
Self-Contained Breathing Apparatus Shop

Montreal Fire Department, Canada

Gordon Routley, Division Chief

Penn Township Fire Department, Indiana

Brian Kazmierzak, Battalion Fire Chief

Underwriters Laboratories

Steve Kerber, Fire Research Engineer

Washington Suburban Sanitary Commission

Tesfai Giorgis, Senior Civil Engineer

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EXECUTIVE SUMMARY

On February 24, 2012, at 2111 hours, Prince George's County Fire/Emergency Medical Services (EMS) Department personnel responded to a structure fire at 6404 57th Avenue in Riverdale Heights, Maryland. Upon arrival, Fire/EMS Department personnel observed flames extending out of a basement window, pressurized smoke on the first floor, and high winds impacting the rear of the structure.

Shortly after arriving, firefighters forced the front door of the structure, which immediately changed the fire's flow path and dynamics by adding a ventilation opening above the fire. This situation was intensified by weather conditions (high winds impacting the rear of the structure). Firefighters entered the structure through the front door, placing themselves above the basement fire and in its outflow path. This exposed them to high velocity and high temperature gases.

Two (2) firefighters were trapped on the first floor without the protection of a hose line, when the front door shut behind them and changed the fire's flow path. The hot smoke and gases that were coming up the interior stairwell and escaping out the front door were now contained to the first floor. This dropped the smoke layer to the floor and temporarily increased the temperatures from floor to ceiling in the front room where the firefighters were trapped. One (1) firefighter was able to self-rescue through a front window and the other firefighter was removed through the front door by other firefighters. The fire in the basement was burning unchecked, until an engine company entered the basement from the rear of the structure and began putting water on the fire. Ultimately seven (7) firefighters were injured; the two (2) firefighters that were trapped on the first floor sustained the most significant injuries. There have been several documented incidents in the County, as well as nationally, with similar concerning tactics and operations, that have injured or killed firefighters, such as DCFD Cherry Road LODD[1], SFFD Diamond Heights LODD[2], and BCoFD Dowling Circle LODD[3]. This makes the recommendations of this report vitally important.

The Safety Investigation Team (Team) visited the scene, reviewed statements, conducted interviews, and gathered data during the course of the investigation. The Team identified many factors that contributed to the outcome and injuries to the firefighters. While the report details all of these factors, the Team identified the following as most critical:

1. An effective size-up was not completed, including a 360-degree survey walk around the building, as well as evaluating environmental conditions.
2. No incident action plan was communicated, and firefighters were dangerously positioned above and in the outflow path of the fire.

3. A firefighter emergency occurred, but no MAYDAY was effectively communicated.
4. Multiple existing policies and procedures were not followed.
5. Training deficiencies were identified at all levels.
6. Command, control, and accountability deficiencies were identified at all levels.

While the Team analyzed the entire incident, the focus of this investigation was to determine what happened, what factors led to the injuries and, most importantly, what recommendations should be made so future incidents do not have similar or worse outcomes. During the course of the investigation, the Team prepared many recommendations intended to assist the Prince George's County Fire/EMS Department in improving the operational safety of personnel, fireground operations, command and control of fire incidents, as well as training. These recommendations, which are listed throughout the report, are separated into categories termed: immediate (red – Life safety & firefighter survival), short term (yellow – Relatively easy to implement), and long term (green – May require significant planning including fiscal impacts). A complete list of all recommendations is provided in Appendix 1.

INTRODUCTION

On February 24, 2012, at 2111 hours, the Prince George's County Fire/Emergency Medical Services (EMS) Department responded to a structure fire at 6404 57th Avenue, Riverdale Heights, Maryland. During firefighting operations, seven (7) firefighters were injured. Some of these firefighters received significant burn injuries and were hospitalized for a long period of time. Given the severity of the injuries and the magnitude of the event, an investigative team was initiated by Fire Chief Marc S. Bashoor, in accordance with General Order 08-18: *Safety Investigation Team* (SIT) referred to in this report as the "Team."

Additionally, The Prince George's County Fire/EMS Department's Office of the Fire Marshal conducted its investigation to determine the origin and cause of the fire. Assisted by members of the Prince George's County Police Department and Special Agents from the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), the Fire Marshal's Office determined the fire was incendiary in nature. At the time of this writing, this case remains as an open active criminal investigation.

In an effort to ensure that the safety investigation did not interfere with the criminal aspects of the case, the two investigations were conducted separately, and under strict confidentiality. While the Office of the Fire Marshal focused on the origin and cause, the Team conducted a comprehensive review and analysis of the operational components of this incident. Specifically, the Team was tasked with reviewing the initial reporting/dispatch/response to the incident, the incident operations, the firefighter injuries, and incident mitigation.

The information in this report is factual and was validated by multiple sources prior to inclusion in this document. The Team had months to examine the incident and develop recommendations. In contrast, the first arriving crews on the scene had only seconds to make critical incident decisions and take action.

On behalf of the entire Team, attached is the final report of the 6404 57th Avenue incident. It provides an overview of the events, the findings associated with the fire incident, lessons learned, and recommendations.

Here is a brief overview of the critical points that are discussed in depth within the report.

COMMAND AND CONTROL OF INCIDENT OPERATIONS

Command and control of incident operations is a primary responsibility of unit and command officers. Command presence and control of the dynamic situations associated with structure fires is a critical element to safely mitigate an incident. This incident demonstrated the need to establish one standardized County-wide system of command documentation, control and management during incident operations. A standardized fireground tactical command board, sheet, and system needs to be

established and distributed to all chief officers within the Prince George's County Fire/EMS Department. This County-wide tactical command sheet/board must be required for use in any multi-unit response to ensure command and control of incident operations.

FIREGROUND SAFETY AND ACCOUNTABILITY

Firefighter safety and accountability are critical to safe fireground operations. Crew integrity and accountability during incident operations must be maintained at all times to ensure the safety of the personnel. It is imperative that the Department adopt a culture of personal safety by the members and embrace fireground operational safety practices during incident operations.

A life-threatening firefighter emergency occurred during the initial company operations. A firefighter MAYDAY was not transmitted effectively at the 57th Avenue fire incident. Company Officers and firefighters need to recognize life-threatening events and transmit MAYDAYs immediately. There are numerous recommendations that address improvements to fireground operations, firefighter safety, accountability and lessons learned from this incident.

PERSONAL PROTECTIVE EQUIPMENT

A firefighter's Personal Protective Equipment (PPE) is often the last line of defense against injury in critical situations, such as entrapment. It is imperative that the Department foster a culture that ensures all personnel wear only Department approved, NFPA compliant PPE. An evaluation of the PPE worn by the injured firefighters on this incident revealed that several of them, including those most seriously injured, were wearing non-approved PPE items. Regular inspections are recommended to ensure compliance with all policies related to PPE, including the 10-year expiration contained in current NFPA standards.

STRATEGY AND TACTICAL OPERATIONS

Strategy and tactical decision making are the basic foundations of effective and safe incident operations. The present fire environment, as well as occupant and firefighter survivability, are all key factors in strategic and tactical decision making at structure fires. This incident involved critical strategic and tactical decisions by the initial arriving unit and command officers. There are many training recommendations in the report that identify the need to develop and deliver a standardized strategy and tactics training program for all ranks.

ENVIRONMENTAL CONDITIONS AND WIND-DRIVEN FIRES

Environmental conditions, such as wind, are significant factors that can dramatically impact fire development and spread. Personnel operating at this incident experienced significant sustained winds and gusts that impacted fire development and spread. Firefighter training curriculums must incorporate the impact that environmental conditions have on fire development and spread at structure fires.

FIREGROUND COMMUNICATIONS

Effective fireground communications during fireground operations are important elements of incident command, firefighter safety, and accountability. Structure fires are complex incidents that require effective communications to ensure the continuity of operations by the personnel and incident command. There were numerous portable radio transmission issues during this incident. The report addresses the challenges associated with radio communications during the incident, identifies the lessons learned and provides recommendations.

RISK ASSESSMENT AND DECISION MAKING AT STRUCTURE FIRES

Initial arriving company officers at structure fires “make or break” the incident operations, by their initial decisions. The initial implementation of the strategic and tactical operations are set by the first arriving company officers. Scene size-up, building construction, environmental conditions, fire development and spread, as well as occupant and firefighter survivability are all important components of risk assessment and decision making for unit and incident command officers. This incident involved critical decision making by the first arriving unit and command officers. The report addresses the challenges the officers faced during incident operations at the fire.

COMMAND AND COMPANY OFFICER TRAINING

Training is the foundation of safe fundamental fireground operations at structure fires. A comprehensive basic training program for command and company officers is an important component to be successful at structure fires. This incident illustrates the need for a Department-wide comprehensive basic training program that focuses on the fundamentals of fireground operations. There are many training recommendations contained within the 57th Avenue fire incident report. Compliance with all policies and procedures is critical to ensure personnel operate safely during routine and emergency situations. The crews operating at this incident did not follow all existing policies and procedures.

FIRE BEHAVIOR AND SIZE-UP

Size-up by company and command officers is an initial critical task that must be conducted by first arriving officers. Completing an initial size-up by first arriving officers provides intelligence for them to develop strategic and tactical decisions at structure fires. The 57th Avenue fire incident demonstrates the critical need to ensure a complete 360-degree size-up of the fire conditions, building construction, environmental conditions, and life safety. A thorough understanding of fire behavior, including fire flow paths and the impact of ventilation and weather conditions, provides essential knowledge to effectively establish an appropriate incident action plan. The Fire Behavior Chapter describes the fire behavior related to this basement fire, and explains the significance entering through the front door on the floor above the fire prior to getting water on the fire with high winds impacting side Charlie.

EMS TRIAGE, TREATMENT, AND TRANSPORT

Response to structure fires requires the response of Emergency Medical Service (EMS) units. EMS units provide the necessary resources to triage, treat, and transport

Introduction

occupant victims or injured firefighters. EMS units need to assemble the necessary equipment and standby in a location on the fireground that enables the providers to access any victims or injured firefighters. This incident illustrated the need to have EMS resources respond to all structure fires. There were multiple firefighter injuries that required the use of EMS personnel and units available to triage, treat, and transport the firefighters.

ORGANIZATION OF THIS REPORT

This report is organized into two main sections: PART I and PART II. PART I of the report is intended to provide a detailed description of the facts pertaining to and leading up to the emergency situation that injured the firefighters. This includes background information, a description of the structure, the environmental conditions, an incident overview, and the fire behavior up until the emergency. This section only includes verifiable facts. PART II of the report is an analysis of the incident, which describes the factors that led to the outcome, as well as the recommendations. This section includes an analysis of the fire operations, EMS operations, behavioral health, communications, training, and personal protective equipment.

This report does not contain the names of the individuals involved in this incident; therefore, each is identified using their unit designation and riding position. Table 1 identifies the naming scheme of individuals that may be discussed throughout this report. Riding assignments are not standardized within the Prince George's County Fire/EMS Department; therefore, these position descriptions were derived from written statements, and are based on the individual company riding assignments.

Table 1: Personnel Description (Riding Position)

E807B	E809	E801	E812
Engine 807B Officer	Engine 809 Officer	Engine 801 Officer	Engine 812 Officer
Engine 807B Driver	Engine 809 Driver	Engine 801 Driver	Engine 812 Driver
Engine 807B Nozzelman	Engine 809 Nozzelman	Engine 801 Nozzelman	Engine 812 Nozzelman
Engine 807B Forcible Entry	Engine 809 Layout	Engine 801 Layout	Engine 812 Forcible Entry
Engine 807B Layout/Backup		Engine 801 Back-up	Engine 812 Exterior Assist
Engine 807B 2nd-line		Engine 801 Hall	
TK809	TK801	SQ801	BC884
Truck 809 Officer	Truck 801 Officer	Squad 801 Officer	Battalion Chief 884
Truck 809 Driver	Truck 801 Driver	Squad 801 Driver	
Truck 809 Forcible Entry	Truck 801 Forcible Entry	Squad 801 Firefighter 1	
Truck 809 Can	Truck 801 Hook & Can	Squad 801 Firefighter 2	
Truck 809 Hook/Ladders	Truck 801 Ladders 1	Squad 801 Firefighter 3	
	Truck 801 Ladders 2	Squad 801 Firefighter 4	
	Truck 801 Ladders 3	Squad 801 Firefighter 5	
	Truck 801 Tillerman	Squad 801 Firefighter 6	

METHODOLOGY

The Team gathered a wide variety of data and conducted dozens of interviews during the course of the investigation. Members of the Team obtained statements from and/or interviewed the majority of personnel who responded to 57th Avenue.

Data gathered included:

- Policies
- Procedures
- Manuals
- Pictures
- Videos
- Written statements from personnel who responded to the incident
- Radio tapes
- Gear worn by injured personnel
- Incident reports
- Fire Marshal's Office origin and cause investigation
- Training records
- Apparatus and equipment specifications
- Building material information

It should be noted that, over the course of the investigation, the Team determined that specific medical treatment was outside the scope of this report. Rather, the report addresses the management and coordination of EMS resources on the scene and the process by which additional resources were requested and obtained.

TERMINOLOGY

All of the times used in this document are expressed using the 24-hour clock.

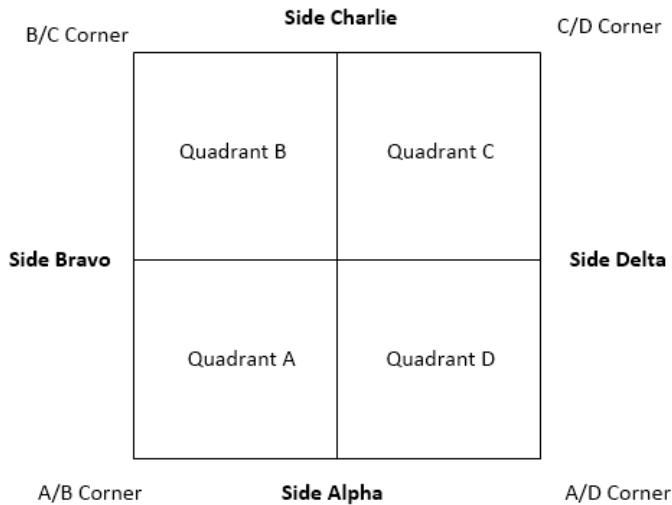
The Prince George's County Fire/EMS Department has adopted the International Phonetic Alphabet, which assigns a word to each letter of the alphabet, as listed below:

A – Alpha	H – Hotel	O – Oscar	U – Uniform
B – Bravo	I – India	P – Papa	V – Victor
C – Charlie	J – John	Q – Quebec	W – Whiskey
D – Delta	K – Kilo	R – Romeo	X – X-ray
E – Echo	L – Lima	S – Sierra	Y – Yankee
F – Foxtrot	M – Mike	T – Tango	Z – Zulu
G – Golf	N – November		

These words are used whenever it is necessary to identify any letter of the alphabet over the 700/800 MHz radio system or refer to the sides and interior quadrants of a building (see Figure 1). All of the quoted communicated text in the document was taken directly from recorded radio transmissions or phone calls. As a result, there are deviations from the phonetic alphabet listed above.

The term “exposure” refers to a structure that is attached or adjacent to the fire building. Exposures are commonly identified with a letter corresponding to the side relative to the fire building.

Figure 1: Terms used to describe Building Sides and Interior Quadrants



FREQUENTLY USED TERMS

Box Alarm – A complement of apparatus dispatched to a fire emergency. Typically consists of four (4) Engines, two (2) Trucks, one (1) Rescue Squad, and one (1) Command Officer.

Divisions – Responsible for the operations within a defined geographic area under the direction of Command or other designated officer (divisions are locations, often referring to floor number).

Emergency Identifier (EI) – The button and function on a public safety radio, used to alert other radio users and dispatch of a potential life threatening situation.

EMS Task Force – A special alarm for a specific reason involving predetermined units. Currently, two (2) Basic Life Support (BLS) ambulances and one (1) Advanced Life Support (ALS) ambulance shall be dispatched.

Engine – Vehicle designed to carry water and hose, whose task is to extinguish fire.

Fire Task Force – A special alarm for a specific reason involving pre-determined units. Currently, two (2) engine companies, one (1) special service, and a breathing air unit shall be dispatched.

Groups – Responsible for the operations with a specific functional assignment under the direction of Command or other designated officer. Groups are tasks, i.e., Search Group, Safety Group.

Immediate Danger to Life and Health (IDLH) – Refers to potential atmospheres that firefighters can find themselves working in during the course of their duties.

Personal Protective Equipment (PPE) – The ensemble of specialized clothing and SCBA meant to be worn by firefighters to protect them from the hazards of an IDLH environment.

Quadrant – Geographic area of structure normally divided into four (Alpha – Delta).

Rescue Squad – A special service vehicle designed to carry equipment and personnel specializing in rescue situations.

Self-Contained Breathing Apparatus (SCBA) – An atmosphere-supplying respirator used by firefighters for which the breathing air source is designed to be carried by the user. An SCBA wearer must be capable of carrying the weight of an air tank.

Side Alpha – Designated front side on a building; usually the street or address side and continuing clockwise through Delta.

Truck – A special service vehicle designed to carry a complement of ground ladders as well as a larger aerial ladder.

Working Fire Dispatch – Terminology used by Public Safety Communications (PSC) and/or the Incident Commander to announce/request the dispatch of additional pre-determined units to the scene of a confirmed working incident. In effect at the time of incident, units included a BLS transport unit, ALS transport unit, safety officer, EMS officer, and an additional command officer (if only one command officer is responding on the call).

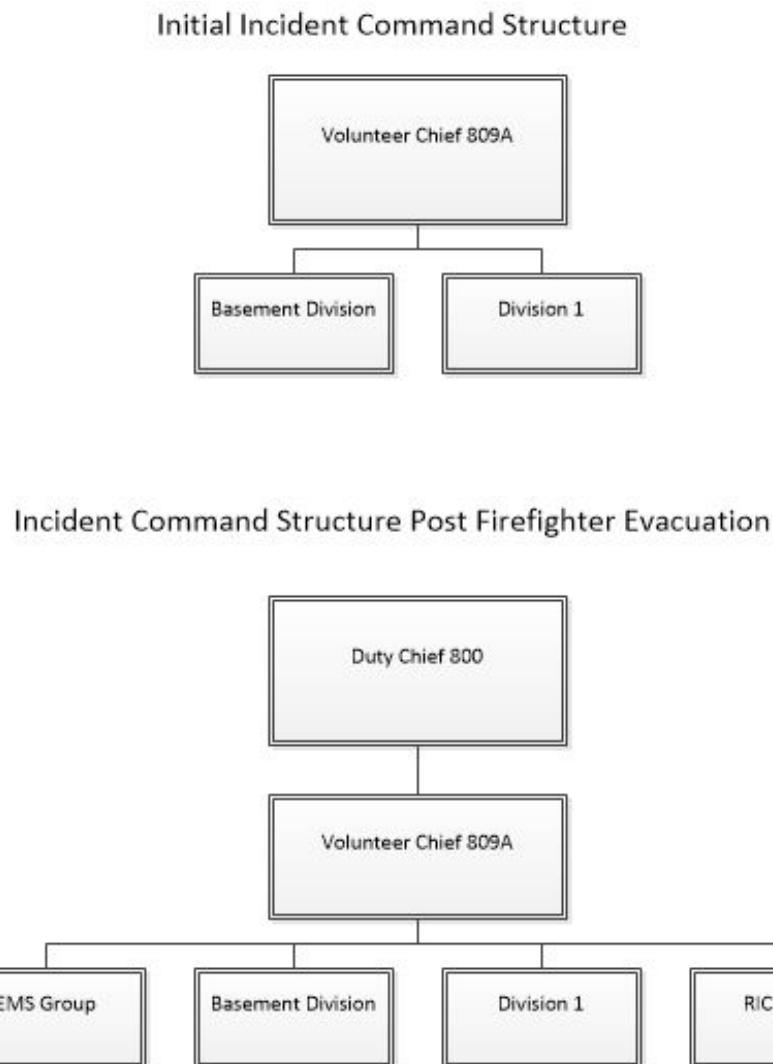
Incident Command System

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

- Allows for the integration of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure
- Enables a coordinated response among various jurisdictions and functional agencies, both public and private
- Establishes common processes for planning and managing resources

ICS is flexible and can be used for incidents of any type, scope and complexity. ICS allows its users to adopt an integrated organizational structure to match the complexities and demands of single or multiple incidents. To limit the number of responsibilities and resources being managed by any individual, the ICS requires that any single person's span of control should be between three (3) and seven (7) individuals, with five (5) being ideal. In other words, one (1) manager should have no more than seven (7) people working under them at any given time. If more than seven (7) resources are being managed by an individual, then that individual is overloaded and the command structure needs to be expanded by delegating responsibilities (e.g. by defining new sections, divisions, or task forces - see Figure 2). If there are fewer than three, then the position's authority can probably be absorbed by the next highest rank in the chain-of-command.

Figure 2: ICS Command Structure



Strategy and Tactics

Fire Officers use industry accepted guidelines (i.e., the National Incident Management System and Prince George's County Fire/EMS Department General Orders), collectively known as "strategy and tactics" to mitigate emergency incidents.

"Strategies" are overall objectives, initially determined by the first arriving officer and subsequent arriving command officers, until the incident is brought to conclusion.

"Tactics" are specific actions that support the overall strategy. An example of a strategy at a house fire would be to find and extinguish the fire, while an example tactic to achieve this goal would be a specific method of attacking the fire if it were located in the basement level of the structure.

BACKGROUND

This Chapter provides an overview of Prince George's County and its combination (career and volunteer personnel) Fire/Emergency Medical Services (EMS) system.

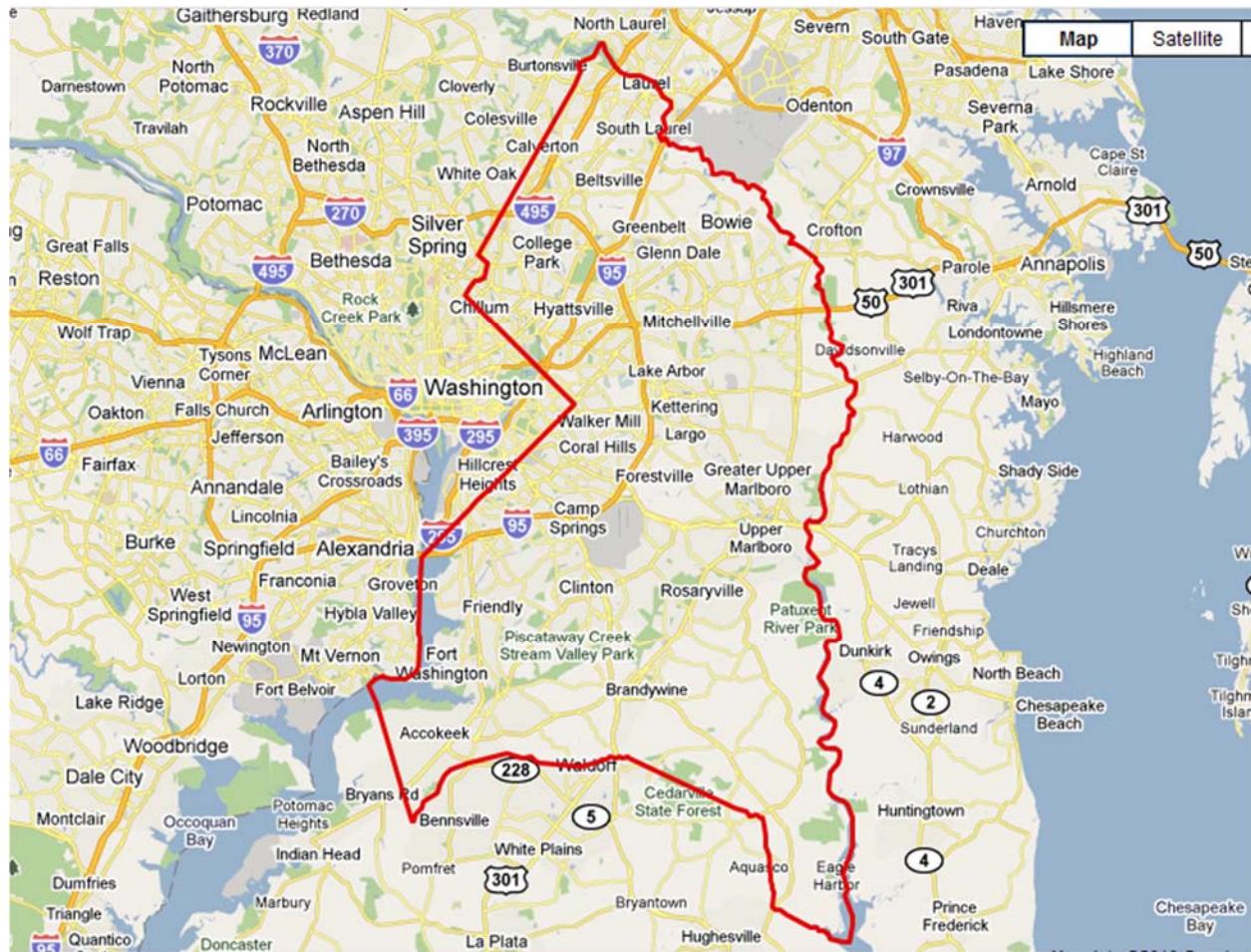
PRINCE GEORGE'S COUNTY, MARYLAND

Prince George's County is a County located in the State of Maryland, immediately north, east, and south of Washington, D.C. (see Figure 3). According to the 2010 census, it's estimated that the County has a population of 871,233. Prince George's County is a part of the Baltimore-Washington, D.C. Metropolitan Area.

The County has a total area of 498.45 square miles (1,291.0 square kilometers), of which 485.43 square miles (1,257.3 square kilometers or 97.39 percent) is land and 13.01 square miles (33.7 square kilometers or 2.61 percent) is water. The Patuxent River forms the County's eastern border with Howard, Anne Arundel, and Calvert Counties.

Prince George's County was granted a charter form of government in 1970 with the County Executive elected as the head of the Executive Branch and the County Council members as the leadership of the Legislative Branch.

Figure 3: Regional Map (Prince George's County outlined in red)



COMBINATION FIRE AND RESCUE SYSTEM

Prince George's County Fire/EMS Department (PGFD) delivers services through a network of 44 fire stations strategically positioned throughout the County. Stations are staffed with 782 career and approximately 1,137 volunteer personnel, which protect a population of over 871,233 residents. The Department is responsible for all fire suppression and prevention throughout the County and provides both Basic Life Support (BLS) and Advanced Life Support (ALS) emergency medical care. In addition, the Department provides:

- Technical rescue capability in instances of cave-in or collapsed structures
- Hazardous materials containment and mitigation
- Water rescue including swift water and boat operations
- Fire investigations
- Emergency planning
- Community education programs

The Department has mutual aid and automatic mutual aid agreements with the surrounding jurisdictions, and it supports regional and national emergency response operations during disaster situations.

The annual call volume for the Department in 2011 was 129,562 incidents with emergency medical responses accounting for nearly 80 percent of services. The County has not yet achieved full build-out. It is anticipated that the population will continue to grow and overall call volume and support requirements will increase and become more challenging.

FIRE/EMS DEPARTMENT MANAGEMENT

The Prince George's County Fire/EMS Department is composed of four distinct commands - Emergency Services Command (ESC), Administrative Services Command (ASC), Support Services Command (SSC), and Volunteer Services Command (VSC). Each of these commands is headed by a Deputy Fire Chief who reports directly to the Fire Chief (see Figure 4). The ESC is responsible for daily operations of all emergency services, both Fire and EMS, career and volunteer. The ESC incorporates both career and volunteer Firefighters/Emergency Medical Technicians (EMT).

The Administrative Services Command includes Human Resources, Logistics and Supply, Fiscal Affairs, Facilities and Resource Planning, and Apparatus Maintenance. The ASC incorporates both career firefighters and civilian employees.

The Support Services Command includes the Office of the Fire Marshal, Risk Management and Safety, Professional Standards and Compliance, the Fire/EMS Training Academy, and Information Management.

The Volunteer Services Command acts as a liaison between the Fire/EMS Department and the volunteer corporations and handles all issues involving the individual volunteer companies. Individual station management of the volunteer staffed stations is the responsibility of the volunteer chiefs for those stations.

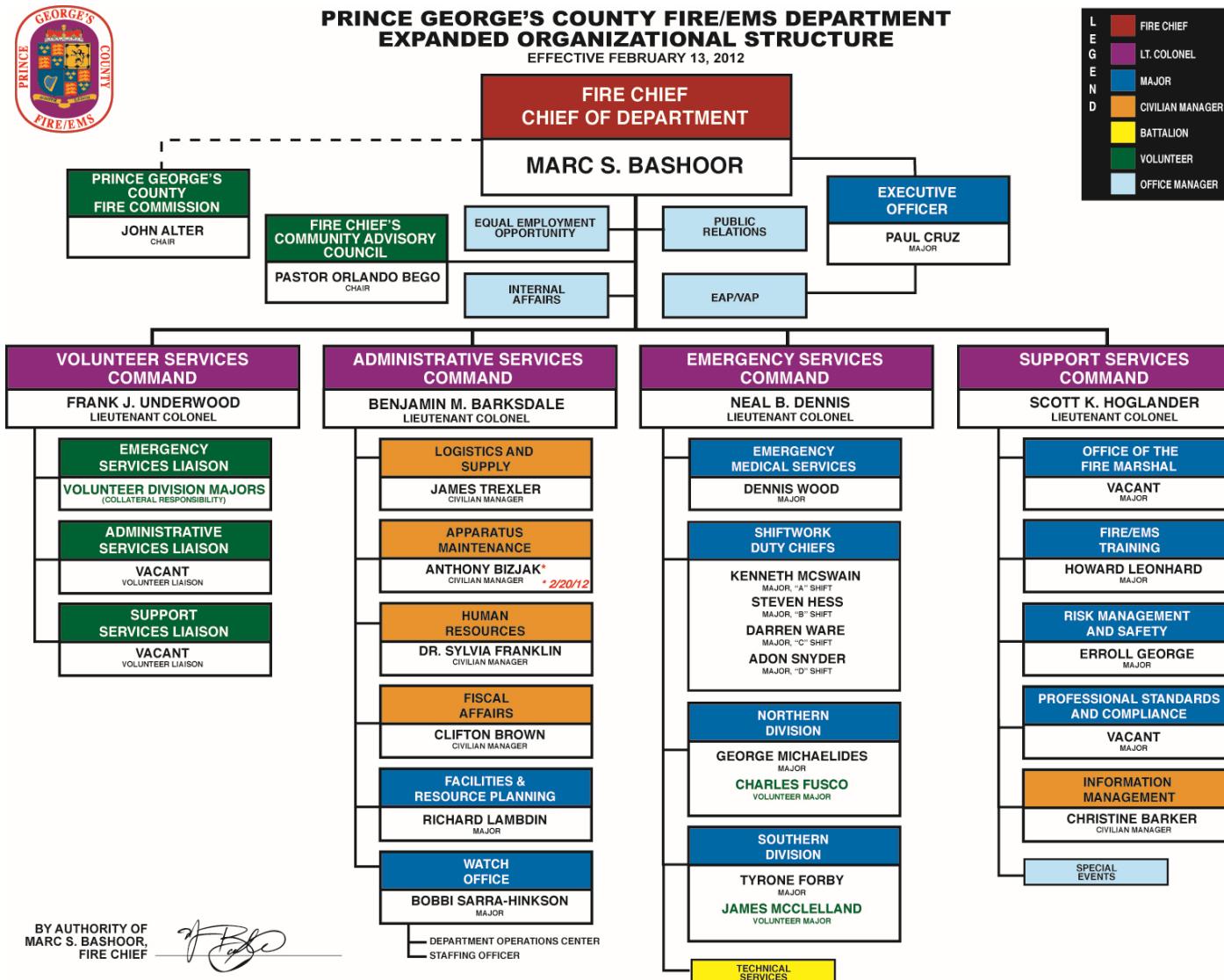
Chain-of-Command

General Order 01-03: *Chain-of-Command*, delineates the Prince George's County Fire/EMS Department emergency incident chain-of-command from highest to lowest rank:

- County Fire Chief
- Career Deputy Fire Chief
- Career/Volunteer Assistant Chief
- Volunteer Division Chief
- First Due Volunteer Company Chief
- First Due Volunteer Company Deputy or Assistant Chief with "A" Chief radio designation
- Battalion Chief /First Due Volunteer "B" Chief
- Other Volunteer Chief Officers (in order listed on assignment)

- Battalion Chief (other than dispatched on the assignment)
- Captain (in order listed on assignment)
- Lieutenant (in order listed on assignment)
- Sergeant (in the order listed on the assignment)
- Fire Technician (in order listed on assignment)
- Fire Fighter - Certified Level III, II, I, or Paramedic Certified Level II, I (in order listed on assignment)

Figure 4: Organizational Structure of Fire/EMS Department (in effect at time of fire)



POLICY AND GOVERNANCE

The Department is bound by various local, regional, State, and Federal policies, procedures, ordinances, and regulations.

Local

Per Subtitle 11, Fire Safety Law, the Fire Chief maintains final approval authority over all policies and procedures, or General Orders, for the Department. These are developed and maintained by a cross section of personnel throughout the entire Department.

Regional

Prince George's County is a member of the Metropolitan Washington Council of Governments which is a regional organization composed of 21 local governments surrounding Washington, D.C. Prince George's County is also a member of the National Capital Region (NCR), which was established by the National Capital Planning Act of 1952 and includes jurisdictions across the Metro Washington area. Through its committees, the NCR works to advance preparedness and response in the region.

State

The Maryland Occupational Safety and Health (MOSH) enforces occupational safety and health laws, standards, and regulations. Prince George's County must comply with the rules, regulations, and procedures established by the Maryland Institute for Emergency Medical Services Systems (MIEMSS) which address the licensure, training, and certification of Emergency Medical Services providers for the entire State.

Federal

Chapter 29 of the Code of Federal Regulations (CFR), Part 1910 establishes Occupational Safety and Health Standards, which apply to public and private employers. Specifically, 29 CFR 1910.134 addresses respiratory protection requirements for firefighters and others.

FIRE/EMS BATTALIONS

A breakdown of Battalions (see Figure 5) into communities and stations within the County is as follows:

Battalion 1 serves all communities in the general vicinity of Capitol Heights, Landover, Seat Pleasant, and Largo. Battalion 1 includes Stations: 805, 806, 808, 830, 833, 837, 838, 846.

Battalion 2 serves all communities in the general vicinity of New Carrollton, Lanham, Bowie, and Glenn Dale. Battalion 2 includes Stations: 816, 818, 819, 828, 839, 843, 848.

Battalion 3 serves all communities in the general vicinity of District Heights, Morningside, Hillcrest Heights, Suitland, and Forestville. Battalion 3 includes Stations: 817, 823, 826, 827, 829.

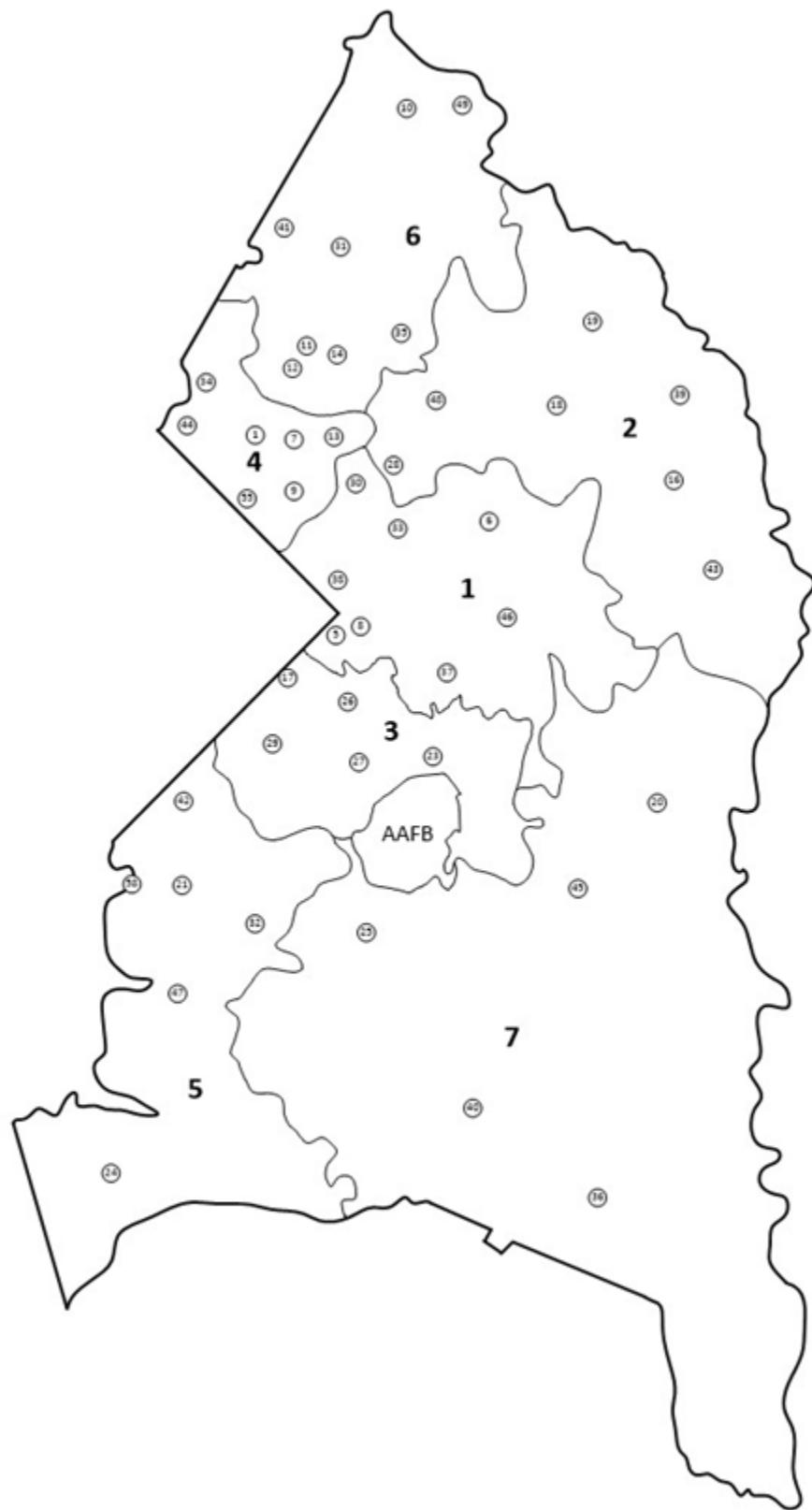
Battalion 4 serves all communities in the general vicinity of Langley Park, Chillum, Brentwood, College Park, and Riverdale. Battalion 4 includes Stations: 801, 807, 809, 812, 813, 834, 844, 855.

Battalion 5 serves all communities in the general vicinity of Accokeek, Camp Springs, and Oxon Hill. Battalion 5 includes Stations: 821, 824, 832, 842, 847.

Battalion 6 serves all communities in the general vicinity of Laurel, Greenbelt, Beltsville, and Berwyn Heights. Battalion 6 includes Stations: 810, 811, 814, 831, 835, 841, 849.

Battalion 7 serves all communities in the general vicinity of Upper Marlboro, Clinton, and Brandywine. Battalion 7 includes Stations: 820, 825, 836, 840, 845.

Figure 5: Prince George's County Fire/EMS Stations and Battalions



FIRE/EMS STATIONS AND APPARATUS

Most of the apparatus in Prince George's County is owned by the Volunteer Fire Corporations. The Prince George's County Fire/EMS Department has system-wide standards for apparatus specifications that meets or exceeds the National Fire Protection Association (NFPA) Standard #1901, Standards for Automotive Fire Apparatus. The standards were developed by representatives within the Department to establish the minimum specifications to add the apparatus to the fleet. The apparatus listed below meets or exceeds the specifications as outlined in General Order 02-27: *Procedure for Replacement/Additions to Fire/EMS Department Fleet.*

Co. 801 - Hyattsville VFD
Engine, Truck, Rescue Squad, Ambulance

Co. 805 - Capitol Heights VFD
Engine, Ambulance

Co. 806 - St. Joseph's Drive Community Fire/EMS Station
Engine, Rescue Squad, Technical Rescue, Ambulance, Paramedic Ambulance

Co. 807 - Riverdale VFD
Engine, Ambulance

Co. 808 - Seat Pleasant VFD
Engine, Ambulance

Co. 809 - Bladensburg VFD
Engine, Truck, Ambulance

Co. 810 - Laurel VFD
Engine, Tower, Ambulance, Medic

Co. 811 - Branchville VFD
Engine, Ambulance

Co. 812 - College Park VFD
Engine, Truck, Ambulance, Foam Unit, Haz-Mat Support, Medic

Co. 813 - Riverdale Heights VFD
Engine, Ambulance

Co. 814 - Berwyn Heights VFD
Truck, Rescue Squad, Ambulance, Rescue Boat

Co. 815 - Fire Investigations Division
Fire Investigation Unit, Bomb Squad

Co. 816 - Northview Community Fire/EMS Station
Engine, Paramedic Ambulance, Haz-Mat, Breathing Air/Light Unit

Co. 817 - Boulevard Heights VFD
Engine, Ambulance

Co. 818 - Glenn Dale VFA
Engine, Rescue Engine, Rescue Squad, Ambulance, Medic

Co. 819 - Bowie VFD
Engine, Truck, Ambulance

Co. 820 - Marlboro VFD
Engine, Truck, Rescue Squad, Brush

Co. 821- Oxon Hill VFD
Engine, Tower, Ambulance

Co. 823 - Forestville VFD
Engine, Tanker, Ambulance

Co. 824 - Accokeek VFD
Engine, Tower, Ambulance, Brush, Mini-pumper

Co. 825 - Clinton Volunteer Fire Department, Inc.
Engine, Truck, Ambulance, Water Supply, Medic

Co. 826 - District Heights VFD
Engine, Truck, Ambulance, Medic, 2nd Ambulance

Co. 827 - Morningside VFD
Engine, Rescue Squad, Ambulance, Rescue Engine

Co. 828 - West Lanham Hills VFD
Engine, Truck, Mini-pumper

Co. 829 - Silver Hill VFD
Engine, Truck, Ambulance, Paramedic Ambulance, Medic

Co. 830 - Landover Hills VFD
Paramedic Engine, Ambulance, Medical Ambulance Bus

Co. 831 - Beltsville VFD
Engine, Truck, Ambulance, Brush

Co. 832 - Allentown Road VFD
Engine, Truck, Ambulance, Brush

Co. 833 - Kentland VFD
Engine, Rescue Engine, Tower, Ambulance, Mini-pumper

Co. 834 - Chillum-Adelphi VFD
Engine, Truck, Ambulance

Co. 835 - Greenbelt VFD
Engine, Ambulance

Co. 836 - Baden VFD
Engine, Tanker, Ambulance, Brush

Co. 837 - Ritchie VFD
Engine, Truck

Co. 838 - Chapel Oaks VFD
Engine, Quint, Paramedic Ambulance

Co. 839 - Bowie VFD
Engine, Tower, Ambulance, Canteen, Brush, Tanker

Co. 840 - Brandywine VFD
Engine, Rescue Engine, Rescue Squad, Paramedic Ambulance

Co. 841 - Beltsville VFD
Paramedic Engine, Ambulance, Multi-Casualty Support Unit

Co. 842 - Oxon Hill VFD
Paramedic Engine, Paramedic Ambulance

Co. 843 - Bowie VFD
Engine, Tower, Ambulance, Brush

Co. 844 - Chillum Fire Station
Paramedic Engine, Medic

Co. 845 - Marlboro VFD
Engine, Tanker, Haz-Mat Support, Breathing Air/Light Unit, Medic

Co. 846 - Kentland VFD
Paramedic Engine, Ambulance, Medic

Co. 847 - Allentown Road VFD
Engine, Rescue Squad, Ambulance, Medic, Boat, Technical Rescue Support

Co. 848 - West Lanham Hills VFD
Engine, Ambulance

Co. 849 - Laurel Volunteer Rescue Squad
Rescue Engine, Rescue Squad, Ambulance, Dive, Boat

Co. 853 - Special Events Units
Engine, Ambulance, Paramedic Ambulance

Co. 855 - Bunker Hill Fire Station
Engine, Truck, Ambulance

Co. 856/857 - Water Rescue and Recovery Team

Co. 858 - Fire Boat

Co. 862 - Apparatus Maintenance

Co. 865 - Fire/EMS Training Academy

Apparatus Inspections

There are system-wide requirements for regular apparatus inspections as specified in General Order 02-17: *Monthly Vehicle Inspection Report*. Prince George's County Fire/EMS has developed procedures that address the regular inspection and maintenance of Fire/EMS apparatus. The apparatus in Prince George's County is subjected to annual Inspection by the Prince George's County Volunteer Fire and Rescue Association (PGCVFRA) standards committee. This inspection is done to check for equipment that is mandated to be carried as per the PGCVFRA by-laws, Section 16, Appendix A:

- Sub Section 2: *Class "A" Pumpers*
- Sub Section 6: *Ladder Trucks*
- Sub Section 7: *Rescue Squad Trucks*

This is compliant with the standards set forth by the Maryland State Firemen's Association (MSFA) standards committee and the NFPA standards for fire apparatus.

SPECIFICATIONS OF INITIAL ARRIVING UNITS

The three (3) units described below were the initial units on the scene and directly involved in the firefighter emergency situation.

Engine 807B

Engine 807B is a 1992 Seagrave Pumper that seats eight (8), and has a 1,250 gallon per minute (gpm) Waterous pump. It carries 750 gallons of water and 15 gallons of Foam. It has a split hose bed for supply line, which carries 1,000 feet of 3-inch on both sides. The Engine has six (6) pre-connected hose lines.

The primary attack line on the 57th Avenue incident was a crosslay of 200 feet of 1¾ inch hose. The Team was able to verify, through hose testing records, that the affected sections of hose passed its annual hose test in 2011. The line was equipped with an Elkhart Chief, 75 PSI 60-200 GPM Fog Nozzle.

Truck 809

Truck 809 is a 1992 Seagrave that seats six (6) personnel and has a 100 foot medium duty rear mounted aerial. It carries 150 feet of 3½-inch hose for ladder pipe operations. Truck 809 is equipped with a complement of ladders that includes:

- 1 - 10 feet folding ladder
- 1 - 28 feet extension ladder
- 1 - 16 feet straight ladder
- 1 - 14 feet straight ladder
- 1 - 20 feet straight ladder
- 1 - 35 feet extension ladder
- 1 - Little Giant

Truck 809 is equipped with the equipment and tools as required by the PGCVFRA Standards Committee in conjunction with the standards set forth by the MSFA and the NFPA. Truck 809 also carried an MSA Thermal Imaging Camera Model 5200.

Engine 809

Engine 809 is a 2008 Pierce Arrow that seats seven (7) personnel. It has a 1,250 gpm Waterous Pump, carries 500 gallons of water and 15 gallons of foam. It has a split hose bed for supply line and carries 1,000 feet of 4-inch Large Diameter Hose on one side and 600 feet of 3-inch hose on the other side. The Engine has five (5) pre-connected attack lines.

PORTABLE RADIOS

The Department utilizes the Motorola APX 6000XE portable radio. This is a 3-watt radio capable of multiple programming set up options. They are software programmable digital radios that meet Federal Communications Commission (FCC) requirements for narrowband (12.5 kHz) frequency utilization.

Figure 6: Motorola APX 6000XE Portable Radio with Motorola PMMN4065 Remote Speaker Microphone



These portable radios are assigned unit identifiers based on the Unit designation and individual radio ID number. For example:

Truck 809

Truck 809 Driver	Truck 809 OIC
Truck 809*3	Truck 809*1
Truck 809*4	Truck 809*2

Engine 809

Engine 809 Driver	Engine 809 OIC
Engine 809*4	Engine 809*1
Engine 809*3	Engine 809*2

Engine 807B

Engine 807B Driver			Engine 807B OIC
Engine 807B*1			Engine 807B*2
E807B*3	E807B*4	E807*5	E807*6

DESCRIPTION OF THE STRUCTURE

The structure located at 6404 57th Avenue in Riverdale Heights, Maryland, was a single family dwelling. Cross streets included Somerset Road to the North and Sheridan Street to the South. The single-family dwelling, originally built in 1967, had overall dimensions of 30 feet by 26 feet which was set back 30 feet from 57th Avenue on a 4,007 square foot lot.

TOPOGRAPHY

The topography of the lot is displayed in Figures 7, 8, and 9. From 57th Avenue to the front of the structure (Side Alpha), the land was relatively level. There was a grade of 28 percent sloping from the front of the structure (Side Alpha) to the rear (Side Charlie). Just beyond the rear (Side Charlie) of the structure, the lot dropped off sharply and had a significant slope to the neighboring property line.

Figure 7: Topography of 6404 57th Avenue (dotted line indicates grade)

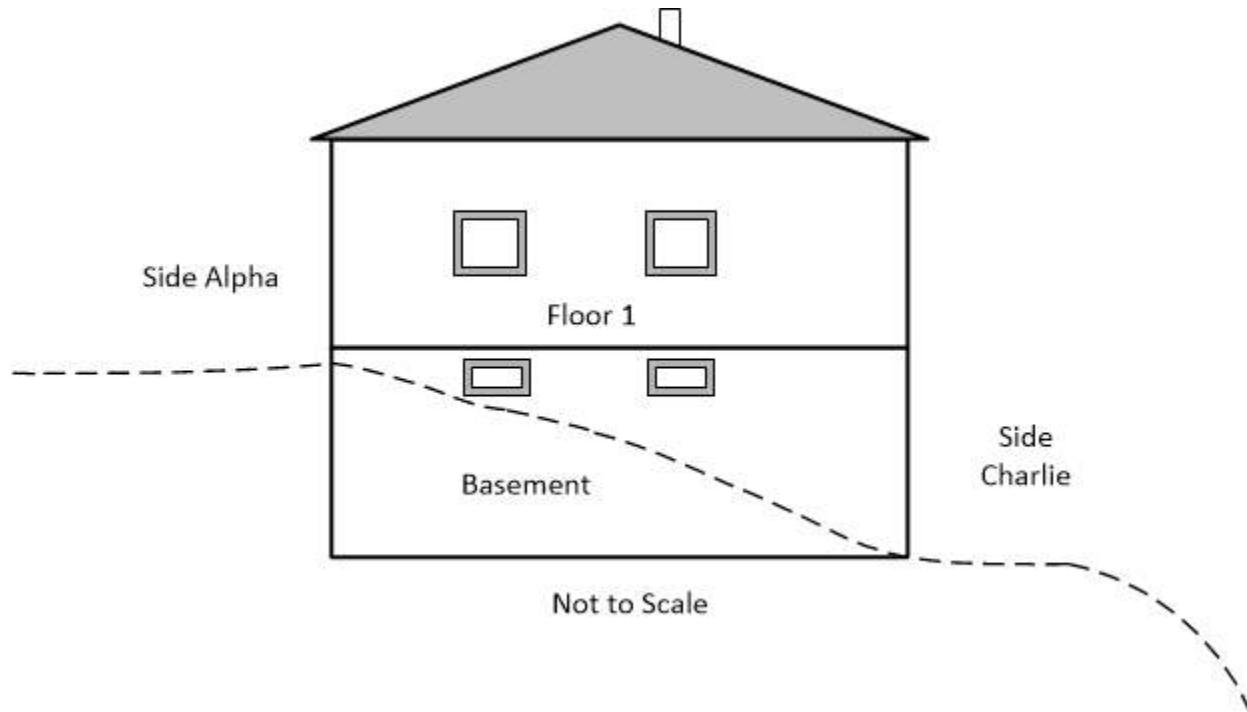


Figure 8: Topography of 6404 57th Avenue Pictometry – Orthostatic**Figure 9: Topography of 6404 57th Avenue Pictometry - Oblique from West**

BUILDING CONSTRUCTION AND FEATURES

The front (Side Alpha) of the building faced East toward 57th Avenue. The view of the structure from 57th Avenue displayed a one story, single-family dwelling (Figure 10). Due to the nature and slope of the land, much of the basement was above grade and could be observed from Sides Bravo, Charlie, and Delta. From Side Charlie, the structure appeared to be two stories.

Figure 10: 6404 57th Avenue, Riverdale (Google Street View)

The National Fire Protection Association (NFPA) classifies building construction into five fundamental construction types. Accordingly, the structure located at 6404 57th Avenue was classified as a Type V, or wood-frame construction. The structure was built mostly with nominal 2-inch by 4-inch wood studs in a platform-frame method. That is, the first floor wood joists (nominal 2-inch by 10-inch - Figure 11) were completely covered with sub-flooring to form a platform, upon which the exterior walls and interior partitions were built. The roof of the structure was a low profile gable roof that was constructed with wood joists (nominal 2-inch by 6-inch - Figure 12), wood decking, tarpaper, and asphalt shingles. The exterior walls on Side Alpha were finished with metal siding, while Sides Bravo, Charlie, and Delta were finished with cement-asbestos wall shingles.

Figure 11: Floor Joists from Side Charlie Basement Exterior



Figure 12: Roof Joists from Kitchen Area



Interior

The interior of the structure had a total of four (4) bedrooms and two (2) full bathrooms. The first floor had two (2) bedrooms, one (1) full bathroom, and a kitchen with a total floor space of approximately 708 square feet (Figure 13). The basement of the structure was renovated in the 1990's to a completely finished basement with two (2) bedrooms, a very small kitchen and bathroom (Figure 14). The HVAC unit and water heater were located in the basement.

The flooring and interior stairs were finished with carpet throughout the structure. All of the walls and ceilings were finished with standard ½-inch drywall. The heights of the ceilings were 8 feet on the first floor and roughly 7½ feet in the basement.

Figure 13: First Floor Plan



It was not determined whether the interior door at the top of the basement stairs was open or closed or even in place at all. All other interior doors on the first floor were found removed from their hinges and placed near the openings leaning against the wall.

Figure 14: Basement Floor Plan

WINDOWS AND DOORS

On the first floor there were a total of nine (9) windows. The windows were vinyl type double hung except for the large center window in the living room which had two (2) narrow double hung windows on each side of it. The basement level had a total of six (6) windows, two (2) on each of the Bravo, Charlie, and Delta sides. The four (4) basement windows on sides Bravo and Delta were approximately 30-inches wide by 20-inches tall, while the two (2) basement windows on Side Charlie were much larger measuring approximately 38-inches wide by 57-inches tall. The front door was locked at the time of the fire.

OCCUPANCY & CONTENTS

The dwelling had been condemned prior to the time of the fire. There was little, if any, furniture or other contents within the structure. The Prince George's County Department of Environmental Resources (DER) issued a violation on January 29, 2010, for structural issues resulting from poor grading and sloping of the back yard. The last known occupants to live in the structure vacated the structure in October 2011.

UTILITIES

The structure had water supplied by Washington Suburban Sanitary Commission (WSSC) and electrical service supplied by Potomac Electric Power Company (PEPCO) at the time of the fire. The electrical service entrance and meter was located on Side Delta of the structure. The structure did not have natural gas service at the time of the incident. The gas meter, which was previously located on Side Bravo of the structure, had been removed by Washington Gas Company after service was discontinued in October 2011.

EXPOSURES

Two similar single-family dwellings were located in the lots immediately to the north exposure (Side Delta) and south exposure (Side Bravo) of 6404 57th Avenue. The space between the structure fire and the neighboring single-family dwellings were approximately 9 feet on both Sides (Bravo and Delta). The homes located behind 6404 57th Avenue (Side Charlie), were approximately 125 feet away and down a significant grade. Intense fire, described by firefighters as "blowing," was coming out of the Side Bravo rear basement window so far that it prevented personnel from traveling between the primary fire structure and the Bravo exposure. While the Bravo and Delta exposures were relatively close to the structure fire, there was no indication that the threat of fire extension to the neighboring exposures was considered during operations. The Charlie exposures were windward and far enough away that they did not influence operations, and had little impact on the event.

ENVIRONMENTAL CONDITIONS

Showers and thunderstorms (ahead of a cold front) moved through the region, including the Riverdale area, during the afternoon and evening of February 24, 2012. Around 1930 hours the cold front moved into the region causing the humidity and dew point to plummet and the wind direction to change and increase in velocity.

On Friday, February 24, 2012, at 2055 hours the National Weather Service Station at the College Park Airport (KCGS), which is located approximately 0.98 miles from the incident scene, reported the following conditions:

Temperature: 51.8 degrees Fahrenheit
Dew Point: 24.8 degrees Fahrenheit
Humidity: 30 percent
Barometric Pressure: 29.57 inches
Wind Speed: 20.7 mph
Direction: NW
Gust Speed: 36.8 mph
Conditions: Clear

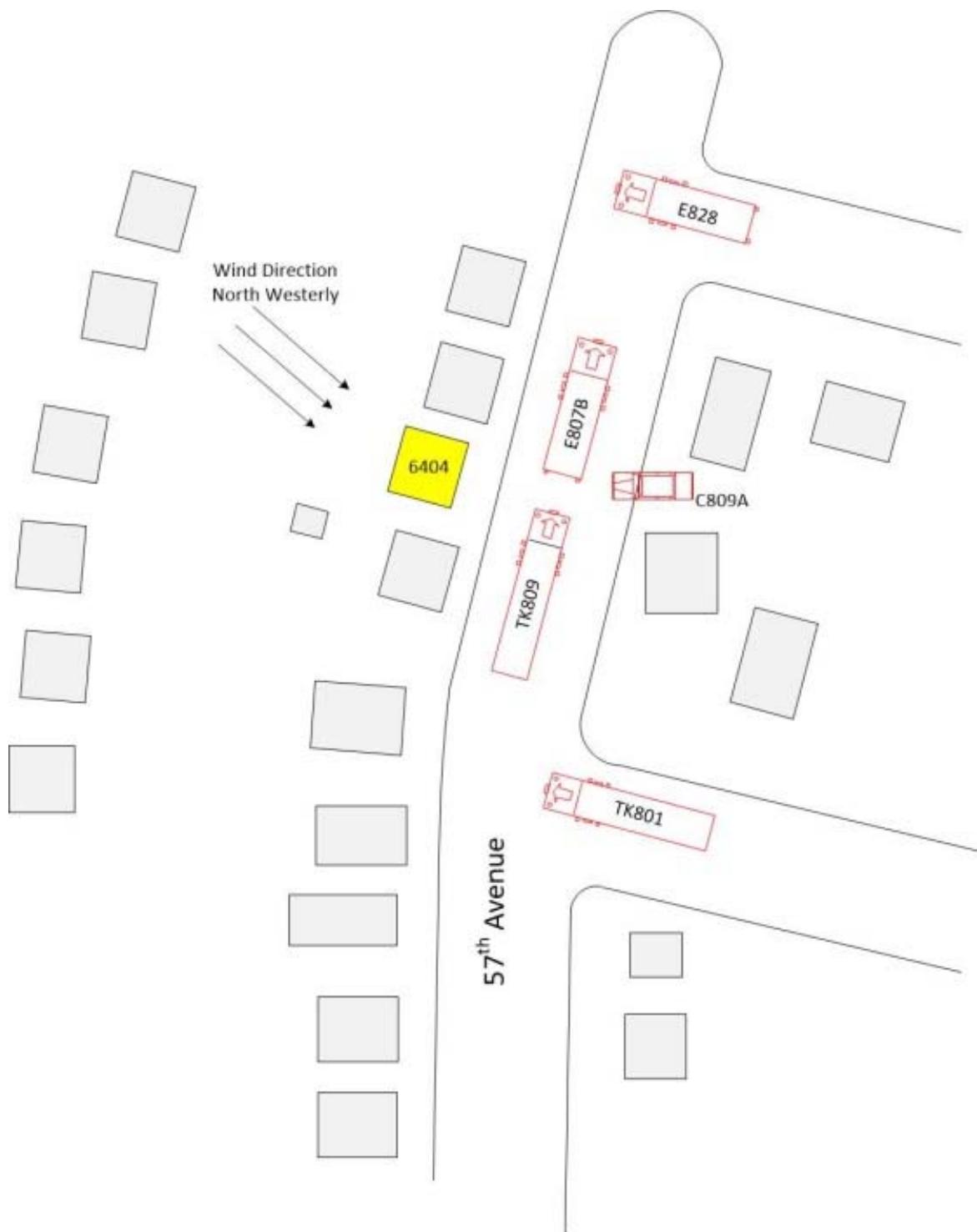
At 2115 hours NWS Station KCGS reported the following conditions:

Temperature: 50.0 degrees Fahrenheit
Dew point: 26.6 degrees Fahrenheit
Humidity: 40 percent
Barometric Pressure: 29.60 inches
Wind Speed: 13.8 mph
Direction: NW
Gust Speed: 27.6 mph
Conditions: Clear

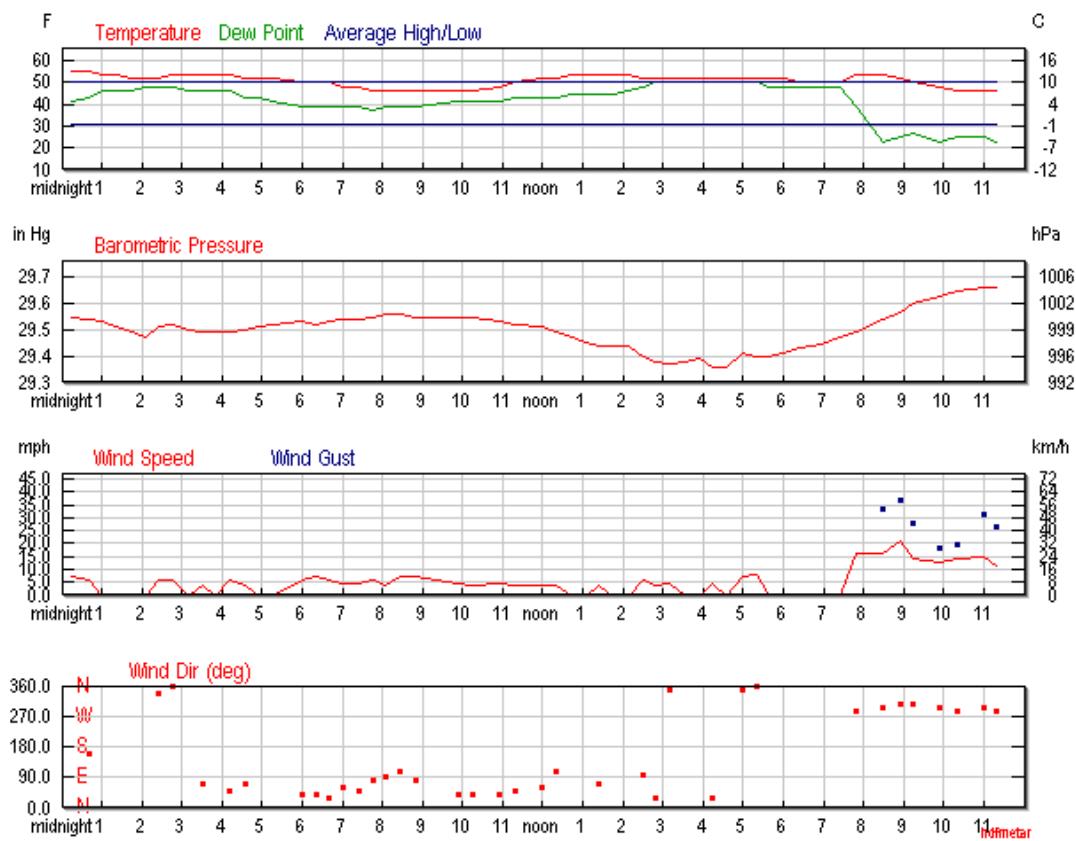
Table 2 outlines the wind and temperature conditions at the closest reporting weather station, College Park – approximately 1 mile away, leading up to the time of the incident (2111 hours). Figure 15 visually shows the wind direction during the time frame the incident occurred.

Table 2: Wind Conditions

Time	Wind Direction	Wind Speed	Gust Speed
19:25	Calm	Calm	-
19:50	WNW	16.1 mph	24.2 mph
20:30	WNW	16.1 mph	33.4 mph
20:55	NW	20.7 mph	36.8 mph
21:15	NW	13.8 mph	27.6 mph
21:55	WNW	12.7 mph	18.4 mph

Figure 15: Wind Direction

The charts below graph the weather indicators for the entire 24 hour period of February 24, 2012. A quick look at the Wind Speed chart shows that the sustained winds reached the 15-20 miles per hour range around 1930 hours and gusts were recorded in the 20-40 miles per hour range.



WEATHER ADVISORIES

On Thursday, February 23, 2012, at 1241 hours, the Prince George's County Fire/EMS Department's Public Information Officer (PIO) relayed a "Fire Weather Advisory," to go into effect on Friday, February 24, 2012, from the National Weather Service (NWS) in Sterling, Virginia. This advisory was sent via email to the "Fire/EMS Department" distribution list and is available in Appendix 2.

The alert covered portions of Maryland, Northern Virginia and the Eastern Panhandle of West Virginia. The NWS alert advised humidity levels of 25-30 percent, winds from the west at 25 to 30 miles per hour (mph) with gusts up to 50 miles per hour, and fuel moisture of 5 to 7 percent. The Department's "Fire Weather Advisory" was issued because of similar conditions one year prior leading to severe brush fires in the County and the Washington Metropolitan Area.

At 0353 hours EST, the NWS issued a Wind Advisory in effect from 1500 hours on February 24, 2012, until midnight EST. This advisory covered the DC Metro Area (including Prince George's County). The advisory stated:

"The strongest winds will be late this afternoon through this evening. Winds... Southwest late this afternoon 20 to 30 mph with gusts up to 55 mph... becoming west this evening.

Precautionary/Preparedness Actions... A wind advisory means that wind gusts over 45 mph are expected. Winds this strong can make driving difficult... Especially for high profile vehicles. Use extra caution."

At 0807 hours, on February 24, 2012, the Department's Operational Safety Officer sent an email advisory (Appendix 2) to Battalions 1-7, the Duty Chief, the Volunteer Safety Division Chief, the EMS Duty Officer and the Department's Call Center. This Safety Report advised them to expect winds of 30 mph and higher gusts, and to expect severe thunderstorms for late afternoon. This email was not received by any of the initial unit/command officers.

INCIDENT OVERVIEW

INCIDENT TIMELINE

This Chapter describes the sequence of events on the evening of Friday, February 24, 2012, beginning with the initial 911 calls for service and ending when the last units cleared the scene of 6404 57th Avenue, Riverdale Heights, Maryland. This information was developed using data gathered from computer aided dispatch printouts and radio audio recordings.

21:08:26 - 911 Call Reports a House Fire On 57TH Avenue

21:08:26 - The Prince George's County Public Safety Communications (PSC) received the first of four separate 911 calls from a neighbor stating that a house was on fire.

21:09:53 - An additional entry advised that the caller indicated that 6338 was on fire and that smoke and flames were visible.

21:11:03 - Units Are Dispatched

21:11:03 - PSC dispatched a box alarm assignment for a house fire (Table 3) with units responding on Talk Group 8 Alpha 3.

Table 3: 57th Avenue Initial Responding Units in order of dispatch

Resource	Company	Personnel
Engine	807B	6
Engine	809	4
Engine	801	6
Engine	812	4 + 1*
Truck	809	5
Truck	801	8
Rescue Squad	801	8
Command Officer	Battalion Chief 884	1
	**Volunteer Chief 809A	
	**Volunteer Chief 812	
	**Volunteer Chief 812A	

*Probationary member

**Responded, but not initially dispatched.

21:11:44 - PSC received an additional call advising that a neighbor's home at 5401 is on fire.

21:12:27 - PSC received a third call advising of a house on fire in the area.

21:12:55 - Units Arrive On the Scene

21:12:55 - Engine 807B Officer gave layout instructions and indicated arriving on the scene.

21:13:10 - Engine 809 Officer indicated arriving on the scene and picking up Engine 807B's supply line. Engine 809 was positioned behind Engine 807B and Truck 809.

21:13:28 - Engine 807B Officer advised a two-story, single-family structure with fire showing, requested a Working Fire Dispatch (WFD), and passed command.

21:13:35 - PSC added text advising the wind was spreading the fire to the house next door.

21:13:56 - Truck 809 indicated arriving on the scene.

21:13:44 - Command Is Established

21:13:44 - Volunteer Chief 809A indicated arriving on the scene and established incident command.

21:14:05 - A Working Fire Dispatch (WFD) assignment was dispatched (Table 4)

Table 4: Working Fire Dispatch Units

Resource	Company
Ambulance	855
Medic	812
Safety Officer	Northern Safety Officer
EMS Officer	EMS Duty Officer
Citizen Services Unit	*890
Citizen Services Unit	*891
Ambulance	*809
Command Officer	*Northern Division Chief

*Responded, but not dispatched

21:14:37 - Incident Command (Volunteer Chief 809A) assigned Squad 801 rapid intervention duties.

21:14:57 - Truck 801 indicating arriving on the scene.

21:16:27 - Squad 801 indicated arriving on the scene.

21:16:35 - Volunteer Chief 812 was assigned Division 1.

21:16:45 - Volunteer Chief 812A was assigned the Basement Division.

21:17:45 - Command Requested Evacuation and A Fire Task Force

21:18:18 - Command requested an EMS Task Force.

21:19:00 - Fire Task Force dispatched (Table 5).

Table 5: Fire Task Force Units

Resource	Company	Personnel
Engine	855	6
Engine	828	4
Truck	812	4 + 1*
Air Unit	716	

*Probationary member

21:19:46 - EMS Task Force was dispatched (Table 6)

Table 6: EMS Task Force Units

Resource	Company
Ambulance	812
Ambulance	801
Medic	830

21:20:19 - Command advised there was a downed firefighter behind Engine 807B.

21:21:01 - Engine 828 arrived at staging area.

21:21:49 - Ambulance 809 indicated arriving on the scene.

21:22:02 - Office of the Fire Marshal personnel en route.

21:23:30 - Truck 809 members have been accounted for and unable to make radio transmissions due to an activated portable radio Emergency Identifier (EI) on the radio. One injured firefighter being assessed by EMS.

21:24:34 - Per Command, all Truck 809's crew has been accounted for, having radio problems with EI, three injured firefighters at this time.

21:24:39 - Medic 812 indicated arriving on the scene.

21:24:40 - Ambulance 801 indicated arriving on the scene.

21:25:07 - All units on the fireground switch over to Talk Group 8 Alpha 4.

21:25:10 - Primary on the fire floor is negative.

21:25:51 - Duty Chief requested two additional Medic units and the status of helicopters for possible patient transport.

21:26:29 - Ambulance 812 staging.

21:26:40 - Duty Chief indicated arriving on the scene and assumed command.

21:27:03 - Engine 855 and Truck 812 assigned as Rapid Intervention Crew.

21:27:28 - Paramedic Engine 830 dispatched.

21:27:39 - Medic 844 dispatched.

21:27:40 - Fire Is Extinguished

21:27:40 - Basement Division advised the fire in the basement is out.

21:27:50 - Basement Division advises of bad spots on the first floor, where it looks like the fire burned through.

21:29:09 - Squad 801 advised that the first floor primary search was negative.

21:29:15 - Units instructed to standby for personnel accountability check by the Duty Chief.

21:29:18 - Northern Safety Officer is on the scene.

21:30:42 - Engine 807B stated having four injured firefighters.

21:33:13 - Engine 809 advised that Truck 809 has two injured firefighters. They advised the injured as Truck 809's Officer and Forcible Entry.

21:34:01 - Ambulance 809 is en route to MedStar transporting Truck 809's Forcible Entry with burns to hands, back, and knees (Priority 2).

21:34:22 - Truck 801 reported the primary in the basement was negative.

21:34:33 - Paramedic Engine 830 indicated arriving on the scene.

21:35:50 - Eagle 2 (US Park Police Medevac helicopter) ten minute ETA landing at Rittenhouse and Kenilworth Avenue.

21:41:00 - 30 Minute Duration

21:42:01 - Office of the Fire Marshal personnel indicated arriving on the scene (FM1501).

21:42:53 - Per Command, all personnel accounted for and requested an additional BLS unit, may return Eagle 2.

21:43:06 - Ambulance 807 indicated arriving on the scene.

21:43:37 - Engine 828 will provide the landing zone at Rittenhouse and Kenilworth Avenue.

21:44:58 - Volunteer Chief 812 reported that the secondary search of the structure is negative and that the interior stairs are burned out.

21:45:30 - Ambulance 801 with a priority 1 firefighter, Truck 809's Officer to the MedStar trauma center.

21:46:26 - Interior advised secondary search was negative, Engine 801 and Truck 801 are in the basement, Squad 801 on Division 1, Engine 812 on Exterior, and advised personnel that the interior stairs are out.

21:49:32 - Update from Command: had a 40 feet by 30 feet one-story house; fire throughout the basement and first floor. Primary negative. Secondary conducted by Volunteer Chief 812 and Engine 812. Engine 855 and Truck 812 are the Rapid Intervention Crew. The EMS Duty Officer has the EMS group. Both Safety Officers are on the scene. Volunteer Chief 809A has operations. A total of eight firefighters were injured. The fire is out at this time.

21:49:33 - Ambulance 811 indicated arriving on the scene.

21:50:03 - The Command post is between Engine 807B and Truck 809.

21:51:24 - Volunteer Chief 807 en route to MedStar to be the Fire Department contact.

21:55:25 - Canteen to 57th Avenue and request for the Bus (PSC2).

21:56:57 - Northern Operations Commander indicated arriving on the scene.

21:57:25 - Eagle 2 is on the ground.

21:57:49 - Medic 812 with Ambulance 807 to MedStar, with three injured firefighters from Company 807: two with burns to the face (Priority 3), and one with fractured rib (Priority 2).

21:58:16 - Critical Incident Stress Debriefing Team Leader notified.

21:59:21 - Medic 830 to MedStar with an injured firefighter from Company 807: Engine 807B Nozzelman with burns to ear (Priority 2).

22:00:00 - 45 Minute Duration

22:11:18 - Northern Safety Officer en route to MedStar.

22:11:34 - Eagle 2 returned and did not transport.

22:11:58 - Engine 855 & Truck 812 to assume the duties of Engine 801, Truck 801, and Squad 801, who had been operating in Division 1 and in the basement.

22:12:54 - Medic 830 transport completed.

22:18:16 - 60 Minute Duration

22:18:51 - Citizen's Services Unit (CSU) 891 cleared.

22:21:13 – Command stated 42 personnel operating, discontinue accountability, units assisting Fire Investigations.

22:24:01 - Command released Paramedic Engine 830, Medic 844, and Ambulance 811.

22:24:43 - Northern Safety Officer 861 en route.

22:26:07 - Ambulance 812 en route to Station 809 with five firefighters.

23:02:03 - Command released Truck 801, Squad 801, and Engine 828.

23:04:33 - Fire Chief cleared the scene and headed to MedStar.

01:41:35 - Address corrected from 6334 to 6404 57th Avenue.

02:58:51 - Command Terminated.

04:17:06 - Incident closed.

57TH AVENUE RESPONSE

All dispatched units commenced an emergency response (emergency lights and sirens) to the alerted address and all successfully arrived. In addition, three volunteer chief officers responded with their respective companies and operated as chief officers on the scene. All units, except for Engine 807B, Engine 801 and Truck 801, responded from their quarters upon dispatch. All units arrived in order of assignment, but due to the location of the structure, the first two engines (Engine 807B and Engine 809), the two trucks (Truck 809 and Truck 801), and the Chief Officer (Volunteer Chief 809A) all arrived within seconds of each other. The following sections are accounts of the unit and personnel activities as each arrived on the scene.

UNIT/CREW ACTIVITIES

The following written accounts of each unit's activities were derived from the witness statements provided by all personnel, from those units operating on the incident. Every effort was made to corroborate both the entire unit's activities and the individual crew member's activities with the other available incident records (CAD data, radio system recording). The unit's accounts are listed in order of arrival on the scene. The information in this report is factual and was validated by multiple sources prior to inclusion in this document. If it was not verifiable it was not included.

Engine 807B

Engine 807B was on the air, returning from another call, and was approaching their quarters on Queensbury Road when the initial dispatch was put out. Engine 807B responded as the first due engine company and arrived on the scene, stopping to lay out a single 3-inch supply line from the fire hydrant located at 6325 57th Avenue. Engine 807B Officer placed the unit on the scene and advised of a "two-story" single-family dwelling with fire showing from Side Bravo. Engine 807B Officer observed embers and smoke blowing across the street when the engine stopped to lay out. Engine 807B Officer observed fire showing from the basement level window on Side Bravo. Engine 807B Officer verbally passed command and requested the "Working Fire Dispatch." Engine 807B's crew pulled a 200 foot 1¾-inch attack line, which was subsequently charged. The crew from Engine 807B forced entry to the front door on Side Alpha.

Based on statements and physical evidence, there is no factual indication that any water was discharged from the attack line prior to or during the emergency that caused the firefighter injuries. There is no *verifiable* evidence that Engine 807B's hose line ever entered the structure, but it was most certainly not in the structure at the time of the emergency. Four personnel from Engine 807B were injured, treated, and transported to MedStar/Washington Hospital Center for treatment.

Injured Member	Injury Type
Engine 807B Nozzelman	Burns
Engine 807B Officer	Burns
Engine 807B 2nd-Line	Burns & Chest Trauma
Engine 807B Layout/Backup	Burns

Truck 809

Truck 809 responded from quarters, as the first due truck company, and arrived on 57th Avenue right behind Engine 807B. When Truck 809 stopped to let Engine 807B layout, Truck 809 Can dismounted the truck and had to walk up the street as it pulled away. Truck 809 Officer observed a lot of smoke moving extremely fast through the front yard and across the street upon exiting the truck. Truck 809 Officer and Truck 809 Forcible Entry proceeded directly to the front door on Side Alpha of the structure. Both of them entered the structure with full PPE, including SCBA, but without the protection of a hose line. Truck 809 Officer and Truck 809 Forcible Entry began primary searches on the first floor. At some point during the primary search, as conditions worsened, the front door closed, trapping Truck 809 Officer and Truck 809 Forcible Entry inside the structure. This situation could not have occurred if a charged hose line was operating inside the structure at the time the door slammed shut. They were the only firefighters operating on the first floor at that time.

Truck 809 Forcible Entry was too large in physical stature to fit through the small window opening that he found on Side Alpha. Truck 809 Forcible Entry was unable to self-evacuate, and remained trapped inside. Due to rapidly deteriorating conditions, Truck 809 Officer was forced to self-rescue through another small window on Side Alpha.

After exiting the structure, Truck 809 Officer screamed (to those on the exterior) that a firefighter was trapped inside. Truck 809 Officer then proceeded to the front door (Side Alpha) in an attempt to search for and rescue Truck 809 Forcible Entry, who was trapped inside. At this point multiple firefighters on the exterior assisted Truck 809 Officer in the search, rescue, and removal of Truck 809 Forcible Entry. Both Truck 809 Officer and Truck 809 Forcible Entry sustained serious injuries and were transported to MedStar/Washington Hospital Center.

While the interior operations were occurring, Truck 809 Driver and Truck 809 Hook/Ladders were on the exterior throwing ladders to the structure. Truck 809 Hook/Ladders threw two ladders (Sides Alpha and Bravo), while Truck 809 Driver threw one ladder (Side Alpha).

Injured Member	Injury Type
Truck 809 Officer	Burns & Respiratory Burns
Truck 809 Forcible Entry	Burns

Chief 809A

Volunteer Chief 809A arrived simultaneously with Engine 807B, Truck 809, and Engine 809. Volunteer Chief 809A established the “57th Avenue Command” and confirmed Engine 807B’s report of fire showing from Side Bravo of the basement. Volunteer Chief 809A (now in command) assigned Rescue Squad 801 as the Rapid Intervention Crew and assigned Truck 801 to ladder the rear of the structure and give a report on the conditions. Command assigned Chief 812A to Basement Division and Chief 812 to Division 1 (first floor).

Command was notified by Communications of Emergency Identifier (EI) activations from Truck 809. Command acknowledged the EI’s from Communications and advised that there were “people looking for ‘em now, looks like I got fire from three sides, we’re trying to get a line on it now.”

Figure 16: Emergency Identifier Activation Chart

Date and Time	Event	Radio ID	Radio Alias	Target Alias	Duration (seconds)	Emergency
02/24/2012 09:17:06 PM	Call	2520760	TK 809 *2*	A3 (INC 50)	535.00	Yes
02/24/2012 09:26:11 PM	Call	2520759	TK 809 *1*	A3 (INC 50)	13.00	Yes
02/24/2012 09:29:20 PM	Call	2520759	TK 809 *1*	A3 (INC 50)	68.20	Yes

Note: Time stamp does not indicate when the EI was activated, only when the system was capable of recording the event. The radio malfunction of TK 809 *2* may have caused a delay in the recorded time stamp of TK 809 *1* portable radio EI activation.

Engine 809

Engine 809 was dispatched, as the second due engine company, and responded from quarters with Truck 809, arriving almost simultaneously with Engine 807B and Truck 809. Engine 809 stopped at the fire hydrant, located at 6325 57th Avenue, to ensure Engine 807B’s water supply. Engine 809 arrived, as Engine 807B was still positioning up the street on Side Alpha of the structure. All personnel assigned to Engine 809, other than Engine 809 Driver, ran up the street to Engine 807B. Engine 809 personnel pulled a second crosslay (200 feet of 1½-inch) from Engine 807B.

Engine 809 Officer and crew members indicated in their statements that they noticed heavy winds blowing from Side Charlie of the structure to Side Alpha. The crew of Engine 809 stated the wind conditions created zero visibility in the front yard, and they had to mask up in the driveway of the house before advancing their hose line. Engine 809 Officer ordered this attack line to be deployed down the Delta Side of the structure, near the Delta exposure, to access the basement on Side Charlie of the dwelling. Engine 809 Officer observed access into the basement via a rear door. Engine 809 Officer attempted to contact command via radio, but was interrupted due to other radio traffic. Engine 809 Officer decided to enter the structure with the two crew members, wearing full PPE including SCBA, to extinguish the fire in the basement. Engine 809’s personnel continued extinguishment of the basement division until they heard the Evacuation Tones (apparatus air horns) and exited the structure.

Engine 809 Officer walked back to Side Alpha to do a face-to-face with the Incident Commander. While doing so, he noticed several injured firefighters, and assisted with patient care. Engine 809 Nozzleman and Engine 809 Layout remained on Side Charlie, while Engine 809 Officer was on Side Alpha assisting with the EMS care of the injured personnel. Later, the remaining Engine 809 crewmembers (along with Engine 801 crew members) re-entered the structure from the Side Charlie basement door, to finish extinguishing the remaining fire and hot spots. No Engine 809 personnel were injured during the duration of the incident.

Truck 801

Truck 801 was dispatched, as second due truck company, and responded from Baltimore Avenue and Queensbury Road (in Company 807's area). They arrived seconds behind the units from companies 807 and 809 and positioned at the corner of Sheridan Street and 57th Avenue. Truck 801 personnel proceeded to the structure to perform their fireground responsibilities. Truck 801 Driver, Truck 801 Ladders 1, and Truck 801 Ladders 2, threw a total of four ground ladders to Sides Charlie and Delta.

After hearing commotion on Side Alpha, Truck 801 Forcible Entry and Truck 801 Tiller became involved in removing the incapacitated Truck 809 Forcible Entry from Side Alpha of the house. Truck 801's interior crew operated in the Basement Division and assisted with utility control and overhaul. No personnel assigned to Truck 801 were injured during this incident.

Engine 801

Engine 801 was dispatched, as third due engine company, and responded from Toledo Terrace and Belcrest Road. Engine 801 laid out a single 3-0inch supply hose line from 5715 Sheridan Street and positioned on 57th Avenue behind Truck 809. Crew members stretched a 400 foot 1¾-inch attack hose line from Engine 801 (as a third attack line). They ran the line down the Bravo Side of the Bravo Exposure building (see Figure 18) and ended up on Side Charlie of 6404 57th Avenue. Engine 801's personnel arrived on Side Charlie of the structure, where Engine 809 had already commenced an attack on the fire from the Side Charlie basement door. After the evacuation, Engine 801 personnel were directed to enter the basement from Side Charlie and continue extinguishing any hot spots. No personnel from Engine 801 were injured during this incident.

Engine 812

Engine 812 was dispatched, as fourth due engine company, and responded from quarters. Engine 812 arrived on the scene and ensured the water supply for Engine 801, who laid out their supply line from 5715 Sheridan Street. The crew from Engine 812 stretched a 400 foot attack line from Engine 812 and extended it with another 250 feet of hose line from standpipe packs (fourth attack line). The crew advanced the line to Side Charlie and stood by awaiting direction from the Incident Commander. Their attack line was used to extinguish hot spots. No personnel from Engine 812 were injured during this incident.

Rescue Squad 801

Rescue Squad 801 was dispatched, as the third due special service, and responded from quarters. Rescue Squad 801 positioned two blocks down on Ravenswood Road and was assigned Rapid Intervention Crew (RIC) duties. Rescue Squad 801 Officer and crew members placed their RIC equipment at the Side Alpha/Bravo corner of the property, and Rescue Squad 801 Officer started a survey walk around the house. The injured firefighters were already out of the structure when Rescue Squad 801 Officer got up to the Command Post. The Incident Commander ordered Rescue Squad 801 to perform a search of the first floor (Division 1), to make sure there weren't any other firefighters still inside the house. Rescue Squad 801 Officer and crew members entered the structure and commenced a search and found no additional firefighters. No personnel assigned to Rescue Squad 801 were injured during this incident.

Note: The seventh injured firefighter, from Station 812, sustained a minor laceration to the hand, and self-transported to the hospital after the incident.

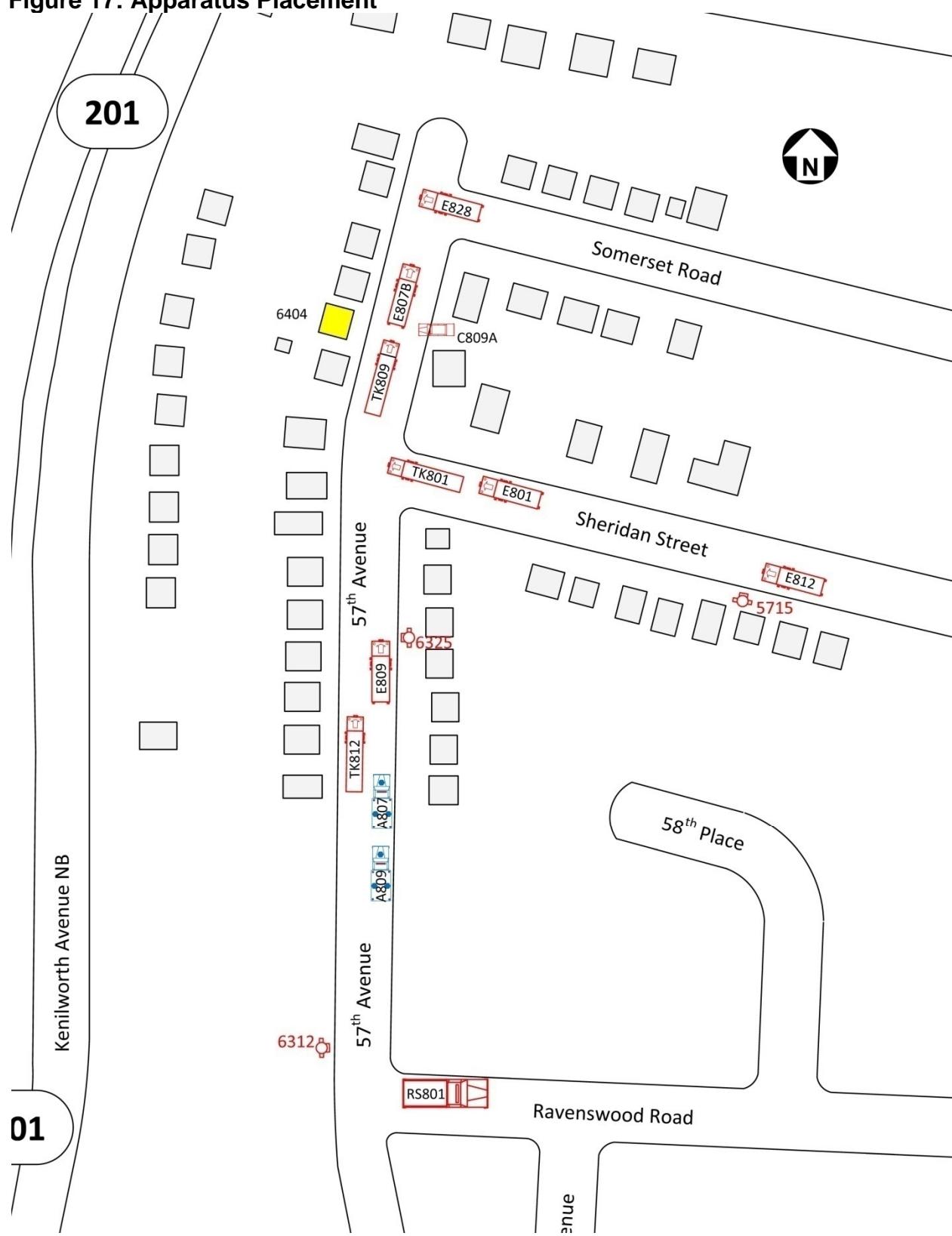
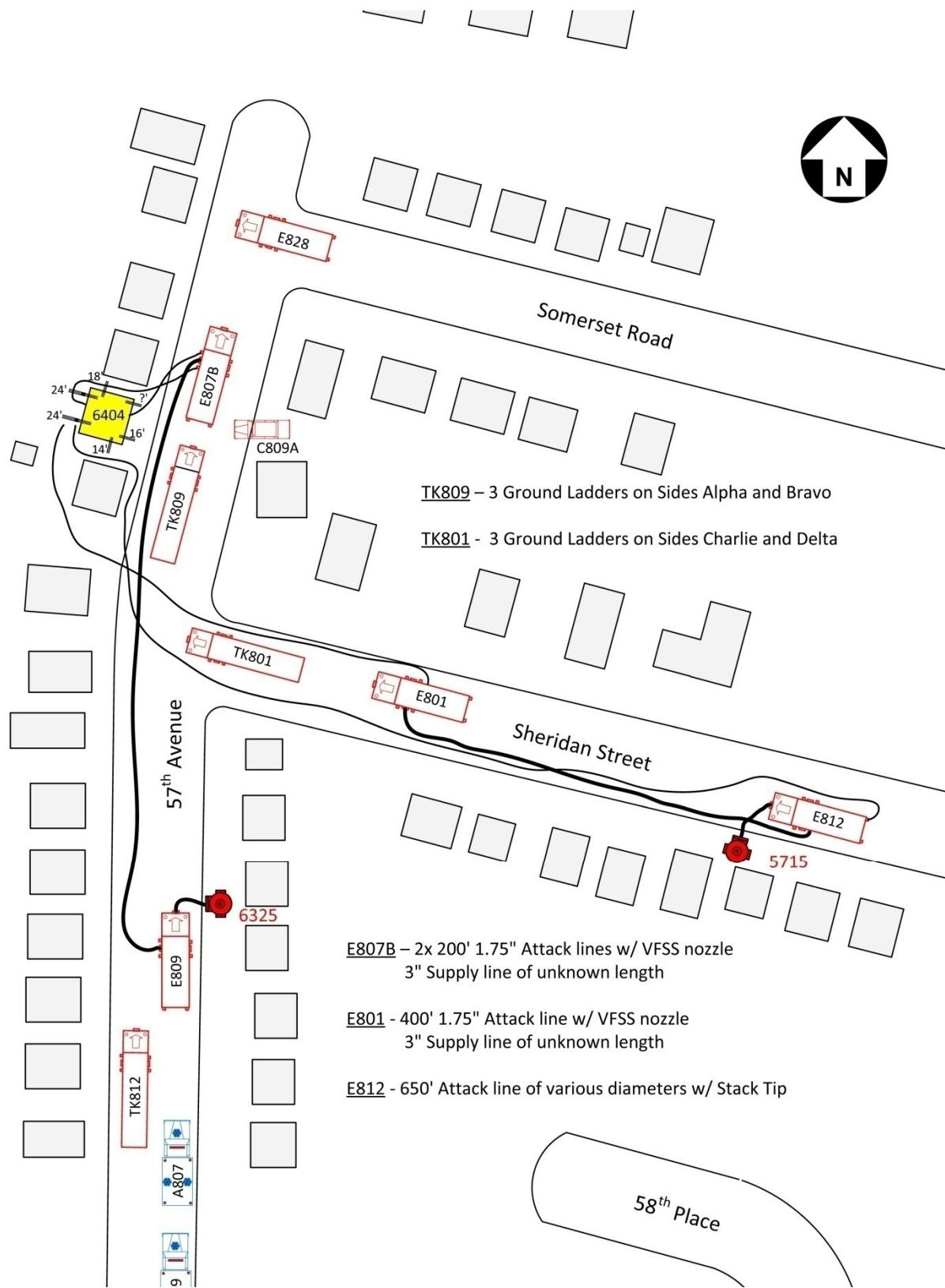
Figure 17: Apparatus Placement

Figure 18: Hose and Ladder Diagram

FIRE BEHAVIOR

The following Chapter describes the fire growth and development based on information gathered from witness/firefighters statements, post-incident scene examination, fireground audio, video from a helmet camera, photos, and weather data. Before discussing the fire behavior of this particular incident, a general review and discussion of compartment fire dynamics is provided.

COMPARTMENT FIRES

The term “compartment fire” is used to describe fire behavior within a room, confined space, or structure. This fire behavior is different from a fire in the open, because the structure that surrounds the fire controls both the air supply and the thermal environment. This in turn influences the spread and growth of a fire, its maximum burning rate, and its duration [4].

Fire is a combustion reaction which requires fuel, oxygen, heat, and a self-sustained chemical chain reaction. For simplicity in analyzing fire behavior, the self-sustained chemical chain reaction can often be assumed to occur. The remaining elements required to sustain combustion are represented by the fire triangle in which each leg of the triangle represents fuel, oxygen, and heat (Figure 19). If one leg of the fire triangle is removed or reduced enough, the combustion reaction will stop and the fire will be extinguished.

Figure 19: Fire Triangle



Compartment fires typically start in a fuel-limited state in which the size and energy released by the fire is limited by the amount of available fuel to burn (Figure 20). After some time, the smoke from the fire, which is unburned fuel, will fill the space with more than enough fuel, but limit the available oxygen (Figure 21). In other words, the fire will transition from a fuel-limited state (Figure 20) to a ventilation-limited state (Figure 21) in which the fire size and energy release rate depend on the compartment openings (e.g., windows, doors) that allow fresh air into the structure. As depicted in Figure 21 the fire triangle is only complete at the interface of the air, smoke, and heat. Therefore, when

examining fire behavior of ventilation-limited fires the openings to the structure are critical.

Figure 20: Compartment fire dynamics – Early fire growth

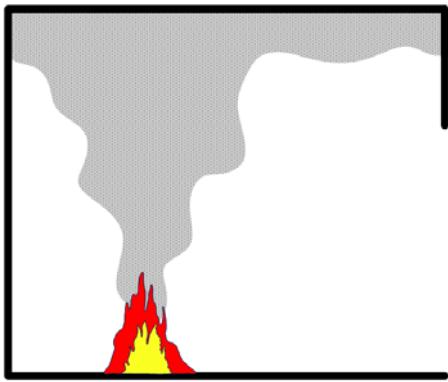
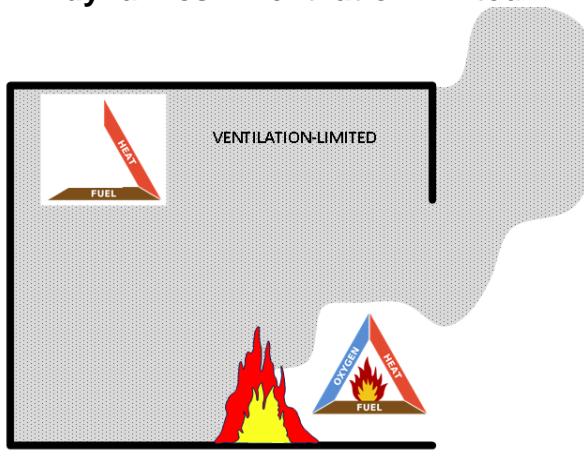


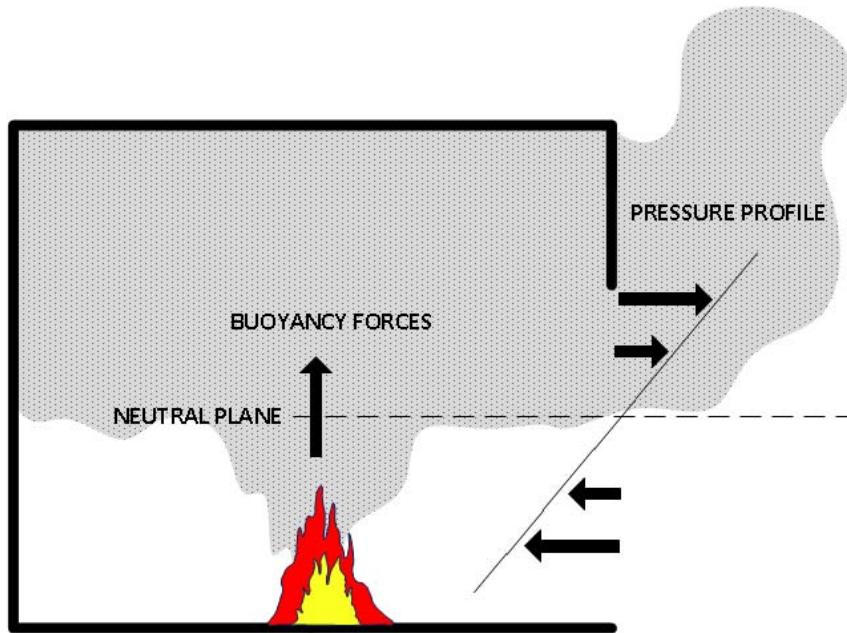
Figure 21: Compartment fire dynamics – Ventilation limited



In addition to what openings are available, the fire flow path(s) can have a significant influence on structure fire behavior. The concept of the fire flow path refers to the fluid dynamics or how a particle will travel within the structure. The flow path can be influenced by a number of variables including the configuration of the structure (i.e., interior rooms, ceiling heights, walls, number of openings, location of openings, etc.), exterior environmental conditions (i.e. temperature, wind, etc.), and the fire induced flows. These variables will create pressure differences. When there is a pressure difference across a crack, gap, or other opening a flow will result from the higher pressure to the lower pressure [5].

Fire is an exothermic reaction, which means that it releases energy, typically in the form of heat and light. This release of heat increases the temperature of the gases in the compartment. The higher temperature gases are less dense than the surrounding, cooler gases, which induce a buoyancy force, driving the hot gases up (Figure 22). This concept is analogous to a raft floating on a pool; the raft, or more specifically the air inside the raft, is less dense than the water in the pool driving the raft to the top of the pool. These fire-induced, buoyancy forces will generally fill the compartment with smoke from the top down, creating a positive pressure in the upper layer, a neutral plane, and a negative pressure below (Figure 22). The neutral plane is the location where there is no difference in pressure. The location of this plane can be estimated based on the fire size, the configuration of the structure, and its openings.

Figure 22: Compartment fire dynamics – Buoyancy forces and pressure differences

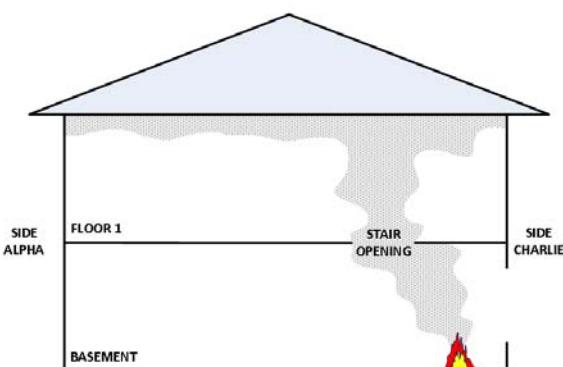
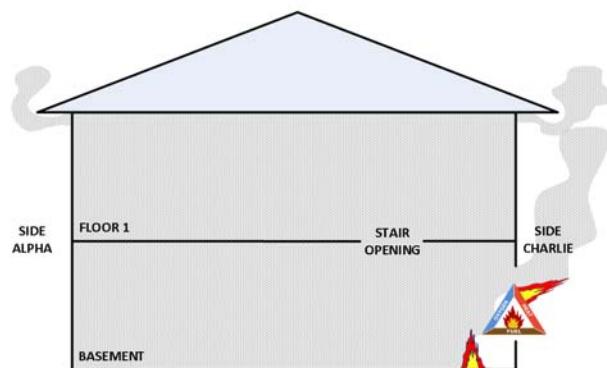


These principles are based on laws of physics: the conservation of mass, momentum, and energy. It is important to understand these principles when analyzing fire behavior and making ventilation decisions during fire department operations. A couple of important implications are highlighted below:

1. Generally, the location of an opening relative to the neutral plane will determine if the opening is an outflow (above the neutral plane), an inflow (below the neutral plane), or a combination of inflow and outflow. It should also be noted that adding openings will affect the location of the neutral plane.
2. The same amount of mass exiting the structure (smoke) will also enter the structure (air). From previous discussion on ventilation-limited fires, this addition of air will increase the size of the fire. In other words, adding openings before water is being put on the fire will increase the fire size and temperatures within the structure.

PRIOR TO FIRE DEPARTMENT ARRIVAL

This fire originated in the basement of the condemned structure. Prior to the arrival of the fire department, the fire had enough fuel (minimal contents), oxygen, heat, and time to grow to a size sufficient to have smoke and flames exiting at least two windows in the basement on sides Bravo and Charlie. A conceptual schematic of the early fire growth is shown in Figure 23, and Figure 24 is a schematic of the conditions observed when the fire department arrived.

Figure 23: Early fire growth**Figure 24: Ventilation-limited conditions.**

Flames extending out of the windows and observations of smoke throughout the rest of the structure indicate that the fire had reached a ventilation-limited state. These two windows were located in the Bravo quadrant of the basement and included the small window in the bathroom on Side Bravo, and the larger window in the kitchenette on Side Charlie (Figure 25). These windows, aided by the wind, provided an inflow of air that supplied oxygen to the fire and supported rapid fire growth in the basement.

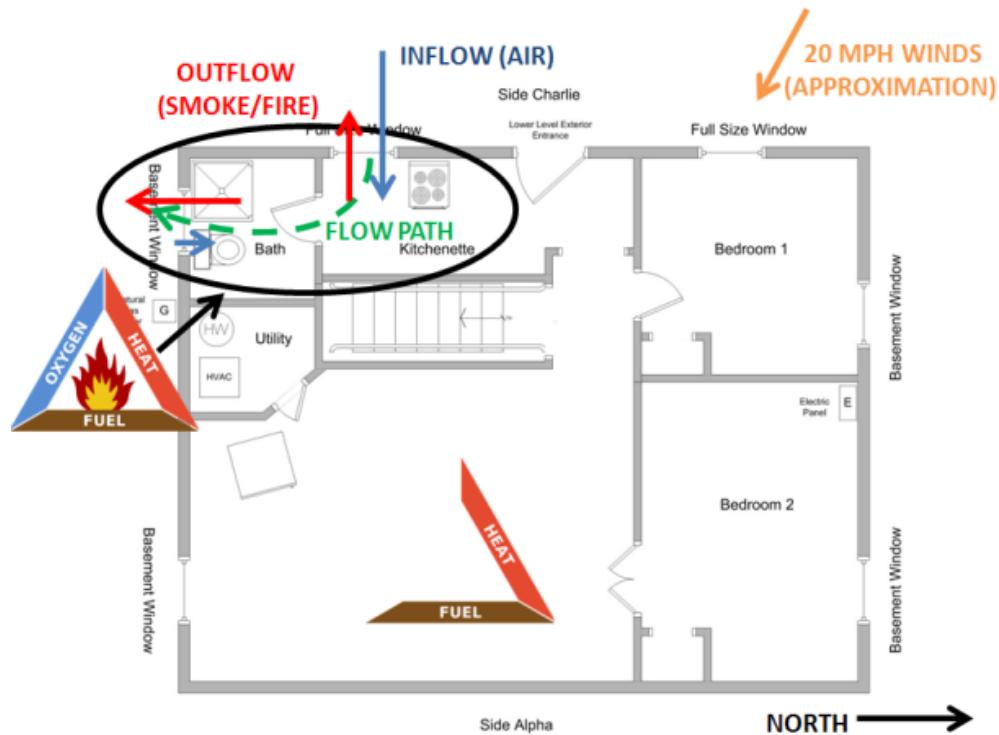
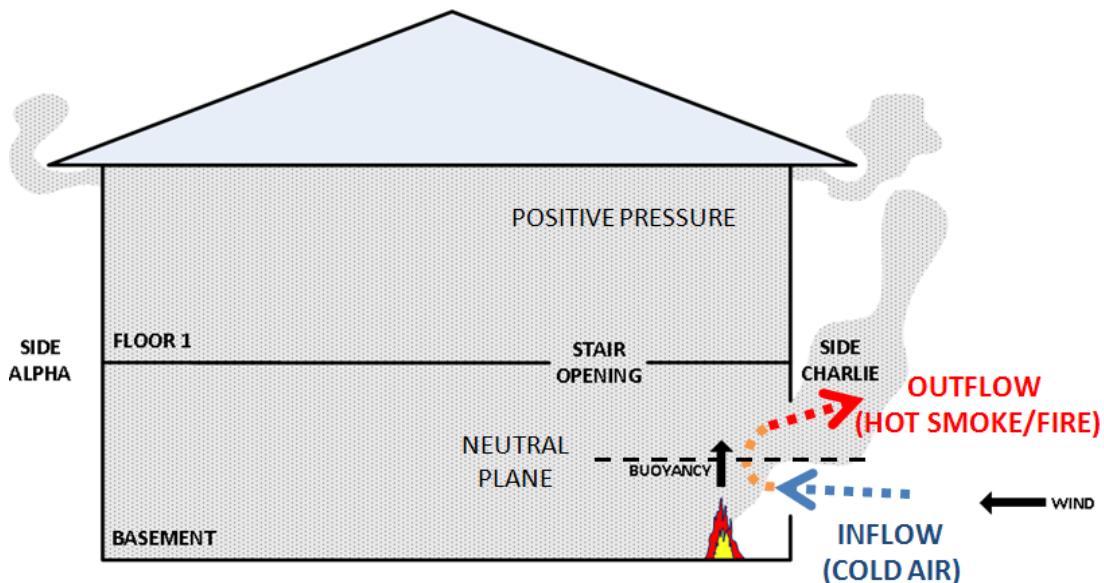
Figure 25: Initial flow path (Top view)

Figure 26: Initial flow path (Side View)



The exterior basement door of this house was initially intact and closed. The status of the basement windows outside of the Bravo quadrant is not known. However, the scene examination indicated that they were intact and closed at the start of the fire. All of the windows and the door on the first floor were closed. Therefore, the two (2) windows in the Bravo quadrant of the basement provided the only means of ventilation (Figure 25 and Figure 26) during the initial development of the fire. Based on the size and location of the windows, the wind, and observations, it is likely that the majority of the inflow was provided by the larger window on Side Charlie and the smaller window on Side Bravo was mostly an outflow (this is represented by the size of the arrows in Figure 25).

The interior door to the basement steps was open, which allowed the smoke and hot gases produced by the fire to fill both the basement level and first floor (Figure 26). Smoke was initially observed pushing from the eves on the first floor. At this point, the first floor of the structure was filled with smoke and was at a positive pressure (above neutral plane), due to both the fire-induced, buoyancy-driven flows and the wind conditions. Even though the interior door to the basement steps was open, this lack of available oxygen and positive pressure prevented the spread of fire to the first floor and kept the fire's flow path in the basement level. The flow path of the fire was effectively contained in the Bravo quadrant of the basement.

AFTER FIRE DEPARTMENT ARRIVAL

Approximately 6.5 minutes after the initial 911 call, the firefighters forced the door on the first floor, Side Alpha of the structure. In the fire service, the term "ventilation" has been defined as the systematic removal of the products created by a fire (i.e., smoke, hot gases) and replacing them with cooler, fresh air to facilitate firefighting operations [6]. Historically, forcing the front door of the structure to make entry may not have been

thought of as “ventilation” by many firefighters. However, anytime an opening is created ventilation has occurred.

The action of opening the front door immediately changed the fire's flow path and dynamics by adding an opening above the neutral plane. Thick, dark, black smoke pushed out of the front door filling the front yard with smoke. The open front door added an outflow on the first floor, which not only allowed the fire in the basement to grow and increase in size, but also directed much of the hot smoke and gases up the interior stairwell and out the front door (Figure 27 and Figure 28). This situation, which occurred due to the natural fire-induced flows, was only intensified by the high winds impacting side Charlie of the structure. The outflow path of hot smoke was in the same area where Truck 809 Forcible Entry and Truck 809 Officer began their search. These firefighters reported seeing only smoke initially, but eventually flames beginning to come up the interior basement stairs.

Figure 27: Flow paths after front door open (Top view)

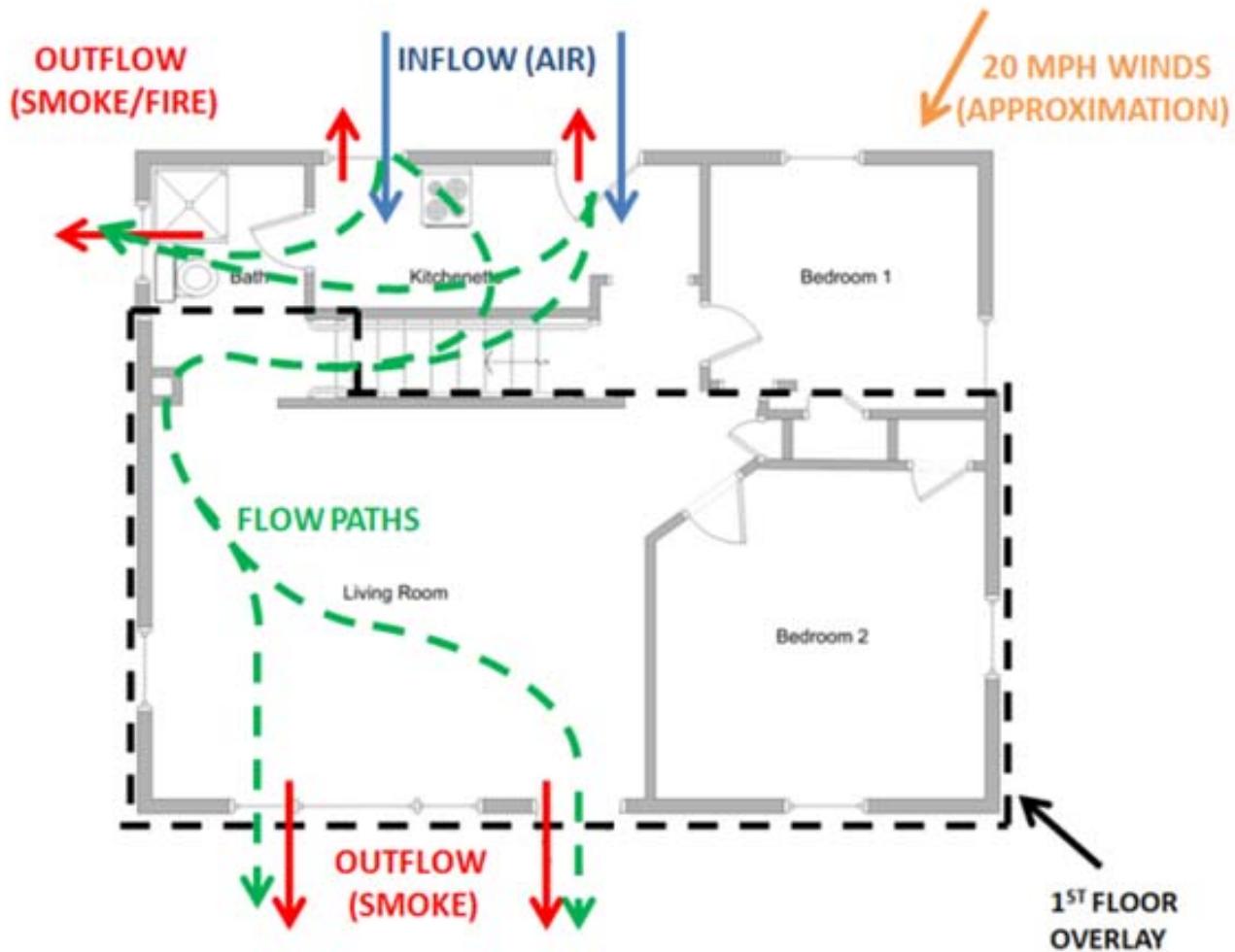
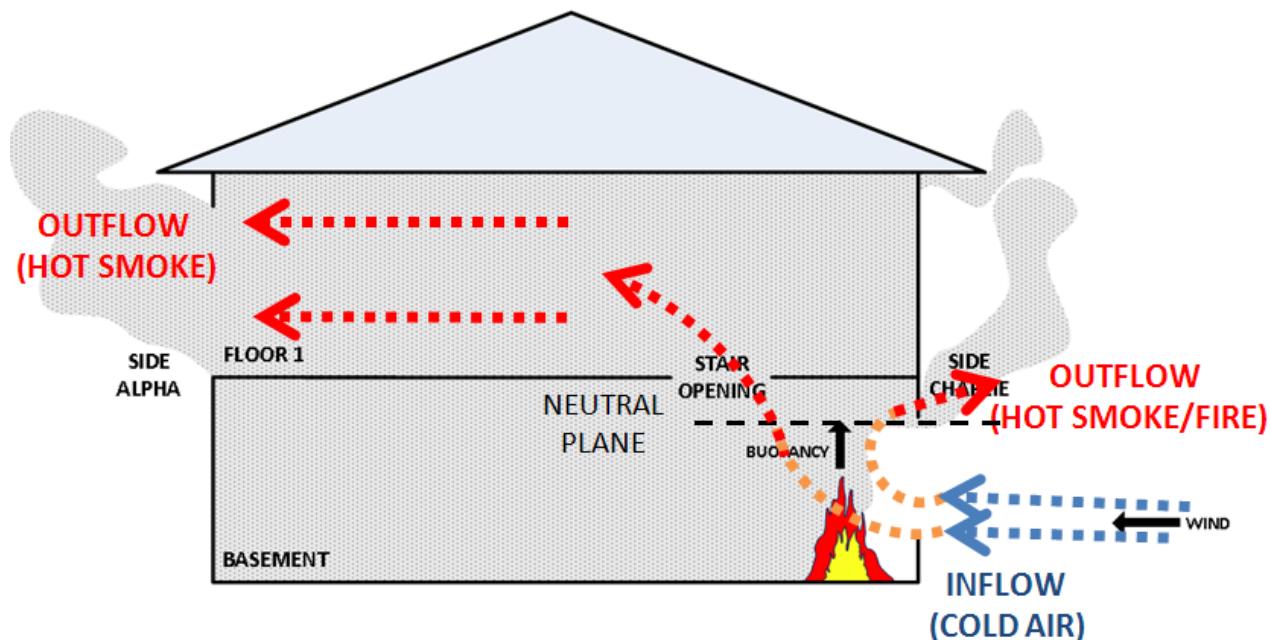


Figure 28: Flow paths after front door open (Side View)



Approximately 1.5 minutes after forcing the front door, firefighters on the interior of the structure (first floor) noticed a sudden change in the airflows, which caused the front door to slam shut. Once the front door was shut, the flow path of the fire once again changed. The hot smoke that was coming up the interior stairwell and escaping out of the front door was now trapped on the first floor. This dropped the smoke layer to the floor and temporarily increased the temperatures from floor to ceiling in the front room. Soon thereafter (approximately 30 seconds after the front door shut), windows were broken on the first floor for firefighter self-rescue and exterior ventilation operations. Prior to firefighters re-opening the front door on Side Alpha to initiate a rescue of Truck 809 Forcible Entry, Engine 809 firefighters on Side Charlie entered the basement and began putting water on the fire. While the rescue was being completed, these firefighters were able to extinguish the majority of the fire, improving conditions throughout. Once rescues were completed, the structure was evacuated by command and firefighters re-grouped, prior to completely extinguishing the fire.

Conclusions

1. Initial observations indicated that on arrival of the fire department there was a ventilation-limited basement fire that was aided by high winds from northwest. These observations included:
 - a. Flames out two basement windows.
 - b. Pressurized smoke condition on the first floor.
 - c. Significant and unusual smoke conditions in the front yard.
 - d. High winds impacting Side Charlie of the structure.
2. When the front door was opened on the first floor, the fire flow path changed and the size of the fire increased. The additional ventilation, without the application of water to the fire, made conditions within the structure worse (i.e., higher

temperatures and larger fire size) and drove much of the hot smoke up the interior stairs and out the front door.

3. While the change in flow path occurred due to the natural fire-induced buoyant forces, the wind conditions only added to this by driving hot smoke and gases up the interior stairs and out the front door. This further increased the size and intensity of the fire, and more rapidly changed the flow path.
4. Truck 809 Officer and Truck 809 Forcible Entry were in the outflow path and exposed to high velocity and high temperature gases, adding significant convective heat transfer, which ultimately resulted in serious burn injuries.

FIRE OPERATIONS

This Chapter addresses factors that impacted on-scene operations, including the unique weather pattern at the time of the incident, strategy and tactics, and the incident command structure. Individual unit actions were derived from Computer Aided Dispatch (CAD) records, radio traffic recordings, and witness statements.

GENERAL ORDER COMPLIANCE

In the Prince George's County Fire/EMS Department, all standing rules and regulations pertaining to Fire/EMS Department operations are titled General Orders. These documents are divided in to 13 "Divisions" with each General Order called a "Chapter."

Staffing Requirements

Fire Department General Order 03-11: *Standard Response Dispatch Procedure*, dictates the minimum staffing levels of the different types of apparatus responding to and operating on emergency scenes within Prince George's County. Below are the minimum staffing levels for the type of units that operated on this specific incident.

- BLS ambulance/ALS ambulance - 2 personnel
- Engine Company - 3 personnel
- Truck Company - 4 personnel
- Rescue Squad - 4 personnel

At the time of dispatch all units indicated that they met or exceeded the minimum personnel staffing level requirements.

Fireground Standard Operating Procedure for Structural Fires

General Order 06-01: *Fireground Standard Operating Procedure for Structural Fires* contains step by step procedures for responding to and operating on the fire emergency scene in Prince George's County.

A summary of the single family dwelling and basement fire procedures, taken from General Order 06-01, is displayed in Table 7. In addition, General Order 06-01 in its entirety is provided in Appendix 8.

Table 7: Prince George's County Fire/EMS Department General Order 06-01 Overview (Effective Date: January 2010)

	1st Due Engine	2nd Due Engine	3rd Due Engine	4th Due Engine	1st Due Truck	2nd Due Truck	3rd Due Special Service	BLS Ambo	ALS Ambo
Single Family Dwelling Box Alarm	Establish a continuous water supply. Normally pos. side Alpha. OIC size-up/radio return: address, # floors, Type construction, Type occupancy, Conditions found, Level of response. ESTABLISH or PASS command. Make obvious rescues. Attack line to confine /control /ext. fire. Primary search of fire area.	Ensure water supply to 1 st Engine. Ensure rescues made. Est. PASSED command. Ensure "2 out". Assist 1st engine with line & then advance back-up (higher GPM) attack line to floor/area above (via stairs) or as back-up to initial hose line. Primary search of assigned area.	Establish a second water supply from different source. OIC size up Side Charlie (report # floors, conditions, rescues, ground level basement access) Obvious rescues. Attack line via Side Charlie for back-up or confine/ control/ ext. fire extension. Primary search of assigned area.	Ensure water to 3 rd Engine. Ensure obvious rescues made. Unless directed, crew should stand by. Conduct primary search of area crew is assigned.	Position on Side Alpha. Provide ladders, lights, vent. Make obvious rescues. Ladder sides Alpha & Bravo. Primary & Sec. search of entire house (start w/ FIRE FLOOR). Force entry, Vent, Utility control, Check ext., Salvage & Overhaul. OIC has Fire Floor Division. Report cond. to IC.	Position to provide ladders, lights, and vent. to side Charlie. Obvious rescues. Ladder sides Charlie & Delta. Ensure Primary and secondary search (start w/ FLOOR ABOVE). Force entry, Utilities, Check ext., Salvage & Overhaul. OIC has Above Fire Division. Report to IC.	Establish RIC. Complete size-up. Assemble tools. Develop rescue plan. Monitor radio. Request Resources		Units making up staffing - Report to and operate with assigned company. Dispatched Units – Position in close proximity. Triage area on Side A with Aid Bag, Oxygen, AED, Back Board and Cot. Report to the IC. Evaluate occupants that escaped or rescued.
Basement Fire Procedures	Advance line to top of steps and ANNOUNCE attack method- " HOLDING THE STEPS " or " DIRECT ATTACK ". Descend steps and attack fire if possible. (<i>Check stairs integrity!</i>)	Advance back up line positioned above fire to protect 1st Eng holding steps.	Advance line to exterior doorway to basement. Advise IC if no access exists. NO ATTACK WITHOUT APPROVAL!!	Standby and await further direction.	Same as above	Same as above	Same as above		Position in close proximity to scene and allow a path of exit for emergency transport. Report to IC. Prepare to administer ALS care without delay.

The following boxes summarize the tasks assigned to each of the respective units, based on General Order 06-01: *Fireground Standard Operating Procedure for Structural Fires* and their dispatched order. If it could be verified that a unit responsibility was completed, the corresponding box was checked. If a unit completed the majority of their fireground responsibilities satisfactorily, then they were determined to be in compliance with General Order 06-01.

1st Due Engine – Engine 807B with 6 Personnel	Radio Positions																
	<table border="1"><tr><td>D</td><td></td><td></td><td>O</td></tr><tr><td>1</td><td></td><td></td><td>2</td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td>3</td><td>4</td><td>5</td><td>6</td></tr></table>	D			O	1			2					3	4	5	6
D			O														
1			2														
3	4	5	6														
General Order 06-01 Tasks:																	
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Take steps to establish continuous water supply <input checked="" type="checkbox"/> Apparatus on side Alpha <input checked="" type="checkbox"/> Unit OIC shall complete an initial size-up and provide a brief radio return <input type="checkbox"/> Advance an attack hose line <input type="checkbox"/> Conduct a primary search of the immediate fire area 																	
Complied with General Order 06-01: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																	

2nd Due Engine – Engine 809 with 4 Personnel	Radio Positions																
	<table border="1"><tr><td>D</td><td></td><td></td><td>O</td></tr><tr><td>4</td><td></td><td></td><td>1</td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td>3</td><td></td><td></td><td>2</td></tr></table>	D			O	4			1					3			2
D			O														
4			1														
3			2														
General Order 06-01 Tasks:																	
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Completed water supply <input checked="" type="checkbox"/> OIC shall establish Command <input type="checkbox"/> Ensure 1st attack hose line from the 1st Due Engine is advanced <input type="checkbox"/> Advance 2nd attack hose line to the area or floor above the fire 																	
Complied with General Order 06-01: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																	

Per General Order 06-01: *Fireground Standard Operating Procedure for Structural Fires*, Engine 809 should have ensured the placement (and/or back-up) of Engine 807B's attack line. Engine 809 Officer instead ordered the crew to advance the line to Side Charlie. Engine 809 Officer stated there were attempts to contact the Incident Commander by radio, but the Officer kept receiving the radio busy signal (bonk) and was unable to transmit any information. The Engine 809 Officer made a decision to enter the basement and attack the fire, without the knowledge of the Incident Commander or crews operating on Division 1. Engine 809 Officer withdrew the crew from the basement area when the emergency evacuation tone was sounded. Upon exiting the structure, the Engine 809 Officer left the crew and went to perform face to face communication with the Incident Commander.

3rd Due Engine – Engine 801 with 6 Personnel

Radio Positions

D			O
1			3
2			4

General Order 06-01 Tasks:

- Establish secondary water supply
- Advance attack line to Side Charlie
- Coordinate attack line placement with the IC

Complied with General Order 06-01: Yes No

4th Due Engine – Engine 812 with 4 Personnel

Radio Positions

D			O
1			2
3	4	5	6

General Order 06-01 Tasks:

- Complete secondary water supply
- Ensure attack hose line from the 3rd Due Engine is advanced
- Advance back-up line to Side Alpha, unless IC direction otherwise

Complied with General Order 06-01: Yes No

1st Due Special Service – Truck 809 with 5 Personnel**Radio Positions**

D		O
3		1
4		2

General Order 06-01 Tasks:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Position Side Alpha
<input checked="" type="checkbox"/> Ladder Sides Alpha & Bravo
<input checked="" type="checkbox"/> Primary Search with 1 st due engine
<input checked="" type="checkbox"/> Force entry
<input type="checkbox"/> Utility control | <input type="checkbox"/> Ventilation
<input type="checkbox"/> Open up for extension check
<input type="checkbox"/> Salvage and overhaul
<input type="checkbox"/> Secondary search
<input type="checkbox"/> OIC assume Division supervision |
|--|--|

Complied with General Order 06-01: Yes No

Truck 809, while primarily compliant with General Order 06-01, the driver operated independently and without command's knowledge.

2nd Due Special Service – Truck 801 with 8 Personnel**Radio Positions**

D		O
1		5
2	3	4

General Order 06-01 Tasks:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Position for Side Charlie
<input checked="" type="checkbox"/> Ladder Sides Charlie & Delta
<input checked="" type="checkbox"/> Primary Search area above
<input checked="" type="checkbox"/> Force entry
<input checked="" type="checkbox"/> Utility Control | <input checked="" type="checkbox"/> Ventilation
<input checked="" type="checkbox"/> Open up for extension check
<input checked="" type="checkbox"/> Salvage and overhaul
<input type="checkbox"/> OIC assume Division supervision |
|--|--|

T

Complied with General Order 06-01: Yes No

3rd Due Special Service—Rescue Squad 801 with 8 Personnel Radio Positions

D			O
	1	2	
	3	4	
	5	6	

General Order 06-01 Tasks:

- Establish Rapid Intervention Team

Complied with General Order 06-01: Yes No

As illustrated above, there were multiple instances where units and/or personnel deviated from existing standard fireground operational procedures. This is not a new issue, and the Team strongly urges a complete re-evaluation of fireground standard operating procedures.

Recommendation #1 (Red): The Department must develop a new training program to better qualify personnel to function in areas of responsibilities particularly in the areas of command, control, and accountability on the fireground.

As discussed in the Fire Behavior Chapter, personnel on this incident that were above the fire and in its flow path were the most severely injured. There have been several similar documented incidents in the County, as well as nationally, that have injured or killed firefighters while operating in accordance with the previously described basement fire procedures.

Recommendation #2 (Red): Basement fire tactics must be revised to reflect current best practices. This should include the importance of getting water on the fire as quickly as possible and not placing personnel unnecessarily above the fire, or in its flow path.

The Team feels that this recommendation should be considered as a top priority and, therefore, should be implemented immediately.

SITUATIONAL AWARENESS

Situational awareness can be described as having knowledge of the surrounding environment. Personnel must be aware of what is happening around them and understand how information, events, and their actions or inactions may impact operations, throughout an emergency incident. The ability to understand these

relationships, when confronted with complex and multiple factors, is critical in making decisions during emergency incidents.

Initial On-Scene Weather Conditions

At 2115 hours the weather station at College Park Airport reported winds from the NW at 13.8 miles per hour (mph) gusting to 27.6 mph. The airport is located approximately 0.98 miles NW of the incident scene.

The structure at 6404 57th Avenue is situated on a high sloping hill with Side Charlie facing westward. During the initial stages of the incident the National Weather Service (NWS) data shows winds blowing from the West-Northwest toward the East-Southeast direction. Hazardous weather had been previously forecast and alerts were issued by both the NWS and the Prince George's County Fire/EMS Department to the normal distribution lists and methods. As indicated previously in the Environmental Conditions Chapter the Department's Public Information Officer (PIO) and Operational Safety sent out weather alerts via email (see Appendix 2). This information did not reach all personnel.

Recommendation #3 (Yellow): Develop and implement a formal process to disseminate adverse weather advisories/alerts to ensure all personnel are aware of changing conditions to aid during initial on-scene size-up.

It should be noted that although the weather and high wind were a contributing factor to the unfortunate outcome of this incident, a similar outcome could have occurred without the high wind, due to the natural fire-induced flows, with units operating above the fire and in the outflow path.

Initial Size-up

During the initial size-up of the structure, the officers of Engine 807B, Truck 809, and Engine 809 did not anticipate the impact of the high wind conditions and the effect the sloping topography on Side Charlie would have on fire conditions. According to the written statements of on-scene personnel, the first arriving officers did not conduct a 360-degree survey of the structure. All three unit officers made mention of the wind speed and smoke conditions upon arrival, but did not factor its effect into their tactical operations.

In post-incident interviews, it is apparent that a full 360-degree scene size-up of the structure was not completed, prior to initial entry into the structure. Engine 809 Officer stated that radio transmissions were attempted upon his crew's arrival on Side Charlie; however, he was unable to complete this transmission due to radio interference and Emergency Identifier (EI) activations. There were no radio transmissions from Side Charlie identifying the presence of a well-developed basement fire and strong prevailing gusting winds. Information was not relayed to command that there was Side Charlie exterior access to the basement fire. Command did not have a clear picture of the wind conditions and Side Charlie, to allow it to be factored into the strategic plan.

Note: It may not always be feasible, particularly with larger homes, odd lots, and different types of occupancies (e.g., multi-family, commercial, educational, industrial, etc.) to perform a complete 360-degree survey. In instances where the first arriving officer cannot visualize all sides of the structure, it is imperative for other arriving units, particularly those assigned to the rear, to relay their findings.

Recommendation #4 (Red):

- Incorporate a 360-degree survey and the evaluation of environmental conditions as part of the strategic and tactical plan development into future revisions of the General Orders.
- The first arriving officer must make every practical and reasonable effort to complete a 360-degree survey prior to making entry.
- Emphasize the importance of continuous situational reporting from critical units, divisions, and groups.

Unit Officers did not recognize the volatile impact that creating openings on Side Alpha would have on the fire behavior, specifically the fire flow paths.

Recommendation #5 (Yellow): Develop a Department-wide training program that focuses on understanding fire behavior, fire flow paths, and how to “read” interior and exterior smoke conditions to identify the location and predicted spread of a fire.

Upon arrival, there were no obvious rescues, or bystanders reporting that anyone was trapped in the house. Although several 911 callers described the house as “empty” or “vacant,” this information was never relayed by Public Safety Communications (PSC) to responding units. The Company Officers on the initial arriving units and the Incident Commander made the decision to perform a primary search to locate potential victims solely because of the vehicle parked in the driveway. There was no announcement of initial strategy and tactics.

Recommendation #6 (Green): Amend the General Orders to require Incident Commanders to prioritize and announce critical information, including strategy (defensive/offensive operations) that will impact incident outcomes and tactics, as a part of the initial size-up report. This should also include classroom and hands-on command, control, and accountability training.

Vacant/Abandoned Buildings

On the 57th Avenue incident, the structure had been condemned and abandoned for an extended period prior to the fire; however, there was no procedure in place to inform responding firefighters of this important information.

The International Association of Arson Investigators and the United States Fire Administration developed the “Abandoned Building Project,” [7] in response to the Line of Duty Deaths of firefighters in Worcester, Massachusetts. It includes a building marking system, pre-fire inspection, and other components, designed to help identify structures that may pose increased risk of injury and death to firefighters, as well as, reduce the number of incendiary fires in vacant structures.

“The objective of the project was the development of materials to assist public officials in dealing with vacant or abandoned buildings within their jurisdictions. Materials developed as part of the project were targeted toward the safety of fire suppression forces involved in fighting fires in vacant or abandoned buildings and the reduction of incendiary fires involving these properties. Materials developed as part of the project were to become a ‘Tool Box’ that community leaders could select from to address vacant and abandoned buildings and the hazards they represent.”

Recommendation #7 (Green): Consider adopting guidelines of the International Association of Arson Investigators/United States Fire Administration’s, Vacant and Abandoned Building Project/Toolbox.

Crew Integrity

Crews involved in incident operations within a hazardous environment must operate as a member of a team of at least two or more qualified personnel. Team members are to maintain contact with each other at all times by sight, voice, or physical contact, depending on the conditions in which they are operating.

The Department’s General Order 06-01: *Fireground Standard Operating Procedure for Structural Fires*, states that crews shall operate in teams of two or more with a portable radio.

The Department’s General Order 06-07: *Searching for Victims* also states a minimum crew shall be considered two people and a portable radio. It further states that it is preferred that every member operating in the hazardous environment have a portable radio, to facilitate contact with their supervisor or other team members.

General Order 06-07 further states that members entering an Immediate Danger to Life and Health (IDLH) atmosphere will don all Personal Protective Equipment (PPE), including Self-Contained Breathing Apparatus (SCBA). The officer-in-charge of the search team is responsible for performing a rescue related size-up, identifying the fire’s

location, all means of entrance and egress, and communicating the search and rescue plan to the search team. Companies engaging in search operations will deploy in teams of at least two personnel. Each search team will be equipped with a minimum of a Department radio, hand lights, hydraulic forcible entry tool, set of irons, and a rope (personal or rope bag). Units that are equipped with a Thermal Imaging Camera (TIC) will utilize the camera while performing searches.

The Unit Officer will be responsible for:

- Ensuring that primary or secondary searches are conducted in a systematic manner
- Providing the appropriate supervisor with search progress reports

The Incident Commander, Division Supervisor, and Unit Officer will each be responsible for:

- Supervision and control of personnel under his/her command
- The safety and welfare of personnel under his/her command

Based on individual statements collected during the investigation the following are deviations from General Orders regulating proper crew integrity practices which directly and indirectly contributed to negative outcomes on the fireground.

- When Truck 809 stopped to permit Engine 807B to drop their supply line at the hydrant, Truck 809 Can dismounted the apparatus without the officer's knowledge, forcing that firefighter to run up the street, compromising crew integrity. Truck 809 Can proceeded to operate on Side Alpha.
- After the injured firefighters were out, Truck 809 Driver entered the structure alone to conduct a search and operated a hose line on Division 1 without knowledge of command.
- Engine 809 Driver left the pump panel and went to Side Alpha of the structure, became engaged in patient care, and subsequently left the incident scene by driving one of the EMS transport units to the hospital.

All of these actions were independent, and were not ordered or known by the unit officer(s) and/or command.

There was no incident action plan verbalized or coordinated from the Incident Commander. Fireground activities were independently initiated at the tactical unit or individual level without coordination, and there was a lack of formal accountability during or after the significant fireground events. The Incident Commander needs to have knowledge of what units are assigned to a structure fire, their arriving order, and their responsibilities as outlined in the General Orders.

Recommendation #8 (Yellow): In an effort to ensure all fireground activities are coordinated and prevent freelancing, the Department should consider modifying General Order 06-01 to control the deployment of units on a fireground; e.g. – First Engine and Special Service operate and the remaining units stage until directed by Command.

Not all personnel riding apparatus who had radios available (on the apparatus) took those radios with them when they dismounted the apparatus, even though portable radios were available to them.

It is noted that several Department personnel responded from home in their privately owned vehicles. This contributed to the lack of personnel accountability and safety at the fire incident scene.

Recommendation #9 (Yellow): The Department should strictly prohibit any personnel from responding to the scene in their personally owned vehicle.

Two-In, Two-Out

Maryland Occupational Safety and Health (MOSH) establishes requirements for minimum staffing levels during the initial fireground operations. The term “two-in, two-out” refers to the minimum number of two (2) qualified firefighters that may enter an Immediately Dangerous to Life and Health (IDLH) atmosphere, while a minimum number of two (2) qualified firefighters remain outside. The two (2) firefighters outside are to function as a standby team for the interior crew. MOSH’s requirements for a standby team are not abated by the arrival of additional units. The Department currently has a General Order that addresses its Two-In, Two-Out policy. See Appendix 8 for General Order 06-03: *2 In, 2 Out and Rapid Intervention*.

Currently, there is nothing in the General Order that requires the Two-In/Two-Out assignment to be verbalized or acknowledged over the radio. Without this verbal designation or acknowledgement, there is no assurance that the Two-Out responsibilities have been met.

Two-In, Two-Out Compliance

During the initial phases of the 57th Avenue incident, Engine 807B, Truck 809, Engine 809, and Volunteer Chief 809A (Incident Commander) arrived almost simultaneously. The Two-In, Two-Out assignment was not communicated by either the first arriving engine or the Incident Commander.

Upon arrival, the Incident Commander assigned the Rapid Intervention Crew (RIC) duties to a responding unit (Rescue Squad 801, not yet on the scene); however, interior operations were initiated prior to the establishment of a designated Two-Out crew or

RIC. In addition, there was no communication indicating the abatement of the Two-Out requirement because of “a known life hazard”, as allowed by the General Order.

Recommendation #10 (Yellow): Develop and implement formal, system-wide policies, procedures and training related to Two-In, Two-Out compliance. Such policies and procedures should address the following:

- Identify what unit is to assume/assign the Two-In, Two-Out responsibilities.
- Require verbalization of Two-In, Two-Out compliance over the tactical radio channel.
- Require the Two-Out crew to accept that assignment over the tactical radio channel.
- Ensure the adherence of the Two-Out regulations of the second-due engine until the arrival and establishment of the RIC.
- Identify the specific criteria required in order to deviate from this policy.
- Review and modify all current General Orders to ensure there is no conflict with the newly established policy.

RAPID INTERVENTION CREW (RIC)

The Prince George's County Fire/EMS Department has implemented the RIC procedure as a standard practice for all emergency incidents having more than one team operating in a hazardous or IDLH atmosphere. There is a distinct difference between the Two-In, Two-Out and the RIC. Regardless of which unit is assigned as the RIC, unless there is a “known life hazard”, the Two-In, Two-Out requirement must be maintained by the standby crew (Two-Out) until the RIC is ready to assume the RIC responsibilities.

General Order 06-03 (see Appendix 8) indicates that a RIC is “*a crew specifically designated by the Incident Commander at the scene of an emergency beyond the initial stages, consisting of a minimum of four personnel, one preferably being a Company Officer. The RIC shall be available for the rescue of firefighters should the need arise. Depending on the size and complexity of the incident, the Incident Commander shall establish one or more RICs. The RIC normally replaces or enhances the standby team, which is required during the initial stages of the incident*

General Order 06-03 further states that a RIC shall be established anytime one of the following conditions exist:

- Structure fire where SCBA and 1½-inch hose line (or larger) will be used
- Personnel are operating inside of an IDLH or potentially IDLH atmosphere
- Incidents with the possibility of collapse or entrapment of personnel
- Incidents where personnel might become lost or disoriented
- When deemed necessary by the Incident Commander

Rapid Intervention Crew (RIC) Compliance

On the 57th Avenue incident, crews donned SCBA, were operating 1½-inch (or larger) hose lines, were within an IDLH atmosphere, and had the potential for personnel to become disoriented, lost and/or entrapped. A functional RIC was required to be established, but was not yet in place at the time of the firefighter emergency.

General Order 06-01 (See Appendix 8) identifies the third due special service unit as the RIC. The Incident Commander did indicate that Rescue Squad 801 would be the RIC upon arrival. Rescue Squad 801 was the third due special service unit and by policy was rightfully assigned. However, in this particular incident the firefighter emergency occurred prior to their arrival.

Recommendation #11 (Yellow): Revise the General Order to ensure the RIC assignment changes from the third due special service to an earlier arriving unit.

INCIDENT COMMAND

Given the rapid nature of the incident, the Incident Commander functioned adequately. However, it should be noted, that command was established without a clear view of conditions, which could have given command a better assessment of the immediate operations. Additionally, when the emergency occurred there were significant break downs of the overall operations. These break downs are addressed here, as well as in the Training Chapter of this report. The following areas of concern requiring action have been identified.

Continuity and Documentation

The command documentation used on this incident could not be produced to the Team. This document is critical during and after any incident. The command sheet should be available for review following every incident.

Recommendation #12 (Yellow): A simple and standardized command check list or guide should be placed in the front seat area of every piece of apparatus within the County for easy "at a glance" use.

Recommendation #13 (Green): ONE standardized County-wide tactical command sheet/board must be used in any multi-unit response to ensure command and control of incident operations. COG/NOVA Chiefs have a standardized sheet that should be strongly considered due to mutual aid unit fires being common in Prince George's County.

The current system in place for dispatched career and volunteer battalion chiefs places no emphasis on obtaining chief's aides to assist in various essential fireground size up

and command tasks. These tasks include, but are not limited to: driving the command vehicle so the battalion chief can properly note various staffing levels uninterrupted, monitor crucial radio transmissions prior to arrival, manage accountability and operate without distractions, serve as a second set of eyes and ears at the command post, serving as a scribe when command assigns companies, monitoring the main fire ground talk group in the event of a MAYDAY and related critical tasks. While later arriving chiefs assisting at the command post are of value, the ideal situation would be that they arrive simultaneously, so they can operate as a team.

The goal for the Department should be that any Incident Commander has a qualified person working with them at the command post to monitor and assist in command, control, communications, and accountability of the incident.

Recommendation #14 (Green): The Department should consider the use of Chief's Aides. This position would most likely be a Captain or a Lieutenant so that there is a form of mentoring associated with this assignment. This can further enhance the development of the line officer into the role of a chief officer.

ACKNOWLEDGING TASK ASSIGNMENTS

When fireground tasks are assigned, an acknowledgement echoing the message ensures that the communication has been received and understood.

During the 57th Avenue incident, tasks were assigned to units, but not acknowledged over the radio, such as the Incident Commander's assignment of Rescue Squad 801 as the RIC. This lack of acknowledgement may cause doubt or miscommunication and hinder coordination among the units on the fireground.

EMERGENCY EVACUATION

There are two types of firefighter evacuations that can occur on a fireground. One is an organized retreat of personnel from the building to change operational mode from offensive to defensive. The other is an emergency evacuation that rapidly removes firefighters from a structure due to an impending threat of or an occurrence of a disastrous event.

Through various General Order revisions over the years, the procedure for emergency evacuation was inadvertently removed. The following is a quote from the previous General Order:

When the Incident Commander decides an emergency evacuation of a building or area is necessary, he/she will notify communications. Upon receipt of this information, the following actions will take place:

- Public Safety Communications will immediately transmit a distinct audible signal over all radio talk groups, followed by a transmission

indicating the location address and that all personnel are to immediately evacuate the building or area.

- All apparatus operators, upon hearing the evacuation announcement will immediately sound their audible devices (siren – air horns) for one (1) continuous minute.
- Upon hearing the warning signal to evacuate, all firefighters and emergency personnel will immediately and safely exit the building or area they occupy and report to their immediate supervisor.

Upon discovery of this omission, the Operational Safety Office immediately prepared a Safety Bulletin, in an attempt to train/remind personnel of this long standing, operational safety procedure.

During the 57th Ave incident, an emergency evacuation of the structure was ordered by the Incident Commander. The verbal and radio evacuation order was never transmitted via the radio talk group because of the activation of multiple Emergency Identifiers of the portable radios that preempted radio traffic. The radio talk group remained busy, but the Engine and Truck Company apparatus operators activated their audible warning devices, alerting personnel to immediately evacuate the structure. According to multiple statements, upon hearing the air horns crews immediately evacuated the structure. Therefore, this proved to be an effective method of communicating an emergency evacuation order, when the radio system was negatively affected by the EI activations.

Recommendation #15 (Red):

- Modify General Order 06-01 (see Appendix 8) to include a procedure for emergency evacuations during fireground operations.
- Develop policies that require the Incident Commander to ensure a Personnel Accountability Report check is completed when incident conditions change.
- Develop a standardized MAYDAY quick reference guide to be used by all command officers. The quick reference guide must detail steps to be taken when a MAYDAY occurs. These quick reference guides should be carried on every command vehicle.

PERSONNEL ACCOUNTABILITY

The term “personnel accountability” has several meanings in the fire service, which mirror the levels of the Incident Command System (ICS). At its most basic level, accountability refers to a unit officer’s responsibility to supervise personnel, provide for their safety, and maintain communication with Command. At higher levels, accountability requires Division, Group, and Branch supervisors to keep track of the units assigned to their area of responsibility. Finally, at a strategic level, the Incident Commander is responsible for tracking the assignment of units to Divisions, Groups, and Branches.

Personnel Accountability Report (PAR) checks are another component of personnel accountability. PAR checks are radio reports initiated by the Incident Commander at predetermined points in the incident. The first PAR check is initiated at the 20 minute mark followed by PAR checks at the 40 and 60 minute marks. However, the Incident Commander may initiate a PAR check at any time it is deemed necessary, including, but not limited to the following:

- Report of a member or crew missing or trapped.
- When a unit/crew cannot be contacted in the Hazard Zone.
- Sudden hazardous change on the incident scene.
- Incident conditions deteriorate to a point that evacuation is ordered.
- A change from an offensive to a defensive mode.

During PAR checks, unit officers report the total number and accountability of members assigned to their unit, the area they are operating in, and indicate the number of people operating outside of the hazard zone.

Currently Prince George's County has three levels of accountability:

- Level I which has personnel place their assigned Personal Accountability Tag (PAT) on the collector ring in the front of the apparatus
- Level II which orders unit drivers to deliver the tags to the command post
- Level III which requires point of entry accountability

The current system of fireground and emergency scene accountability has failed for a variety of reasons, both behavioral, as well as practical. It is the recommendation of the Team that a complete replacement of the system be implemented. One inexpensive and simple system that has proven very effective nationally is the "passport accountability system", which has been adopted in Northern Virginia, and neighboring Montgomery County is transitioning to.

Recommendation #16 (Green): Develop and implement system-wide policies and procedures related to personnel accountability utilizing the Passport System. Such policies should address the following:

- Requiring personnel verify the Passport and Unit Roster as quickly as possible after arriving for duty.
- Requiring personnel to drop their Passports off at a predetermined location, immediately after arriving on the scene of an incident.
- Standardize the location of Unit Rosters and Passports.

APPARATUS AND EQUIPMENT STANDARDIZATION

The Prince George's County Fire/EMS Department and the individual volunteer departments own and maintain apparatus and equipment in the system. Each volunteer department identifies their apparatus and equipment needs, as well as the physical

location of apparatus/equipment within their station(s). There are numerous advantages to system-wide standardized apparatus and equipment. Apparatus and equipment standardization supports the continuity of operations, training and driver operator procedures.

Without standardization, incident commanders, unit officers, and other personnel cannot adequately implement strategy and tactics without knowing the capabilities of the apparatus and equipment in use on the emergency scene. Since structure fire incident scenes involve multi-company operations, it is impossible to fully know all the capabilities and limitations of the wide variety of apparatus and equipment in use in Prince George's County. This situation can compromise firefighter safety and delay tactical operations at emergency incidents. The lack of standardized apparatus and equipment has a negative impact on the safety, speed and efficiency of firefighters to carry out actions to support tactical operations.

Standardized fire apparatus and equipment inventories improve the efficiency of fireground operations and promote personnel safety. Standardized fire apparatus allow driver/operators to become proficient in apparatus operation, regardless of whether they are assigned to that unit. Standardized equipment inventories ensure that personnel are able to locate and retrieve equipment quickly, without having to search through each compartment, only to find that the apparatus is not equipped with a particular item.

Recommendation #17 (Green): Develop a structured transition and implementation plan to achieve standardization of apparatus and equipment. The structured transition and implementation plan must include a process for the removal of non-standardized apparatus and equipment from the system's inventory. Consideration should be given to:

- Standard hose lines (supply and attack lines)
- Standard complement of nozzles (nozzle types, standardized pressure and gpm flow, etc.)
- Standard hose load configurations
- Standardize appliances to be used (i.e., four way hydrant valves, blitz nozzles)

Recommendation #18 (Green): Develop a system-wide plan that shall identify the deployment and distribution of all apparatus. This plan should be routinely evaluated for optimal strategic placement of apparatus and consider emerging technologies.

EMS OPERATIONS

EMS INITIAL TREATMENT AND TRANSPORT OF INJURED PERSONNEL

There were a total of seven (7) personnel injured during the course of the incident on 57th Avenue. Six (6) of the seven (7) personnel were transported to Washington Hospital Center Burn Unit by EMS transport units; and one (1) self-transported himself to Washington Hospital Center Burn Unit by his assigned Department vehicle.

The specific medical treatment provided to injured personnel is outside the scope of this Report. This section addresses the management and coordination of EMS resources on the scene and the process by which additional resources were requested and obtained.

Initial EMS Response to 57th Avenue

The Working Fire Dispatch (WFD) was dispatched after the first suppression unit arrived on the scene and reported that they had fire showing from the building. The following EMS units were dispatched on the WFD – Ambulance 855, Medic 812, and EMS Duty Officer.

21:14:06 - Dispatch of WFD Units: Ambulance 855 Medic 812 EMS Duty Officer. Ambulance 809 marked up as responding and Communications removed Ambulance 855 from the incident.

21:17:45 - Command requested evacuation and a fire task force.

21:21:49 - Ambulance 809 arrived on the scene and positioned their unit on 57th Avenue away from the scene. They received instruction from Command that there were injured personnel on the front lawn of the address and proceeded with their equipment to treat the injured personnel.

21:24:39 - Medic 812 arrived on the scene and positioned their unit at the corner of 57th Avenue and Ravenswood Road. The unit was backed onto Ravenswood Road to provide easy access to leave the scene. Medic 812 eventually split their crew and transported Truck 809 Officer in Ambulance 801 and Truck 809 Forcible Entry in Ambulance 855.

21:17:06 - EMS Duty Officer marked up as responding, but was in the area of Indian Head Highway and the Capital Beltway. Utilizing MapQuest and the route reported by the EMS Duty Officer, the distance to the scene was 21.03 miles with a driving time of 29 minutes. (Note: EMS Duty Officer arrived on scene at 21:48:30)

Request for Additional EMS Units

21:18:18 - Command requested an EMS Taskforce (ETF) after receiving reports of multiple injured personnel. The following EMS units were dispatched on the ETF – Ambulance 855, Ambulance 801, and Medic 830.

21:19:21 - Dispatch of ETF Units: Ambulance 855, Ambulance 801, Medic 830. Ambulance 812 was replaced on the incident and Ambulance 855 was removed and transferred to Station 813. No instructions were given to responding units regarding a location to level 2 stage.

21:20:44 - Ambulance 855 asked Communications whether they are to continue on the transfer assignment or respond to the 57th Avenue incident. Communications advised them to respond to the 57th Avenue incident instead of the transfer. Ambulance 855 responded to the scene.

21:24:40 - Ambulance 801 arrived on the scene and positioned their unit on 57th Avenue just past Ravenswood Road on the left side of the street. Command instructed the crew to come to Side Alpha and treat injured personnel.

21:25:51 - Command requested two additional ALS units and the availability of a helicopter.

21:26:29 - Ambulance 812 arrived at the staging area for the Fire Task Force at Kenilworth Avenue and Riverdale Road. Upon hearing the request for additional EMS units the crew requested permission to respond to the scene.

21:27:51 - Medic 830 arrived on the scene and positioned their unit on 57th Avenue before Sheridan Street. Due to the number of injured personnel the crew decided to split up and treated patients separately, thereby increasing the number of ALS resources.

21:27 - Communications dispatched Paramedic Engine 830 and Medic 844, as two additional ALS units, and they were instructed to respond to the scene.

21:34:33 - Paramedic Engine 830 arrived on the scene.

21:34:42 - Ambulance 812 arrived on the scene and positioned their unit at the corner of 57th Avenue and Rittenhouse Street. Command instructed the crew to transport the burned members of Company 807 to Washington Hospital Center Burn Unit. Upon finding the ambulatory injured members of Company 807, the injured personnel refused transportation by Ambulance 812 and decided that they were going to go with half of Medic 830's crew and another severely injured

firefighter. Ambulance 812 reported back to Command and was instructed to establish an aid station next to the Command Post.

21:35:50 - Communications advised Command that United States Park Police Eagle 2 helicopter has an ETA of 10 minutes and will land at Rittenhouse Street and Kenilworth Avenue.

21:37:11- Medic 844 arrived on scene and positioned their unit at the corner of Ravenswood Road and 58th Avenue. They were instructed to report to the Command Post, after arriving at the Command Post, and conferring with Command, it was determined that all patients had been transported. The crew remained at the aid station next to the Command Post.

21:42:53 - Command requested an additional two BLS ambulances and ordered the helicopter cancelled. Communications dispatched Ambulance 811 and Ambulance 834.

21:44:21 - Ambulance 855 arrived on the scene and positioned their unit on 57th Avenue at the corner of Rittenhouse Street. The crew was asked by a volunteer firefighter to transport two injured personnel to the hospital, but when they tried to locate their unit it had been taken by another crew to transport personnel and they were unable to find a vehicle to use. The two injured personnel walked away and the crew decided to assist half of Medic 830s crew who was working alone in the rear of Medic 830 treating an injured firefighter. The crew assisted the paramedic and then drove Medic 830 to the hospital where they subsequently located their unit.

21:48:30 – The EMS Duty Officer arrived on the scene and reported to the Command Post.

21:49:33 - Ambulance 811 arrived on the scene and Command instructed the crew to stand by at Somerset Road and 57th Avenue.

21:53:56 - Ambulance 834 arrived and staged at Kenilworth Avenue and Riverdale Road. Command released the unit at 22:15:41.

21:57:25 - Communications is advised by the Fire Marshal Battalion Chief that the helicopter has landed at the landing zone.

22:12:35 - The Staging Officer (Volunteer Chief 855B) advises Command that the helicopter has left the scene.

Deployment of EMS Resources on the Scene

The positioning of EMS units on the scene and the subsequent arrival of fire suppression units blocked several EMS units and made them unusable for transporting

patients to the hospital. This forced crews to utilize transport units belonging to other crews, leading to confusion when trying to locate units for transporting patients.

Several EMS crews stated that there was no triage of patients and no defined treatment area for assignment of patients to be transported. Due to the distance the EMS Duty Officer was responding from to the scene, no EMS Group Supervisor was available to provide direction. Table 8 summarizes all of the injured personnel and the mode of transportation. All patients were transported to Washington Hospital Center Burn Unit.

Table 8: Injured Personnel by Crews and Mode of Transportation

Injured Member	Crew Treating Injured Member	Vehicle Transporting Injured Member
Engine 807B Nozzelman	½ of Medic 830 and A855	Medic 830
Truck 809 Officer	½ of Medic 812 and A801	Ambulance 801
Engine 807B Officer	½ of Medic 830 and A807	Medic 812
Engine 807B 2nd-Line	½ of Medic 830 and A807	Medic 812
Engine 807B Layout/Backup	½ of Medic 830 and A807	Medic 812
Truck 809 Forcible Entry	½ of Medic 812 and A809	Ambulance 855
Volunteer Chief 812A	self-treated	Vol. Chief 812A Vehicle

Impact on Incident

Based on the number of injured personnel, the 57th Avenue incident needed to be handled as a multiple casualty incident (MCI). The first arriving EMS unit needed to triage all patients and assign a triage category, as per General Order 05-10: *Multiple Casualty Incident Operations*. This would have provided the EMS Group Supervisor and Incident Commander the information needed to determine the resources required to treat and transport the patients.

Recommendation #19 (Red): All personnel shall review Triage procedures for handling multiple casualty incidents (MCI) and the various roles required to mitigate an MCI.

The lack of an EMS Group Supervisor during the early stages of the incident hampered incoming EMS units, because of a lack of coordination and situational awareness of the ongoing incident. The Incident Commander needs to ensure that an on-scene EMS Group Supervisor is assigned early in the incident to coordinate all EMS activities.

Recommendation #20 (Red): The Department should consider placing additional EMS Supervisors in service in the northern and southern areas of the County to allow for shorter response times and greater geographical coverage. Multiple EMS Duty Officers would allow supervision of the various divisions within the EMS Group, such as Treatment area and Transportation area.

During the incident, several EMS units became unusable for transporting patients due to being blocked by arriving fire suppression apparatus. EMS units need to anticipate additional arriving units and park their vehicles in a location that will allow for egress if needed for transporting patients. They need to be aware of the possibility that the incident may increase in scale and that they may be required to reposition to prevent becoming blocked by additional alarm units. Command officers need to ensure that staging areas for additional EMS units are identified and relayed to responding units to ensure that they do not become unusable.

BEHAVIORAL HEALTH

This Chapter addresses the behavioral and mental health services and counseling options available to career and volunteer personnel.

AVAILABLE RESOURCES

The following resources are available to members of the Prince George's County Fire/Emergency Medical Services (EMS) Department. They include the County's Critical Incident Stress Debriefing (CISD) Team, Employee Assistance Program (EAP), and the Chaplain program.

Critical Incident Stress Debriefing (CISD) Team

The CISD Team is a joint effort between the EAP Coordinator and several members of the Department who have obtained training and certification through the International Critical Incident Stress Foundation in group crisis intervention. CISD is activated via cell phone through the Watch Office or Command Officer. Responders can call the hotline directly and a confidential voicemail will be sent directly to the CISD cell phone.

The CISD Team provides post-incident peer counseling and group defusing and/or debriefings. CISD is not designed to replace ongoing professional counseling or employee assistance programs. Rather, the CISD Team provides immediate, stress specific, supportive interventions to emergency response personnel who have been exposed to, or are showing signs of traumatic stress experienced in the line of duty.

The Department has a General Order specifically describing the CISD team and what types of incidents they are activated on. The Order also describes the required components for the team. Currently, there is no standard activation plan for team members when needed on various incidents.

Recommendation #21 (Yellow): Develop a formal call back procedure/activation plan for the CISD Team, and inform/educate all command officers on this procedure.

The CISD Team is staffed with only one (1) clinical professional and approximately ten (10) peer members, with only a few being available at any given time. This places an increased stress level on the few team members and the clinical professional.

Recommendation #22 (Yellow): The Department needs to adequately staff the CISD Team and should use the latest findings and suggestions available from the National Fallen Firefighters Foundation as a template. This service should be available to the Department at all times.

The investigation of the 57th Avenue fire incident identified deficiencies with processes, which contribute to a lack of CISD system efficiency and effectiveness. There were several Department personnel that were significantly impacted by the severity of events associated with the 57th Avenue fire incident. This incident impacted not only the seriously injured firefighters, but other members of the Department. Personnel that responded to this fire incident may require additional professional behavioral health counseling to support their efforts in moving forward.

Behavioral Health

Personnel on this incident were exposed to a high physical and mental stress event involving the injury of several co-workers and substantial personal risk, causing the need for immediate and long term behavioral health resources.

Behavioral health resources include, but are not limited to, critical incident stress management, chaplain programs, family support services, counseling, and therapy or clinical related services. There are voids in the Department's ability to support the immediate and long term behavioral health needs of the personnel and their families. An example is the lack of coordination and cross functionality among the various independent programs (i.e., EAP, CISD, Chaplain services, etc.). Notification to the Chaplain may have been delayed, but it is unclear to the Team (SIT) what involvement or actual role the Chaplain played during this event.

Another example is the lack of behavioral health resources beyond the employee assistance program for personnel. The employee assistance program is inadequate, due to limited amount of available visits and lack of clinical specialists in trauma induced and post-traumatic stress, as experienced in fire and rescue personnel. Although APS Healthcare® is a behavioral health resource that is available to all Prince George's County employees, very few PGFD personnel are aware of this service, and it is not available to volunteer members (unless they are County employees).

Recommendation #23 (Yellow): The Department needs to develop and implement a comprehensive Behavioral Health Program with adequate professional behavioral health staff to support all personnel.

Recommendation #24 (Yellow): The Department needs to provide a comprehensive in-station refresher training on the behavioral health services that are available to all career and volunteer personnel.

Recommendation #25 (Yellow): Consider utilizing community clergy to assist in providing CISD services to members and families in cases of firefighter injuries and deaths. This would increase the team size and increase the involvement of the Department with the community.

COMMUNICATIONS

In November 2011, Prince George's County Public Safety Communications (PSC) began operating on a 700/800 MHz TDMA Motorola radio system. This system brings radio communications interoperability for the five County public safety agencies, advanced technology, and AVL-Based response capabilities to the Prince George's County Fire/EMS Department.

The 700/800 MHz radio system has twenty-one (21) tower sites and built in redundancy. The Prince George's County Fire/EMS Department operates on six (6) zones with ninety-six (96) talk groups available for operations.

ORGANIZATION AND STAFFING

Prince George's County Public Safety Communications is staffed by civilian personnel. PSC receives all 911 calls for Prince George's County and dispatches all Fire/EMS calls. There are three (3) operational sections: the 911 section, the Fire/EMS dispatch section, and the Law Enforcement dispatch section (County police, sheriff and municipal police). Emergency Dispatch Aides (call takers) are trained to process emergency and non-emergency calls for service and are permanently assigned to the 911 section. Emergency Dispatchers are trained to perform dual roles, as a 911 call taker in addition to their duties as a Fire/EMS or Law Enforcement Dispatcher, and may be detailed to the 911 section as necessary.

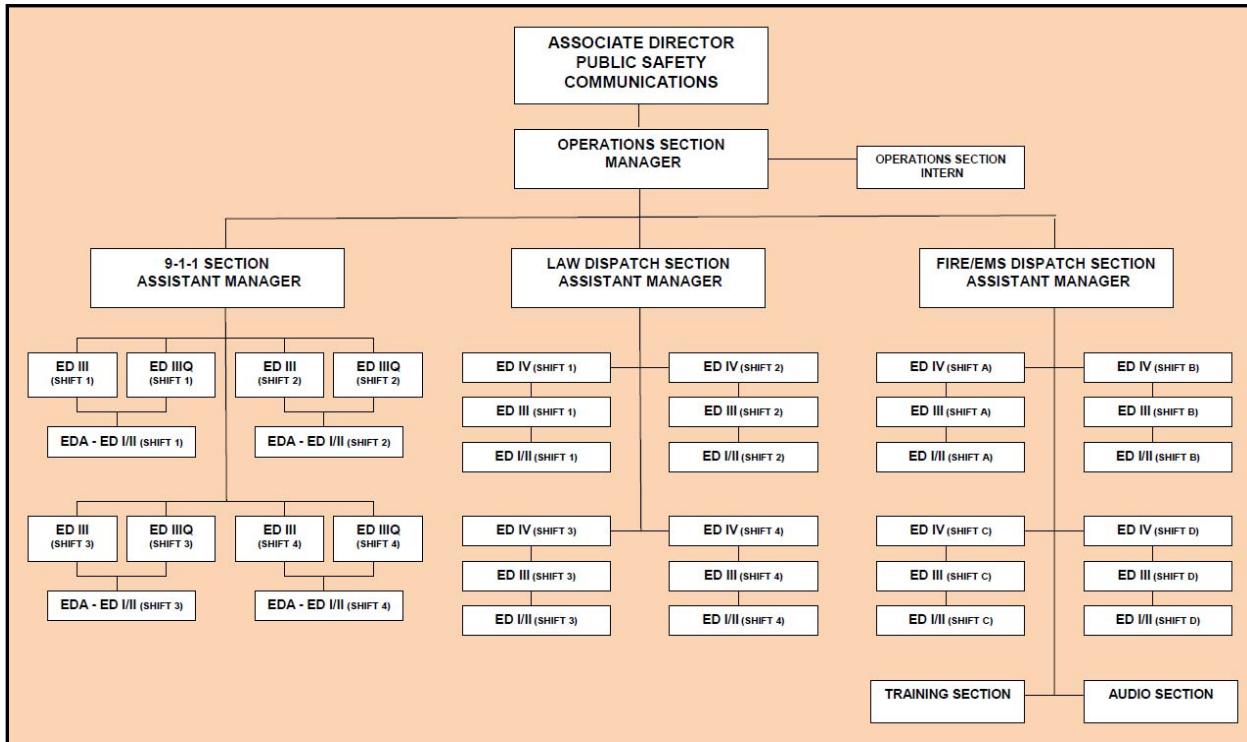
Personnel assigned to the Fire/EMS dispatch section of PSC work a rotating shift schedule of 12-hour shifts; personnel work two 12-hour days (0600-1800 hours) and two 12-hour nights (1800-0600 hours), followed by four days off. On their first night shift, personnel must report for duty at 1730 hours for roll-call where policy changes and communications issues are reviewed.

There are eight (8) personnel assigned to a Fire/EMS Dispatch shift. The shift make-up is one (1) shift supervisor, one (1) dispatch supervisor, and six (6) dispatchers. Minimum staffing is five (5), including the supervisor. The personnel are cross-trained to perform all jobs on the shift. Dispatchers usually rotate positions every three (3) to four (4) hours. In this section of the report, the terms Public Safety Communications, Communications, or the Fire/EMS Dispatcher are interchangeable depending on the specific reference.

Personnel assigned to PSC complete 1,040 hours of initial training and receive National Academies of Emergency Dispatch certification in Emergency Telecommunication, Emergency Medical Dispatch, Emergency Fire Dispatch, and Emergency Police Dispatch. All personnel must also complete continuing education requirements and other state mandated courses in order to maintain certification.

PSC is under the Office of Homeland Security; the organizational chart (Figure 29) illustrates the Operational Section of PSC.

Figure 29: Public Safety Communications Organizational Chart



CALL PROCESSING AND DISPATCHING

The personnel assigned to the 911 Section will answer and process all 911 calls. The call taker will query the caller to determine the response type warranted. After the call is entered, it will then be routed to the Fire/EMS Dispatch Supervisor. Once the call is received, the Fire/EMS Dispatch Supervisor will review and approve the Computer Aided Dispatch (CAD) recommended dispatch assignment, making any adjustments, based on current policy and procedure established by the Fire/EMS Department. Once approved, the call is routed to the dispatcher assigned to Talk Group 1 for dispatch.

Prince George's County PSC uses an Emergency Fire Dispatch (EFD) program. This program provides a systematic procedure to determine all call type responses. The parameters are set by PSC, in conjunction with response plans set forth by the Emergency Services Command (PGFD). The EFD program also enables call takers to provide post-dispatch instructions directly to citizens on the scene, to prevent further harm while the emergency units are en route.

There are a variety of organizations that recommend goals for processing emergency calls and dispatching responding units. National Fire Protection Association 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*, states:

"Ninety-five percent of emergency call processing and dispatching shall be completed within 60 seconds, and 99 percent of call processing and dispatching shall be completed within 90 seconds."

The initial 911 call for 57th Avenue was received at 21:08:26. At 21:09:53 the Dispatch Supervisor received the call and the call was dispatched at 21:11:03, a call processing time of 2 minutes and 37 seconds.

Per PSC Directive 2010-08 (Revised) the Supervisor shall review and immediately approve for dispatch a structure fire within 100 seconds. This call was reviewed and approved in 70 seconds.

There was a delay in the 911 call getting to the Dispatch Supervisor due to an initial language barrier between the caller and the 911 Call Taker. The initial caller passed the phone to another person and then there was some confusion on the actual address.

SUPPLEMENTAL INFORMATION

Based on the audio recordings of the 911 call, the initial 911 caller indicated that the house was vacant. This information was not recorded or relayed to responding units. Subsequent 911 calls advised that the wind was spreading fire to the house next door; this information was also not relayed to units.

Public Safety Communications Directive 2010-10: *Dispatch of Calls on Operational Talk Groups (Revised)* dated December 7, 2011, states *"that the job of the emergency dispatcher often requires multi-tasking and quick decision making. The following shall be the dispatch priorities:*

- a. *Answering units on the radio*
- b. *Ensure the Vital Airable Safety Information and Pertinent Information are relayed to the responding units*
- c. *Ensuring the accuracy of the CAD information"*

Pertinent Information is defined in this Directive as any information that would affect responder safety, and information that would help an emergency responder to effectively and efficiently do their job.

Vital Airable Safety Information is defined as pertinent information that includes specific information about the location of a specific responder/citizen safety issues.

The structure at 6404 57th Avenue and the structure on exposure Bravo were posted condemned by the Department of Environmental Resources (DER), because of extreme erosion of the hill on Side Charlie of the structure.

This information must be factored into the initial unit officers risk/benefit analysis when conducting a size-up.

Recommendation #26 (Red): Establish a work group to review and define Pertinent and Vital Airable information and when it must be delivered to responding units. This may be accomplished via Mobile Data Computers when available.

PSC RESPONSE ON FEBRUARY 24, 2012

On the evening of February 24, 2012, the PSC Fire/EMS Dispatch Section was staffed with seven personnel. There were two (2) Supervisors, four (4) Dispatchers, and one (1) Dispatcher in training at the time of the incident.

One (1) dispatcher was assigned to the Main Dispatch Talk Group 8 Alpha 1, one (1) dispatcher was assigned to the Operational Talk Group 8 Alpha 2 and this left two (2) dispatchers, plus the dispatcher in training, to handle the Alternate Talk Groups.

Public Safety Communications Directive 2010-08: *Dispatching of Calls to Alternative Talk Groups (Revised)* dated February 8, 2012, defines the assignment of alternate talk groups for dispatch assignments.

All North Side Box Alarms shall be assigned to an Incident Group whenever possible. The matrix in the Directive factors in Mutual Aid Units which may not have all the Prince George's County Fire talk groups. The first Incident group assigned is 8 Alpha 3, consisting of Talk Groups 8 Alpha 3 through 8 Alpha 6. A simultaneous incident occurring in the North Side Box Alarm area would get the second incident group, which is Talk Groups 8 Alpha 7 through 8 Alpha 10

The assigned Incident Group for 6404 57th Avenue was 8 Alpha 3, since this was a North Side Box Alarm, and the first incident requiring an Incident Group.

21:08:26 - PSC receives a 911 call from 6334 57th Avenue. The caller stated that there is a house on fire. The initial caller hands off the phone to another person due to a language barrier. Based on the 911 call taker's entry, the caller is on-scene, both smoke, and flames are visible, the incident involves a single-family residential structure, and the caller did not indicate anyone was trapped.

21:08:41 - PSC receives a 911 call from 5401 57th Avenue advising a neighbor's house is on fire.

21:09:53 - The 911 call taker sends the call to the Fire/EMS Dispatch Supervisor for review.

21:10:37 - The call is reviewed and processed for dispatch.

21:11:03 - PSC dispatches the units on the call which sets off the station printer, station alerting systems, and sends text/email alerts through "Alert Prince George's."

21:11:32 - PSC dispatches on 8 Alpha 1, a house on fire at 6334 57th Avenue. The incident was assigned to Talk Group 8 Alpha 3.

21:13:46 - Truck 809 status on-scene followed by Engine 807B with layout instructions.

***21:14:18** - PSC dispatches the Working Fire Dispatch (WFD).

21:14:40 - Volunteer Chief 809A establishes the Command.

21:17:06 - Emergency Identifier (EI) activation from Truck 809*2 with no voice.

21:17:19 - "Communications to Truck 809 verify your EI status."

21:17:26 - "Communications to Command or Truck 809."

21:17:47 - "Communications to Command or Truck 809."

21:17:58 - "Command to Communications I copy and have people looking for 'em now, looks like we have fire from three sides."

21:18:11 - "Command verify Truck 809 activation."

21:18:26 – Truck 809*1 EI activation, you can hear breathing.

21:18:40 - Volunteer Chief 809A "Sound the evacuation and start a task force stage them at Kenilworth and Rittenhouse Street."

21:18:53 - Communications gives the evacuation announcement and tells Command still receiving Truck 809*1 and Truck 809*2 EI.

21:19:24 - The talk group starts locking up and units are unable to communicate with PSC and PSC is unable to talk with units on the fireground. PSC makes several attempts to contact units on the scene.

21:22:58 - "Command go ahead we are having radio problems with the EI."

21:25:07 - All operating on fireground switch over to Talk Group 8 Alpha 4.

21:26:11 – Truck 809*1 EI activation with no voice.

Note: Various sources of time stamps were used when compiling this, and the following timelines. Every effort was made to synchronize the various sources, but some variation does exist from the other referenced time stamps contained throughout this report.

***Recommendation #27 (Yellow):** Evaluate the current Working Fire Dispatch policy and consider adding additional units. Consideration should be given to adding a large diameter hose company, an additional rescue squad, an additional truck company, and additional chief officers.

COMMAND CHANNEL

During the incident at 57th Avenue, radio communications between Command and the Fire/EMS Dispatcher were interrupted on 8 Alpha 3. During the multiple Emergency Identifier (EI) activations from Truck 809, the system controller did not allow two-way communications from the Fire/EMS Dispatcher to the Incident Commander. The reason for this disruption was the talk group was locked when the portable radio extension microphone on Truck 809*2 burnt through and the wires fused together causing an open transmitter.

Establishing a Command Channel between Command and PSC on one of the secondary talk groups in the Incident Group may have prevented the loss of communications.

At 21:25:07 Command had all units switch over to 8 Alpha 4 due to communications issues on 8 Alpha 3.

Recommendation #28 (Yellow): Consider establishing a Command Talk Group between the Command Post and Communications to provide direct communications, requests for additional resources, and provide incident updates without interfering with critical transmissions on the tactical talk group.

RESPONSE TO EMERGENCY IDENTIFIER ACTIVATIONS

The Prince George's County Fire/EMS Department General Order 03-13: *Emergency Identifier Activation Procedure* defines the procedure that dispatchers use when an Emergency Identifier is activated.

21:17:06 - Emergency Identifier (EI) activation from Truck 809*2 with no voice

21:17:19 - "Communications to Truck 809 verify your EI status"

21:17:26 - "Communications to Command or Truck 809"

21:17:43 – Truck 809*1 EI activation with no voice

21:17:58 - "Command to Communications I copy and have people looking for 'em now, looks like we have fire from three sides"

21:18:11 - "Command verify Truck 809 activation"

21:18:26 – Truck 809*1 EI activation, you can hear breathing

21:18:53 - Communications gives the evacuation announcement and tells Command still receiving Truck 809*1 and Truck 809*2 EI

The Fire/EMS Dispatcher followed the procedures as outlined in General Order 03-13: *Emergency Identifier Activation Procedure*. General Order 06-14: *MAYDAY Procedures* does not spell out what to do on an incident scene when an EI activation goes unanswered. This must be considered as a MAYDAY condition.

Recommendation #29 (Red): General Order 03-13: *Emergency Identifier Activation Procedure* and General Order 06-14: *MAYDAY Procedures* (see Appendix 8) need to be reviewed and tenants of both policies need to be combined. Additionally, revise the General Orders to include an automatic dispatch of an additional assignment for any MAYDAY transmission.

ADDITIONAL RESOURCE REQUEST

Command requested a Fire Task Force and an EMS Task Force. Communications advised they were responding on the tactical Talk Group 8 Alpha 4. These additional units can cause unwanted communications on the tactical talk group.

Additionally, several units self-dispatched on the EMS Task Force assignment without advising Communications.

Recommendation #30 (Yellow): Develop a policy that requires a Task Force or greater assignment to respond on a different talk group from the tactical talk group.

REVIEW OF PSC POLICIES AND PROCEDURES

The Team asked the PSC Management to conduct a quality assurance review of PSC policies and procedures, 911 call takers, and dispatchers' actions. See Appendix 5 for the PSC Incident Performance Rating Report.

Based on the quality assurance review, the following items were identified:

1. The PSC 911 Call Taker for the initial call was compliant with all reviewed task areas.
2. The PSC 911 Call Taker for the 2nd call was compliant in all categories with the exception of one question which had no bearing on the incident.
3. The Fire/EMS Dispatcher on 8 Alpha 3 did not ask Engine 807B if they were establishing command or passing it.
4. The Fire/EMS Dispatcher on 8 Alpha 3 did not repeat information given by Engine 807B.
5. The Fire/EMS Dispatcher on 8 Alpha 3 did not get a corrected address.

Recommendation #31 (Red): Ensure that the Fire/EMS Department Communications Manual for the 700/800 MHz radio system is completed and it details all functions and operations of the system.

RADIO CARRYING LOCATION

The portable radios assigned to Truck 809 OIC and Truck 809*2 sustained significant heat damage to the radio body and the portable microphones. These radios were carried in leather holders and straps that were worn over the PPE. The cord for the portable microphone on Truck 809*2 melted completely causing the wires to fuse together and transmitting an open carrier on the tactical talk group disrupting radio communications.

The National Institute of Standards and Technology (NIST) have published a research paper entitled *Testing of Portable Radios in a Fire Fighting Environment (2006)*[8] where they researched the effects of heat on the firefighter's portable radio. Based on this study, NIST indicated that the firefighter's portable radio offers the best protection during firefighting operations if the radio is carried inside the sewn-on radio pocket of the turnout coat.

Additional information regarding the NIST study is available at:

<http://www.nist.gov/publication-portal.cfm>

Recommendation #32 (Green): Work with the radio manufacturer to develop an extension microphone cable that is better protected from the effects of high heat.

Recommendation #33 (Yellow): Develop a General Order outlining how the firefighter's portable is to be carried during firefighting operations to provide the maximum thermal protection for the radio and enhanced firefighter safety.

TRAINING

This Chapter addresses entry-level and ongoing training requirements and opportunities available to career and volunteer members of the Prince George's County Fire/EMS Department. The range and scope of services for which the Department is responsible requires a highly trained, knowledgeable, and diverse workforce.

TRAINING REQUIREMENTS/CERTIFICATIONS

Career personnel undertake an 18-week recruit school which includes Emergency Medical Technician-Basic (EMT-B), Firefighter I, Firefighter II, Hazardous Materials-Technician Level, Emergency Vehicle Operator, Firefighter Safety and Survival, Infectious Control, Trench and Collapse-Awareness Level, Engine and Truck Company Operations. They continue their education and skill enhancements through a comprehensive program of in-service training and established career development requirements.

The Department promotes its career personnel internally through a competitive process designed to ensure that those who advance through the rank structure have the appropriate knowledge, skills, and ability to perform successfully.

Volunteer personnel must initially complete a 24-hour Volunteer Recruit School (VRS) which includes classroom training covering HIPAA, workplace harassment, blood borne pathogens, and fire department health and safety. The remaining sections are delivered during in-station training, which includes PPE inspection, SCBA inspection, tools awareness, portable ladders, hose line awareness, Hazardous Materials awareness, and ambulance operations.

In addition, volunteer personnel must meet the following requirements (Subtitle 11-335, Volunteer Firefighters and Volunteer EMS Care Providers):

- (1) Not later than twelve (12) months after the month of appointment, each junior or active firefighter shall either enroll in the Maryland Emergency Medical Technician course or in the Firefighter I certification course conducted in accordance with Standard 1001, or any equivalent course of study.
- (2) Not later than thirty (30) months after the month of appointment, each junior or active firefighter shall have satisfactorily completed the Maryland Emergency Medical Technician course and obtained the Firefighter I certification in accordance with Standard 1001, or any equivalent course of study.

Volunteer line officers must comply with the requirements set forth in Subtitle 11-336, Volunteer Fire Line Officers. Volunteer Command Officers must comply with the requirements set forth in Subtitle 11-337, Deputy and Assistant Volunteer Fire Chiefs,

and 11-338, Volunteer Fire Chiefs. These requirements were last updated in 1994 by CB-82-1994.

Recommendation #34 (Red): Update Subtitle 11 to include up to date training certifications and standards.

The following training matrix outlines the certifications of all responders on the first alarm (in order of arrival). The initial first alarm assignment consisted of all volunteer personnel.

Legend:	
X = Certified	
NC = Not Certified	
* = Records not provided	

Unit	Position	F/F I	EMS	CPR	Experience in County
Engine 807B	OIC	X	X	X	5 years
Engine 807B	Driver	X	X	X	7 years
Engine 807B	Nozzle	X	*	*	2 years
Engine 807B	Layout	X	*	*	8 months
Engine 807B	Bar	X	X	NC	2.5 years
Engine 807B	Forcible Entry	X	X	NC	2.5 years
Engine 809	OIC	X	X	X	7 years
Engine 809	Driver	X	X	X	4 years
Engine 809	Nozzle	X	X	*	7 months
Engine 809	Layout	X	X	X	4 years
Engine 801	OIC	X	X	X	3 years
Engine 801	Driver	X	X	X	3 years
Engine 801	Back-up	X	X	X	6 months
Engine 801	Line	X	X	X	6 months
Engine 801	Layout	X	X	X	3 years
Engine 801	Hall	X	X	X	3 years
Engine 812	OIC	X	X	X	5 years
Engine 812	Driver	X	X	NC	4 years
Engine 812	Line	X	X	X	1 year
Engine 812	Probationary	*	*	*	4 months
Engine 812	Bar	X	X	X	3 years
Truck 809	OIC	X	X	X	3 years
Truck 809	Driver	X	X	X	14 years
Truck 809	Forcible Entry	X	X	X	4 years

Unit	Position	F/F I	EMS	CPR	Experience in County
Truck 809	Can	X	X	X	1.5 years
Truck 809	Hook/ladders	X	X	X	2 years
Truck 801	OIC	X	X	X	8 years
Truck 801	Driver	X	X	X	2 years
Truck 801	Ladders	X	X	X	6 years
Truck 801	Ladders	*	*	*	1 year
Truck 801	Tiller	*	*	*	2 years
Truck 801	Bar	*	*	*	1 year
Truck 801	Hook & Can	X	X	X	2 years
Truck 801	Ladder	X	X	X	1 year
Truck 812	OIC	X	X	X	3 years
Truck 812	Driver	X	X	X	4 years
Truck 812	Search	X	X	X	2 years
Truck 812	Firefighter	X	X	X	3 years
Truck 812	Firefighter	X	X	X	7 years
Rescue Squad 801	OIC	X	X	X	4 years
Rescue Squad 801	Driver	X	X	X	5 years
Rescue Squad 801	RIC	X	X	X	8 months
Rescue Squad 801	F/F RIC	X	X	X	2.5 years
Rescue Squad 801	Forcible Entry	X	X	X	2 years
Rescue Squad 801	FF	X	X	X	10 months
Rescue Squad 801	Search	X	X	*	4 years
Rescue Squad 801	Search	X	X	X	3.5 years
Unit	Position	F/O II	EMS	CPR	Experience in County
Chief 809A	Incident Commander	X	X	X	15 years
Batt. Chief 884	Interior Division	X	X	X	24 years

TRAINING RECORDS

While reviewing training records, the Team determined that such records are maintained by multiple offices across the Department including the Fire/EMS Department Training Academy, the Prince George's County Fire Commission, and individual stations to name a few. This made it difficult to determine which personnel had (or had not) received appropriate training.

Recommendation #35 (Green): Develop and implement a centralized, standardized system-wide record-keeping system for all training-related records, for both career and volunteer personnel.

TRAINING ENHANCEMENT RECOMMENDATIONS

This incident tested the knowledge, skills, and abilities of responding personnel. As discussed previously, environmental conditions and inadequate size-up, combined with rapid fire spread, posed strategic and tactical challenges. As a result, several areas have been identified that will require some form of newly developed training curriculum.

Performing Unit Officer Duties

There is currently no minimum training requirement for personnel who are riding the front (officer) seat that are not officer certified.

Recommendation #36 (Red): Develop and implement an officer development training program for career and volunteer personnel who are non-officer certified so that they may act as a Unit Officer. At a minimum, these Programs should address:

- Risk benefit analysis
- Strategy and tactics
- Building construction
- Fire spread and extension (e.g., exterior fires with interior extension)
- Crew integrity
- Crew resource and situational awareness management
- ICS (particularly expansion of the command structure)
- Command level decision making and practices (e.g., escalating incidents, high risk/low frequency events)

MAYDAY/Firefighter Down

The Department's MAYDAY Simulator training program consists of classroom and practical evolutions. Specifically, since 2009, career recruits have been required to successfully complete the Department's "MAYDAY/Firefighter Down!" program. The program has been offered to volunteers since approximately the same time.

The MAYDAY curriculum provides for a two-part training program, which includes both classroom and practical evolutions:

Part One

- Case Studies
- Provide firefighters with a safe and secure system for MAYDAY training
- Give firefighters an introduction on how to understand where you are and conditions
- Fireground Hazards
- Building Hazards
- Fire Behavior Hazards
- Self-Rescue Techniques

Part Two

- Self-Rescue Techniques (practical)
- Emergency activations (EI) – (practical)

Recommendation #37 (Red): Require MAYDAY training for all operational personnel that is taught in compliance with the General Orders, and includes an annual refresher training component.

UNIFORMS AND PERSONAL PROTECTIVE EQUIPMENT (PPE)

This Chapter addresses uniforms and Personal Protective Equipment (PPE), including Self-Contained Breathing Apparatus (SCBA). The Prince George's County Fire/EMS Department issues uniforms for daily wear to its sworn personnel. Some volunteer corporations provide uniforms for their members, but few require them to be worn on emergency responses. All operational personnel are issued PPE for emergency incident response. The SCBA are generally assigned to the unit (station/apparatus); however, a facepiece and regulator are individually issued to all operational personnel.

UNIFORMS

The Prince George's County Fire/EMS Department issues station wear (uniforms) to all of its sworn personnel. This uniform consists of the following: polyester blend, button down, collared shirt (long and short sleeve); polyester blend, dark blue pants; black leather belt; badge; name tag; and collar brass. A blue or white T-shirt is required to be worn under the uniform shirt, but must be obtained by the employee. Plain toed black shoes/boots and socks are required, and are also the employee's responsibility. In accordance with General Order 10-01: *Career Uniforms*, personnel are allowed the option of purchasing (at their own cost) Department approved, alternative work uniforms, made of 100 percent cotton, which may be worn in lieu of the issued uniform.

Each individual volunteer corporation develops its own policies and procedures with regard to uniform requirements and issuance. Many volunteer corporations do not require uniforms to be worn in the station or during emergency response. All of those injured during this incident were volunteer members. An attempt was made to determine what types of garments were worn by those injured; however, the hospital was unable to account for, or otherwise provide/return any garments to the two most significantly injured patients.

Garments made of synthetic fibers may potentially melt and adhere to the skin under high heat conditions, which, can contribute to thermal injury. For this reason, garments made of synthetic material are NOT recommended for use by those who may engage in firefighting activities. Garments made of natural fibers, such as cotton, offer better protection from thermal injury. With the exception of the Optional Work Uniform shirts, there are currently no requirements regarding what material(s) the uniform, shirts, socks, or undergarments should be made of.

Recommendation #38 (Green): Develop a Department-wide policy that requires personnel to wear 100% cotton garments under uniforms. This should include verbiage that prohibits the wearing of synthetic "moisture wicking" fitness apparel at any time while on duty. Combined with properly worn PPE, this will provide better protection from thermal injury.

Recommendation #39 (Green): Provide and require that all newly acquired uniforms comply with NFPA 1975 – Standard on Station/Work Uniforms for Emergency Services.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

PPE is issued to personnel (both career and volunteer) through Logistics and Supply, and is manufactured to the specifications that meet or exceed the NFPA 1971 standard. Personnel are authorized to purchase and wear alternative PPE items from a specific “Approved PPE” list.

As part of the investigation, PPE items were sent out for third party evaluation. The PPE of the two most seriously injured was sent to International Personnel Protection, Inc. for evaluation. The remaining sets were sent to Maryland Fire Equipment, the Independent Service Provider (ISP) that provides regular PPE cleaning/inspection/repair service for the Department. Excerpts from both reports are included as part of Appendix 7.

PPE Specifications

Although structural firefighting PPE issued by the Department is manufactured to the same specification, over the years bids have been awarded to various manufacturers. This has resulted in personnel wearing PPE items from different manufacturers. Several manufactures stipulate that their designs are intended to work as a dedicated ensemble. It is not recommended that the coat of one design be used with the pants of another design, even if the designs are made by the same manufacturer.

During the course of this investigation, it was discovered that several of the injured personnel were wearing “mixed” ensembles. Wearing PPE outside of the manufacturers design specifications is not a recommended practice.

Recommendation #40 (Green): A Department-wide policy should be implemented to ensure that personnel are provided a “matching” ensemble of coat and pants from the same manufacturer.

Alternative PPE

The Department has established a list of authorized alternative PPE items that may be worn, in lieu of the Department issued PPE. Items on this “Approved PPE” list not only meet the NFPA 1971 standard, but have been field tested and approved for operations within the Department.

An inspection of the PPE worn by those injured revealed that several unapproved items were being utilized. One (1) helmet was unapproved and non-compliant with NFPA 1971. Two (2) others lacked the appropriate compliance labeling and trim markings and may have exceeded the ten (10) year service limitation, as outlined in NFPA 1851. One

(1) pair of boots being worn, although NFPA compliant, were not on the Department approved PPE list.

There were two (2) pairs of unapproved gloves being utilized, one of which was not even NFPA compliant. One of the more seriously injured was wearing gloves, which had been field tested by the Department, but were NOT approved, due to operational issues with significant shrinkage when exposed to high heat. Examination revealed that one (1) glove does in fact show signs of shrinkage when compared to the other. The most seriously injured was wearing gloves that were manufactured at least fourteen (14) years ago, since they reference the NFPA 1973 standard, which was replaced by NFPA 1971 in early 1998. This glove lacked any type of moisture barrier, which is an NFPA 1971 requirement for firefighter protective clothing. Use of this unapproved glove could have been a contributing factor to the severity of the burn injury to the hands.

Recommendation #41 (Red): Develop and deliver a training program to all personnel that provides instruction on wearing all PPE properly, and emphasizes the importance of wearing only Department approved items that are NFPA compliant.

PPE Inspection and Cleaning

The Prince George's County Fire/EMS Department does not currently have a standardized system in place to track the assignment of issued PPE to individuals. There is no procedure in place indicating how PPE items should be marked/identified (specific to the individual they are issued to), or how often they should be inspected/cleaned.

Any records on specific maintenance (cleaning/inspection/repair) are maintained by the Independent Service Provider (ISP), and do not include a full inventory of PPE issued by the Department. Therefore, there is no way to determine what PPE items have been issued to an individual, or monitor compliance with NFPA 1851, which stipulates that PPE must be cleaned annually and pulled from service after ten (10) years from date of manufacture.

As part of the investigation, the cleaning/inspection/repair records were requested for each of the PPE items (coat and pants) worn by those that were injured. The ISP was only able to provide service records for four (4) of the twelve (12) PPE items, and only two (2) accurately listed the individual to which these items were issued. Based on these records, it is highly probable that a majority of protective clothing items are not being subjected to an annual advanced cleaning, as required in NFPA 1851. In addition, at least one (1) pair of pants, possibly two (2) helmets, one (1) set of gloves, and numerous hoods had exceeded the ten (10) year service life, as outlined in NFPA 1851.

Recommendation #42 (Green): Develop and maintain a centralized database to track the issuance, inspection and maintenance of all PPE items. This information database should include (but not limited to) the manufacturer, manufacture date, serial numbers, model, size, last cleaning date, and other pertinent information.

Recommendation #43 (Green): Revise General Order 10-03: *Cleaning, Repair, Replacement and Alteration of Personal Protective Equipment* to require an annual advanced inspection as outlined in NFPA 1851, *Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*.

PPE Analysis

As part of the investigation, International Personnel Protection, Inc. (IPP Inc.) was asked to evaluate and provide a report of findings, related to the condition of the PPE worn by those injured on this incident. The analysis provided in the report also incorporates information and observations obtained from the Department's Safety Officers and the Independent Service Provider (ISP).

IPP Inc. provided the Team with a comprehensive report detailing their findings. This report correlates the injuries sustained by the firefighters with physical evidence found on the PPE. A summary of the report can be found in Appendix 7. The following are highlights taken from that report:

As the result of this investigation, International Personnel Protection, Inc. recommends that the Prince George's County Fire/EMS Department consider the following:

1. A program should be in place that accounts for all of the Department-owned major items of protective clothing and equipment, which at least includes protective coats and protective pants.
2. If an item of clothing does not have a readable date of manufacture or serial number, procedures should be in place to obtain a replacement label from the manufacturer. This practice may not be practical for hoods, but separate tracking of these items may assist in ensuring that items can be identified. When new items are obtained by either the Department or by individuals, the item, its model number, serial number, and date of manufacture should be separately recorded.
3. All PPE provided to members should have a manufacture date that is ten years or less as indicated on the product label.
4. The Department should conduct regular inspections of individually owned firefighter protective clothing to determine that it is consistent with the Department's "Approved PPE" list and in a serviceable condition.

5. If gear is found to be unserviceable, the Department should designate this gear as "compromised PPE" consistent with its General Orders and ensure that item(s) are properly disposed of since they cannot be used in actual incidents or live fire training.
6. The Department should determine how Truck 809 Forcible Entry acquired the non-approved and non-compliant gloves he used in the fire incident and inform the members in the Department on the hazards for wearing gloves that do not have a moisture barrier. It is important to point out to the members that wearing of gloves, or other PPE, that is not independently certified may present hazards to their safety and health. It should be further pointed out that gloves just meeting Federal OSHA and Cal OSHA alone do not provide protection commensurate with the NFPA 1971 standard.
7. The SCBA used in this incident by the injured firefighters should be thoroughly examined. Specific attention should be provided to Truck 809 Officer's facepiece and second stage regulator given the complaints about his SCBA provided in his statement.
8. Instructions on the need and specific procedures for wearing of all personal protective clothing and equipment should be provided to each member. It is important to emphasize that all components must be deployed, and that all elements of the ensemble should be properly closed. If members indicate problems with any interface that leaves the interface area potentially exposed, corrections to the ensemble or wearing practices should be implemented for that individual. The Department should specifically instruct its members on the correct wearing of helmet ear covers and protective coat collars for structural firefighting.
9. The Department should include, as part of its training, that all members be aware of the limitation for the protective capabilities of their protective ensemble, and how burns may occur without warning under extended exposure conditions without any apparent damage to the clothing item.
10. The Department should institute, as part of its PPE program, a system for regular advanced inspections and cleaning of protective clothing at least on an annual basis. This program should include recordkeeping practices that identify the item, its serial number, the firefighter to which it is issued, the date of the service, details of any inspection findings or repairs, and the individual responsible for the service. If this responsibility is delegated to an independent service provider, then those same requirements should be applied to the service provider. This program should be implemented to be consistent with the requirements of NFPA 1851, *Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*.

11. For the clothing directly examined as part of the investigation, these items of clothing and equipment should be retained by the Department because of its involvement in a situation where injuries were sustained. We recommend that the Department retain the clothing and equipment for a period of at least two years with an appropriate chain of custody. The clothing should be condemned and destroyed after that period has elapsed.
12. A separate assessment should be made of the protective clothing used by the other firefighters that were not provided for direct examination as to its continued serviceability following the conclusion of this investigation. The same retention and disposal recommendation should apply if it is determined that these items are no longer serviceable.

SELF-CONTAINED BREATHING APPARATUS (SCBA)

The Prince George's County Fire/EMS Department uses the Scott Health and Safety Air Pack 50 4.5, Single EBSS with 45 or 60 minute cylinder and the AV3000 facepiece. The units meet the NFPA 2002 Standard and are CBRN compliant. These units were placed in service January 2006. The Department issues personal facepieces and regulators to its members that are trained and certified in the use of SCBA.

The Prince George's County Fire/EMS Department's General Order 08-17: *Respiratory Protection Program (dated January 2010)* includes requirements consistent with the provisions established in OSHA Regulation 29 CFR 1910.134. The policy outlines provisions for the selection, fit testing, maintenance, repair and safe use of all components of respiratory protection equipment, and medical evaluations, training certifications, and record keeping required for the fire and rescue service personnel who use them.

SCBA Use on the Incident

All the injured firefighters on the incident were using or wearing Department issued SCBA. Test records that were provided showed that the injured personnel were all in compliance with General Order 08-17 *Respiratory Protection Program* requirements for annual fit testing.

The focus of the SCBA section will concentrate on the SCBA used by Truck 809 Forcible Entry and Truck 809 Officer, who sustained respiratory injuries while using SCBA.

The SCBA from Truck 809 Officer and Truck 809 Forcible Entry were impounded by the Safety Officer along with five (5) SCBA from Company 807 and a regulator and facepiece also from one of the injured firefighters from E807. The seven (7) SCBA's were transferred to the Montgomery County Fire and Rescue Service (MCFRS) SCBA Service and Repair Center for analysis.

SCBA Service History

Truck 809 Officer's SCBA (PGFD 0375) was manufactured by Scott Health and Safety in 2005: Model Air-Pak 50 with HUD; Reducer Number RED0509013758AB and was last serviced in April 2011; Regulator EZ Flow CBRN with QD Number REG0505013835AF was last serviced in July 2011.

Truck 809 Forcible Entry's SCBA (PGFD 0370) manufactured by Scott Health and Safety in 2005: Model Air-Pak 50 with HUD; Reducer Number RED0509013686AB and was last serviced in March 2011; Regulator EZ Flow CBRN with QD Number REG0509022309AF was last serviced in August 2011.

Montgomery County SCBA Shop Analysis

The Prince George's County Fire/EMS Department SCBA 0307, 0375, 1288, 0401, 0390, 0400, 0399 along with an additional regulator from Truck 809 Forcible Entry and a regulator and facepiece from Engine 807B Nozzleman were received at the MCFRS SCBA Shop on April 16, 2012. The MCFRS SCBA Shop provided a detailed report on the condition of each SCBA and the issued regulator from Truck 809 Forcible Entry and the regulator and face piece from Engine 807B Nozzleman. Excerpts and pictures from the report are included in Appendix 6.

The following is a brief summary of the findings:

Truck 809 Officer SCBA (PGFD #0375)

- The cylinder gauge cover was melted and distorted and was hard to read.
- The cylinder hand wheel lock nut was turned in on the stem eliminating the designed safety feature that prevents the cylinder from being accidentally turned off.
- Safeware flow test sticker dated 4/11.
- Regulator was in good condition found label melted on cover.
- Back frame in poor shape.
- Shoulder harness straps show discoloration indicating heat exposure.
- Waist straps were folded back and restrained in the buckles making them inoperable.
- Stickers on back frame labeled "901" and "Engine 92."
- Facepiece lens had excessive scratching.
- Facepiece showed no crazing or melting.
- Reducer, Regulator and face piece passed all tests.

Truck 809 Forcible Entry SCBA (PGFD #0370)

- The cylinder gauge cover is melted, distorted and bubbled in several spots on both sides unable to read pressure.
- 1900 PSI found in cylinder.
- The cylinder hand wheel lock nut was turned in on the stem eliminating the designed safety feature that prevents the cylinder from being accidentally turned off.

- There is peeling of the outer wrap on the cylinder where the factory decals were applied.
- HUD hose experienced exposure to high heat and impingement at reducer.
- Safeware flow test sticker dated 3/11.
- Regulator that was with unit was assigned to another firefighter.
- The regulator cover and body were intact, held together only by the latch plate mounting bracket and retaining screws.
- Diaphragm was found in evidence bag.
- The diaphragm exhalation valve seat and post were forcibly removed or torn.
- The regulator had been exposed to high heat.
- Purge knob operated as designed, but shows signs of high heat exposure.
- Shoulder harness straps show complete discoloration indicating heat or flame to both straps.
- Waist straps were folded back and restrained in the buckles making them inoperable.
- Two stickers on back frame labeled "Bladensburg" and "902."
- Facepiece lens was exposed to high heat.
- There is excessive crazing and a few deeper scratches.
- It appears the lens has softened where the crazing occurs.
- On the inside of the lens you see signs of where the melting has occurred with immediate failure that would probably follow.
- Pak Alert Module appears in good shape with no signs of exposure to heat.
- Placing batteries in Pak Alert causes dead short in console.
- Mask test not performed due to the extensive damage to facepiece.
- The regulator test not performed due to extensive damage.
- The reducer passed all functional tests.
- No other pretests could be performed due to extensive damage.
- Truck 809 Forcible Entry's issued regulator was not used at the time of the incident due to it reportedly not working properly after a recent repair. The regulator was checked by the MCFRS SCBA Shop, tested, and found to be operating properly.

Remaining SCBA

The remaining SCBA and Regulators sent to the MCFRS SCBA Shop were tested and passed all tests. The evaluation revealed that the Back frame on PGFD 0399 was in poor shape. It had the left side support rod sheared from the weld near the left side latching mechanism.

The evaluation of the SCBA cylinders revealed that several had been painted and labeled in multiple places with stickers making it hard to check scrapes and gouges in the cylinders or to find test dates.

The filters in the primary and secondary pressure reducers were found to be dirty and were replaced. This is attributed to extensive use. Major cleaning was done to these

units prior to returning. After cleaning, all components appeared to be in excellent condition.

Recommendation #44 (Yellow): Standardize the labeling and painting of SCBA and SCBA cylinders Department-wide.

Recommendation #45 (Red): Check all SCBA cylinder valves Department-wide to ensure that the cylinder hand wheel lock nut is not turned in on the stem eliminating the designed safety feature that prevents the cylinder from being accidentally turned off.

Recommendation #46 (Green): Ensure all filters in the primary and secondary pressure reducers are changed when flow tested. If third party contractor is used, this must be specified in the contract.

SCBA Disposition

All SCBA inspected by the Montgomery County SCBA Shop was returned to the Prince George's County Fire/EMS Department Breathing Apparatus Shop. The Breathing Apparatus Shop indicated that all condemned items were replaced and any necessary repairs were made to the SCBA and they were returned to the assigned stations.

Facepiece Fit Test

The Team requested all fit test records from the Prince George's County Fire/EMS Department Breathing Apparatus Shop for the injured personnel. The supplied test record indicated that all personnel had compliant fit tests at the time of the incident.

SCBA Regulators

Truck 809 Forcible Entry was using a SCBA regulator issued to another firefighter at the time of the incident. During the interview process, Truck 809 Forcible Entry stated that there was an issue with the issued regulator. The Prince George's County Fire/EMS Department Breathing Apparatus Shop has no record of recent repair requests for the regulator in question. Truck 809 Forcible Entry's issued regulator was later found at the station after the incident; testing confirmed that this issued regulator was operating properly.

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APPENDIX 1 – RECOMMENDATIONS

The compilation of SIT recommendations is grouped by priority type where Red is immediate (Life safety & firefighter survival), Yellow is short term (Relatively easy to implement), and Green is long term (May require significant planning including fiscal impacts). In addition to being separated by priority type, they are listed in order of appearance in this report and the numbering should not be misconstrued as an indicator of further importance.

Recommendation #1 (Red): The Department must develop a new training program to better qualify personnel to function in areas of responsibilities particularly in the areas of command, control, and accountability on the fireground.

Recommendation #2 (Red): Basement fire tactics must be revised to reflect current best practices. This should include the importance of getting water on the fire as quickly as possible and not placing personnel unnecessarily above the fire, or in its flow path.

Recommendation #4 (Red):

- Incorporate a 360-degree survey and the evaluation of environmental conditions as part of the strategic and tactical plan development into future revisions of the General Orders.
- The first arriving officer must make every practical and reasonable effort to complete a 360-degree survey prior to making entry.
- Emphasize the importance of continuous situational reporting from critical units, divisions, and groups.

Recommendation #15 (Red):

- Modify General Order 06-01 (see Appendix 8) to include a procedure for emergency evacuations during fireground operations.
- Develop policies that require the Incident Commander to ensure a Personnel Accountability Report check is completed when incident conditions change.
- Develop a standardized MAYDAY quick reference guide to be used by all command officers. The quick reference guide must detail steps to be taken when a MAYDAY occurs. These quick reference guides should be carried on every command vehicle.

Recommendation #19 (Red): All personnel shall review Triage procedures for handling multiple casualty incidents (MCI) and the various roles required to mitigate an MCI.

Recommendation #20 (Red): The Department should consider placing additional EMS Supervisors in service in the northern and southern areas of the County to allow for shorter response times and greater geographical coverage. Multiple EMS Duty Officers would allow supervision of the various divisions within the EMS Group, such as Treatment area and Transportation area.

Recommendation #26 (Red): Establish a work group to review and define Pertinent and Vital Airable information and when it must be delivered to responding units. This may be accomplished via Mobile Data Computers when available.

Recommendation #29 (Red): General Order 03-13: *Emergency Identifier Activation Procedure* and General Order 06-14: *MAYDAY Procedures* (see Appendix 8) need to be reviewed and tenants of both policies need to be combined. Additionally, revise the General Orders to include an automatic dispatch of an additional assignment for any MAYDAY transmission.

Recommendation #31 (Red): Ensure that the Fire/EMS Department Communications Manual for the 700/800 MHz radio system is completed and it details all functions and operations of the system.

Recommendation #34 (Red): Update Subtitle 11 to include up to date training certifications and standards.

Recommendation #36 (Red): Develop and implement an officer development training program for career and volunteer personnel who are non-officer certified so that they may act as a Unit Officer. At a minimum, these Programs should address:

- Risk benefit analysis
- Strategy and tactics
- Building construction
- Fire spread and extension (e.g., exterior fires with interior extension)
- Crew integrity
- Crew resource and situational awareness management
- ICS (particularly expansion of the command structure)
- Command level decision making and practices (e.g., escalating incidents, high risk/low frequency events)

Recommendation #37 (Red): Require MAYDAY training for all operational personnel that is taught in compliance with the General Orders, and includes an annual refresher training component.

Recommendation #41 (Red): Develop and deliver a training program to all personnel that provides instruction on wearing all PPE properly, and emphasizes the importance of wearing only Department approved items that are NFPA compliant.

Recommendation #45 (Red): Check all SCBA cylinder valves Department-wide to ensure that the cylinder hand wheel lock nut is not turned in on the stem eliminating the designed safety feature that prevents the cylinder from being accidentally turned off.

Recommendation #3 (Yellow): Develop and implement a formal process to disseminate adverse weather advisories/alerts to ensure all personnel are aware of changing conditions to aid during initial on-scene size-up.

Recommendation #5 (Yellow): Develop a Department-wide training program that focuses on understanding fire behavior, fire flow paths, and how to "read" interior and exterior smoke conditions to identify the location and predicted spread of a fire.

Recommendation #8 (Yellow): In an effort to ensure all fireground activities are coordinated and prevent freelancing, the Department should consider modifying General Order 06-01 to control the deployment of units on a fireground; e.g. – First Engine and Special Service operate and the remaining units stage until directed by Command.

Recommendation #9 (Yellow): The Department should strictly prohibit any personnel from responding to the scene in their personally owned vehicle.

Recommendation #10 (Yellow): Develop and implement formal, system-wide policies, procedures and training related to Two-In, Two-Out compliance. Such policies and procedures should address the following:

- Identify what unit is to assume/assign the Two-In, Two-Out responsibilities.
- Require verbalization of Two-In, Two-Out compliance over the tactical radio channel.
- Require the Two-Out crew to accept that assignment over the tactical radio channel.
- Ensure the adherence of the Two-Out regulations of the second-due engine until the arrival and establishment of the RIC.
- Identify the specific criteria required in order to deviate from this policy.
- Review and modify all current General Orders to ensure there is no conflict with the newly established policy.

Recommendation #11 (Yellow): Revise the General Order to ensure the RIC assignment changes from the third due special service to an earlier arriving unit.

Recommendation #12 (Yellow): A simple and standardized command check list or guide should be placed in the front seat area of every piece of apparatus within the County for easy "at a glance" use.

Recommendation #21 (Yellow): Develop a formal call back procedure/activation plan for the CISD Team, and inform/educate all command officers on this procedure.

Recommendation #22 (Yellow): The Department needs to adequately staff the CISD Team and should use the latest findings and suggestions available from the National Fallen Firefighters Foundation as a template. This service should be available to the Department at all times.

Recommendation #23 (Yellow): The Department needs to develop and implement a comprehensive Behavioral Health Program with adequate professional behavioral health staff to support all personnel.

Recommendation #24 (Yellow): The Department needs to provide a comprehensive in-station refresher training on the behavioral health services that are available to all career and volunteer personnel.

Recommendation #25 (Yellow): Consider utilizing community clergy to assist in providing CISD services to members and families in cases of firefighter injuries and deaths. This would increase the team size and increase the involvement of the Department with the community.

***Recommendation #27 (Yellow):** Evaluate the current Working Fire Dispatch policy and consider adding additional units. Consideration should be given to adding a large diameter hose company, an additional rescue squad, an additional truck company, and additional chief officers.

Recommendation #28 (Yellow): Consider establishing a Command Talk Group between the Command Post and Communications to provide direct communications, requests for additional resources, and provide incident updates without interfering with critical transmissions on the tactical talk group.

Recommendation #30 (Yellow): Develop a policy that requires a Task Force or greater assignment to respond on a different talk group from the tactical talk group.

Recommendation #33 (Yellow): Develop a General Order outlining how the firefighter's portable is to be carried during firefighting operations to provide the maximum thermal protection for the radio and enhanced firefighter safety.

Recommendation #44 (Yellow): Standardize the labeling and painting of SCBA and SCBA cylinders Department-wide.

Recommendation #6 (Green): Amend the General Orders to require Incident Commanders to prioritize and announce critical information, including strategy (defensive/offensive operations) that will impact incident outcomes and tactics, as a part of the initial size-up report. This should also include classroom and hands-on command, control, and accountability training.

Recommendation #7 (Green): Consider adopting guidelines of the International Association of Arson Investigators/United States Fire Administration's, Vacant and Abandoned Building Project/Toolbox.

Recommendation #13 (Green): ONE standardized County-wide tactical command sheet/board must be used in any multi-unit response to ensure command and control of incident operations. COG/NOVA Chiefs have a standardized sheet that should be strongly considered due to mutual aid unit fires being common in Prince George's County.

Recommendation #14 (Green): The Department should consider the use of Chief's Aides. This position would most likely be a Captain or a Lieutenant so that there is a form of mentoring associated with this assignment. This can further enhance the development of the line officer into the role of a chief officer.

Recommendation #16 (Green): Develop and implement system-wide policies and procedures related to personnel accountability utilizing the Passport System. Such policies should address the following:

- Requiring personnel verify the Passport and Unit Roster as quickly as possible after arriving for duty.
- Requiring personnel to drop their Passports off at a predetermined location, immediately after arriving on the scene of an incident.
- Standardize the location of Unit Rosters and Passports.

Recommendation #17 (Green): Develop a structured transition and implementation plan to achieve standardization of apparatus and equipment. The structured transition and implementation plan must include a process for the removal of non-standardized apparatus and equipment from the system's inventory. Consideration should be given to:

- Standard hose lines (supply and attack lines)
- Standard complement of nozzles (nozzle types, standardized pressure and gpm flow, etc.)
- Standard hose load configurations
- Standardize appliances to be used (i.e., four way hydrant valves, blitz nozzles)

Recommendation #18 (Green): Develop a system-wide plan that shall identify the deployment and distribution of all apparatus. This plan should be routinely evaluated for optimal strategic placement of apparatus and consider emerging technologies.

Recommendation #32 (Green): Work with the radio manufacturer to develop an extension microphone cable that is better protected from the effects of high heat.

Recommendation #35 (Green): Develop and implement a centralized, standardized system-wide record-keeping system for all training-related records, for both career and volunteer personnel.

Recommendation #38 (Green): Develop a Department-wide policy that requires personnel to wear 100% cotton garments under uniforms. This should include verbiage that prohibits the wearing of synthetic “moisture wicking” fitness apparel at any time while on duty. Combined with properly worn PPE, this will provide better protection from thermal injury.

Recommendation #39 (Green): Provide and require that all newly acquired uniforms comply with NFPA 1975 – Standard on Station/Work Uniforms for Emergency Services.

Recommendation #40 (Green): A Department-wide policy should be implemented to ensure that personnel are provided a “matching” ensemble of coat and pants from the same manufacturer.

Recommendation #42 (Green): Develop and maintain a centralized database to track the issuance, inspection and maintenance of all PPE items. This information database should include (but not limited to) the manufacturer, manufacture date, serial numbers, model, size, last cleaning date, and other pertinent information.

Recommendation #43 (Green): Revise General Order 10-03: *Cleaning, Repair, Replacement and Alteration of Personal Protective Equipment* to require an annual advanced inspection as outlined in NFPA 1851, *Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*.

Recommendation #46 (Green): Ensure all filters in the primary and secondary pressure reducers are changed when flow tested. If third party contractor is used, this must be specified in the contract.

APPENDIX 2 – WEATHER ADVISORIES

From: Brady, Mark E.
Sent: Thursday, February 23, 2012 12:41 PM
To: Fire/EMS Department; Prince George's County Media
Subject: "FIRE WEATHER WATCH" Posted for Friday Afternoon



For Immediate Release: February 23, 2012
Contact: Mark E. Brady, Chief Spokesperson, 240-508-7930
www.princegeorgescountymd.gov/FireEMS/ (Homepage)
www.pgfireems.com (Newsroom)

"FIRE WEATHER WATCH" Posted for Friday Afternoon

It is my belief that the majority of citizens and residents of Prince George's County practice good common sense fire safety habits throughout the course of their day. I also believe that at some point we must pay the price for sunny and warm weather conditions we have enjoyed not only this week but for this entire winter. So it is that I advise you that the National Weather Service has posted a seldom used "Fire Weather Watch" for Prince George's County and other surrounding jurisdictions for Friday afternoon. We ask everyone to heed the watch and follow our advice to keep everyone safe.

FROM THE NATIONAL WEATHER SERVICE

<p>Event: Fire Weather Watch</p> <p>Alert: ...FIRE WEATHER WATCH IN EFFECT FRIDAY AFTERNOON FOR PORTIONS OF MARYLAND...NORTHERN VIRGINIA AND THE EASTERN WEST VIRGINIA PANHANDLE... THE NATIONAL WEATHER SERVICE IN STERLING VIRGINIA HAS ISSUED A FIRE WEATHER WATCH...IN EFFECT FRIDAY AFTERNOON.</p> <ul style="list-style-type: none">* HUMIDITY...25 TO 30 PERCENT.* WINDS...WEST 25 TO 30 MPH WITH GUSTS UP TO 50 MPH.* FUEL MOISTURE...5 TO 7 PERCENT.
<p>Instructions: A FIRE WEATHER WATCH MEANS THAT CRITICAL FIRE WEATHER CONDITIONS ARE FORECAST TO OCCUR. LISTEN FOR LATER FORECASTS AND POSSIBLE RED FLAG WARNINGS.</p>

It was just over a year ago when similar weather condition existed and a warning issued. February 19, 2011, was the busiest brush fire day in the history of the Prince George's County Fire/EMS Department. [See the recap of that story here.](#)

Citizens, residents and visitors are asked to exercise additional fire safety measures during these warnings.

- Dispose of smoking materials in an appropriate container and ensure they are completely extinguished. Do not discard these items into any open area as they may start a fire that will spread rapidly. Do not dispose of smoking materials out of your vehicle when traveling.
- Business owners and property managers should have appropriate disposable containers in areas where smoking occurs outside.
- Do not park your vehicle on top of piles of debris or accumulated items such as leaves, brush, etc.
- Do not burn brush or trash ever without appropriate approval.
- We request that you not use outside grills or cooking equipment during these times. If you must, ensure you have some type of extinguishing agent nearby (water hose, bucket of sand, fire extinguisher, etc.)
- If you have fireplace ashes; you must put them into a sealed metal container placed on a concrete surface away from any structures. If possible - wait to clean your fireplace until this weather event is over.
- Use common sense and practice sound fire safety habits.

You can follow additional updates and breaking news about the Fire Weather Watch by following PGFDPIO on Twitter.



From: PGFD Operational Safety
Sent: Friday, February 24, 2012 8:07 AM

To: Battalion 1; Battalion 2; Battalion 3; Battalion 4; Battalion 5; Battalion 6; Battalion 7; Battalion 8; McSwain, Kenneth D; 'Stefan.Gansert@fairfaxcounty.gov'; EMS 1; Emergency Operations Center
Cc: George, Erroll W.; Jenkins, Phyllis
Subject: Safety Report

Temp: 70s for daytime high.
40s overnight.

Winds: 30 MPH, gusts may be higher.

Precip: Expect severe T-Storms late afternoon.

Primary Hazards:

- Very High Winds may bring down trees, so watch for blocked roadways.
- Expect RAPID fire spread; crews should communicate changing interior conditions.
- Wet Roadways & Lightning.

Daytime Safety Officer: Stefan Gansert 240-393-8015

Prince George's Co. Fire/EMS Dept.

Risk Management & Safety Office

Cell: 240-508-7661

Office: 301-583-1881

APPENDIX 3 – FLOOR PLANS





APPENDIX 4 – TRANSCRIBED RADIO TRAFFIC

PSC Recording Transcript – Talk Group 8 Alpha 3

Elapsed Time	Actual Time	Unit	Message
	21:11:00		Start time 21:11Hrs
00:00.0	21:11:00	E807B	"Engine 8-0-7-B to Communications ,numbers one more time"
00:10.0	21:11:10	FED	"Engine 8-0-7-B , Six Three Three Four"
00:21.0	21:11:21		"Battalion 8-84"
00:28.0	21:11:28	FED	"Battalion Chief 8-84"
00:35.0	21:11:35	FED	"BEEP, BEEP, BEEP At 63-34, 6-3-3-4 57 th Avenue Near Ravenswood Road and Sheridan Street, Reported House Fire Box 13-0-4, Engine 8-0-7-B, Engine 8-0-9, Engine 8-0-1, Engine 8-12, Truck 8-0-9, Truck 8-0-1, Rescue Squad 8-0-1, Battalion Chief 8-84 have been alerted to respond"
00:36.0	21:11:36	VC809A	"Chief 8-0-9-A as well"
01:07.0	21:12:07	FED	"Engine 8-0-7-B re(<i>inaudible</i>) your staffing"
01:27.0	21:12:27		electronic garble
01:34.0	21:12:34	FED	"And Communications to Battalion Chief 8-84 All units are up and staffed"
01:45.0	21:12:45		Female FED voice "Go ahead"
01:49.0	21:12:49	FED	"Numbers are 6-3-3-4, 63-34 57 th Avenue"
01:55.0	21:12:55	E807B	"Engine 8-0-7-B to Communications, Dropping it at 63-25, Have the next due company pick it up"
02:05.0	21:13:05	FED	"Ok 63-25, Engine 8-0-9 Are you direct?"
02:10.0	21:13:10	E809	"Yeah, We're on the scene, we got the line"
02:12.0	21:13:12	FED	"OK"
02:17.0	21:13:17		inaudible electronic garble
02:21.0	21:13:21	VC812	"Chief 812"

02:24.0	21:13:24	FED	Female FED voice "K"
02:28.0	21:13:28	E807B	"Engine 8-0-7-B to Communications, 2 story Single family fire showing Side Bravo, Basement level. Start the working fire dispatch."
02:26.0	21:13:26	FED	"Copy, On the scene Engine 807B 2 story single family with fire evident. 2114"
02:44.0	21:13:44	VC809A	"9-A is on the scene. I'll take it til the arrival of BC4"
02:48.0	21:13:48	FED	"On the scene with command, Chief 809A"
02:54.0	21:13:54	NSO	"Northern Safety Officers responding"
02:57.0	21:13:57	FED	"Northern Safety Officer"
03:00.0	21:14:00		"Northern Division Chief"
03:01.0	21:14:01	FED	"Northern Division Chief"
03:04.0	21:14:04	VC809A	"Command give me a quick rundown"
03:11.0	21:14:11	FED	"You have Engine 8-0-7-B with 5, Engine 8-0-9 with 4, Engine 8-0-1 with 5, Engine 8-12 with 4, Truck 8-0-9 has 6, Truck 8-0-1 with 8, Rescue Squad 8-0-1 also with 8"
03:37.0	21:14:37	VC809A	"Command copies. Squad 1 Rapid Intervention. Truck 1 ladder the back side and give a report from side charlie"
03:39.0	21:14:39	VC809A	"Squad 1 acknowledge"
04:00.0	21:15:00	VC812A	"Chief 8-12-A to command, I'm on the scene, I'll take the interior if that's okay with you"
04:06.0	21:15:06	VC809A	"Basement division... ah... Command to Communications, Any other Chief officers responding?"
04:13.0	21:15:13	FED	"You have Chief 8-12, Chief 8-12-A, Battalion Chief 8-84, pause, Northern Division Chief"
04:23.0	21:15:23	E809	"Engine 8-0-9 Command"
04:25.0	21:15:25	VC809A	"8-0-9 Go ahead"
04:28.0	21:15:28		Open Mic inaudible echos
04:33.0	21:15:33	E807B	Engine 8-0-7-B to Engine 8-0-9 Let it go when you got it baby!"
04:42.0	21:15:42	VC809A	"Engine 8-0-9 let the water go for the attack line and for Engine 7. Command to Chief 8-12, when you arrive on the scene can you take Division 1 for me"

04:52.0	21:15:52	VC812	"Copy Chief"
04:55.0	21:15:55	TK801	"Truck 8-0-1 to Command, is 9 in the basement or the first floor?"
05:00.0	21:16:00	VC809A	"Should have made their way down to the basement. Give me a primary on number 1 and number 2 then open it up."
05:06.0	21:16:06	E801	"Engine 801 laying out 57-15 Sheridan"
05:14.0	21:16:14	FED	"Communications to Truck 8-0-9 verify your E.I. Status"
05:24.0	21:16:24	FED	"Communications to Command"
05:32.0	21:16:32	FED	"Communications to Command or Truck 8-0-9"
05:49.0	21:16:49		Open Mic
05:52.0	21:16:52	FED	"Communications to Truck 8-0-9 or Command"
05:56.0	21:16:56		Open Mic inaudible low voice
06:01.0	21:17:01	VC809A	"Command to Communications, I copy, I got people looking for 'em right now. Looks like I got fire from three sides. We're trying to get a line on it now."
06:11.0	21:17:11		Open Mic electronic garble
06:16.0	21:17:16	VC809A	"Verify Truck 8-0-9's E.I."
06:23.0	21:17:23		Open Mic electronic garble
06:26.0	21:17:26		Open Mic electronic garble
06:32.0	21:17:32		Open Mic garbled then BA breathing Sounds
06:43.0	21:17:43		Open Mic electronic garble
06:45.0	21:17:45	VC809A	"Command to Communications, go ahead and sound the evacuations tones and start a task force and stage them at Kenilworth and Riverdale for now"
06:52.0	21:17:52	FED	EVACUATION TONES SOUNDING
06:56.0	21:17:56	FED	TONES ENDED.
06:57.0	21:17:57		Open Mic electronic garble
06:58.0	21:17:58	FED	"Attention all units, Attention all units 63-34 57 th Avenue, evacuate the building. Attention all units 63-34 57 th Avenue, evacuate the building. (Open Mic electronic garble) And command still receiving Truck 809 E.I. from portable 1 and 2."
07:17.0	21:18:17		Open Mic electronic garble

07:18.0	21:18:18	VC809A	"Command. I copy. I need the working fire dispatch ambulances to side A. I got confirmed firemen from engine company 7 it looks like. And give me an EMS taskforce."
07:28.0	21:18:28	FED	"Copy fire task force (<i>Open Mic electronic garble</i>)as well as an EMS task force. EMS units on the working fire dispatch continue to the fire scene, injured firefighter."
07:38.0	21:18:38		Open Mic electronic garble
07:42.0	21:18:42	SSO	"Southern Safety Officer, Hold me enroute to uh..." (<i>Open mic electronic garble</i>)
07:50.0	21:18:50		Open Mic electronic garble
08:00.0	21:19:00		Open Mic electronic garble
08:03.0	21:19:03	FED	"Communications to Command (<i>open mic electronic garble</i>)Which Talk Group would you like the task force on?"
08:05.0	21:19:05		(<i>Interrupted above message</i>)"Chief 12, Chief 12, come over to the buggy for a second"
08:11.0	21:19:11		Open Mic electronic garble
08:12.0	21:19:12		"8-0-1 let the water go!"
08:13.0	21:19:13		inaudible voice
08:17.0	21:19:17		Open Mic electronic garble
08:21.0	21:19:21		(<i>Open Mic electronic garble</i>) "...to command"
08:25.0	21:19:25		Open Mic electronic garble
08:26.0	21:19:26		(<i>Open Mic electronic garble</i>) "...command"
08:30.0	21:19:30		Open Mic electronic garble
08:33.0	21:19:33		(<i>Open Mic electronic garble</i>) "...go ahead" (<i>low volume and muffled</i>)
08:50.0	21:19:50		Open Mic electronic garble
08:57.0	21:19:57		Open Mic electronic garble
09:00.0	21:20:00		inaudible muffled voice mixed with open mic
09:03.0	21:20:03	FED	"Duty Chief, Go ahead"
09:06.0	21:20:06	DC800	(<i>Open Mic electronic garble</i>)"Check on the 2 units that uhh..activated their E.I."

09:11.0	21:20:11	FED	"Okay Duty Chief , (inaudible) Truck 8-0-9s E.I. from portable 1. acknowledge. We have not had any acknowledgment from them"
09:22.0	21:20:22		Garbled voice
09:28.0	21:20:28		Open Mic electronic garble
09:30.0	21:20:30		Open Mic electronic garble
09:35.0	21:20:35		Open Mic electronic garble
09:41.0	21:20:41	FED	"Ambulance 8-0-9 status enroute"
09:47.0	21:20:47		Open Mic electronic garble
09:57.0	21:20:57	FED	"Communications to Command"
10:01.0	21:21:01		Open Mic electronic garble
10:17.0	21:21:17	FED	"Communications to Command or Chief 8-12-A, interior or basement"
10:22.0	21:21:22		(Unidentified female voice)"...Berwyn Heights 1-0-9"
10:24.0	21:21:24		(unidentified male voice) " Chief (<i>inaudible</i>)"
10:29.0	21:21:29		Open Mic electronic garble
10:37.0	21:21:37	FED	"Communica....Communications to the Duty Chief"
10:40.0	21:21:40		(<i>Female Communications voice</i>)"Three George Seven"
10:45.0	21:21:45		(<i>unidentified male voice</i>)"Can you turn on the call text, we didn't copy that"
10:51.0	21:21:51		Open Mic electronic garble
10:54.0	21:21:54	FED	"Communications to Command"
10:58.0	21:21:58		Open Mic electronic garble
11:01.0	21:22:01	VC809a	"Command. Go ahead. We're having radio problems here with the E.I."
11:04.0	21:22:04	FED	"Okay. Just be advised we are still receiving the E.I. from Truck 8-0-9"
11:09.0	21:22:09		Open Mic electronic garble
11:10.0	21:22:10	VC809A	"I'm aware of that. Everyone should be out. We're trying to get it reset at this time. Squad 1 is going back in to do a primary to make sure all the firemen are out. Looks like a bulk of the fire is knocked down"
11:20.0	21:22:20	FED	"I copy Command. The task force units are dispatched on Alpha 4 so you're aware"
11:34.0	21:22:34	FED	"Engine 8-55 or Ambulance 8-55 status enroute"

11:39.0	21:22:39		Open Mic electronic garble
11:52.0	21:22:52		Open Mic electronic garble
11:57.0	21:22:57	RS801	"Squad 1 to command, the primary on the first floor is negative" <i>(muffled behind SCBA)</i>
12:01.0	21:23:01		inaudible voice
12:07.0	21:23:07		Open Mic electronic garble
12:25.0	21:23:25		Open Mic electronic garble
12:30.0	21:23:30		Open Mic electronic garble
12:55.0	21:23:55		Open Mic electronic garble
13:10.0	21:24:10		Open Mic electronic garble
13:17.0	21:24:17	FED	"Communications to all units, all units on Talk Group 8-alpha-3, all units switch over to Talk Group 8-alpha-4, 8-alpha-4."
13:28.0	21:24:28		Open Mic electronic garble
13:35.0	21:24:35		Open Mic electronic garble
13:51.0	21:24:51	FED	<i>(Long tone)</i>
13:56.0	21:24:56	FED	<i>(Tone ended)</i>
13:57.0	21:24:57	FED	"Attention all units, all units on 57 th Avenue switch over to Talk Group 8-alpha-4. 8-alpha-4"
14:12.0	21:25:12		<i>(inaudible 4 syllables of muffled male voice)</i>
14:14.0	21:25:14	DC800	"Duty Chief to Communications"
14:18.0	21:25:18	FED	"Duty Chief"
14:21.0	21:25:21	DC800	"Give me a ah... list of the units that you have coming on the EMS task force"
14:33.0	21:25:33	FED	"ok, the EMS task force was ambulance 8-55, ambulance 8-0-1, and medic 8-30"
14:41.0	21:25:41	DC800	"Ok, ambulance 8-55, medic 30 and what else?"
14:46.0	21:25:46	FED	"and ambulance 8-0-1. Those units should be on Alpha 4"
14:51.0	21:25:51	DC800	"Ok. I need all them to the scene. 2 more medic units and umm.. Check the status on the helicopters"
15:01.0	21:26:01	FED	"Copy. 2 additional medic units"

15:40.0	21:26:40	DC800	"and Duty Chief to Communications"
15:43.0	21:26:43	FED	"Go ahead"
15:45.0	21:26:45	DC800	"I'm going to be assuming the ah.. 57 th Avenue command."
15:51.0	21:26:51	FED	"Copy, Assuming command at 21-27"
15:56.0	21:26:56	DC800	"I'll get back to you with umm... sector and group assignments"
16:03.0	21:27:03	FED	"okay and your medics are going to be paramedic engine 830, medic 8-44"
16:34.0	21:27:34		"Command post to command"
16:38.0	21:27:38	DC800	"The unit calling command?"
16:40.0	21:27:40		"It's the basement. The fire in the basements out." (<i>Muffled behind SCBA</i>)
16:47.0	21:27:47		"okay"
16:50.0	21:27:50		"Advise units on the first floor there are going to be some bad spots in the floor where it looks like it's gonna' burn through." (<i>Muffled behind SCBA</i>)
16:59.0	21:27:59	DC800	"okay, there shouldn't be any units on the first floor"
17:06.0	21:28:06	DC800	"Communications to rescue squad 1"
17:15.0	21:28:15		"Basement to command... I'm looking at units on the first floor" (<i>Muffled behind SCBA</i>)
17:22.0	21:28:22	DC800	"Okay I was just told that should be rescue squad 1. Communications to rescue squad 1"
17:29.0	21:28:29		Open Mic electronic garble
17:33.0	21:28:33	DC800	"Communications to rescue squad 8-0-1"
17:44.0	21:28:44	FED?	"Communications to res..."
17:50.0	21:28:50	RS801	"Rescue Squad 1. Copy" (<i>Muffled behind SCBA</i>)
17:55.0	21:28:55	DC800	"Rescue Squad 8-0-1 what's your location?"
18:01.0	21:29:01	RS801	"First floor Sir" (<i>Muffled behind SCBA</i>)
18:04.0	21:29:04	DC800	"Okay, what's the status on the primary?"
18:09.0	21:29:09	RS801	"The primary on the first floor is negative" (<i>Muffled behind SCBA</i>)
18:11.0	21:29:11	FED	(short tone)

18:15.0	21:29:15	DC800	"I copy the primary on the first floor is negative. Command to all units on the fireground standby for a par check."
18:24.0	21:29:24	DC800	"Command to engine 8-0-7, engine 8-0-7 come in"
18:35.0	21:29:35	DC800	"Command to engine 8-0-7"
18:45.0	21:29:45	FED	"Command, 8-0-7 is on alpha 4 switching over"
18:50.0	21:29:50	DC800	"I copy. Com...Command to engine 8-0-9"
18:55.0	21:29:55		"message" (<i>low volume</i>)
18:57.0	21:29:57	DC800	"Are you par?"
19:01.0	21:30:01	E809	"We are par. We're not inside"
19:06.0	21:30:06	DC800	"Copy you negative on your par. Didn't hear anything else. What was your last transmission?"
19:11.0	21:30:11	E809	"everybody's out (<i>inaudible</i>) ...the side"
19:27.0	21:30:27	DC800	"Everyone is accounted for, you just have 2 injured, correct?"
19:31.0	21:30:31	E807	"engine 8-0-7 , we were wrong channel"
19:39.0	21:30:39	E807	"approximately ahh... 4 firefighters"
19:42.0	21:30:42	DC800	"I copy 4 firefighters injured"
19:47.0	21:30:47	DC800	"Command to engine 8-0-9, engine 8-0-9 come in"
19:51.0	21:30:51	E809	"Engine 8-0-9 go ahead"
19:52.0	21:30:52	DC800	"Are you par?"
19:55.0	21:30:55	E809	"yeah, we're par operating off our truck"
20:00.0	21:31:00	DC800	"Any injuries?"
20:02.0	21:31:02	E809	"negative"
20:04.0	21:31:04	DC800	"Command to engine 8-0-1"
20:08.0	21:31:08	E801	"par side charlie"
20:11.0	21:31:11	DC800	"Okay, any injuries?"
20:14.0	21:31:14	E801	"no sir"
20:17.0	21:31:17	DC800	"Copy. Command to Engine 8-12, 8-12 come in"
20:23.0	21:31:23	E812	"Engine 8-12, I'm par side charlie"
20:28.0	21:31:28	DC800	"Okay, no injuries, correct?"
20:31.0	21:31:31	E812	"That's correct. No injuries"

20:35.0	21:31:35	DC800	"Okay. Command to Truck 8-0-9"
20:42.0	21:31:42	E809	"Engine 8-0-9 to command I don't know if you're aware but a couple of the members from truck 8-0-9 were the ones that were injured. I don't know if the officer was one. Correction, the officer was one"
20:55.0	21:31:55	DC800	"Okay, I copy your par and you got 2 injured correct?"
21:04.0	21:32:04	E809	"This is engine 8-0-9 relaying the information to you, but yes, as far as I'm aware. The officer and barman"
21:10.0	21:32:10	DC800	"I need truck 8-0-9, truck 8-0-9 but the message I copy was everyone was par and you had 2 injuries, is that correct?"
21:32.0	21:32:32	E809	"That's correct, 2 off the truck"
21:36.0	21:32:36	DC800	"I copy. Command to truck 8-0-1"
21:41.0	21:32:41	TK801	"Truck 8-0-1 is par with 8 operating in the basement"
21:47.0	21:32:47	DC800	"Okay. You have primary down there?"
21:50.0	21:32:50	TK801	"That's negative, primary is negative"
21:53.0	21:32:53	DC800	"Okay, give me a status on the primary in the basement. Command to rescue squad 8-0-1"
21:59.0	21:32:59	RS801	"Go ahead sir. I'm par, first floor"
22:07.0	21:33:07	DC800	"I copy"
22:11.0	21:33:11	A809	"A809, We'll be transporting the one firefighter barman from truck 9 to Medstar. We're gonna go ahead and switch to alpha 2"
22:25.0	21:33:25	FED	"ok"
22:28.0	21:33:28	TK801	"truck 8-0-1 to command, primary in the basement is negative"
22:44.0	21:33:44	C807	"engine 8-0-7 call chief 8-0-7 on his cell phone"
22:48.0	21:33:48		"I'll do that momentarily"
22:55.0	21:33:55	DC800	"command to communications"
22:57.0	21:33:57	FED	"Command go ahead"
23:00.0	21:34:00	DC800	"I got medic 30, medic 12 on the scene. Has paramedic engine 830 marked on the scene yet?"
23:14.0	21:34:14	FED	"that's correct"
23:14.0	21:34:14	PE830	"paramedic engine 830 I'm here"

23:18.0	21:34:18	DC800	"okay, I need them side alpha, and command to medic 8-44"
23:24.0	21:34:24	MD844	"go ahead command"
23:26.0	21:34:26	DC800	"Have you arrived on the scene yet?"
23:29.0	21:34:29	MD844	"Negative, we're approaching Kenilworth from east west"
23:34.0	21:34:34	FED	"tell you we advised them of the"
24:00.0	21:35:00	FED	"and communications to command, can you advise the number of helicopters that are needed"
24:07.0	21:35:07	DC800	"standby... command to the uh...EMS supervisor"
24:54.0	21:35:54	FED	"communications to command"
24:58.0	21:35:58	DC800	"standby"
25:05.0	21:36:05	E807B	"Engine 8-0-7-B to command"
25:37.0	21:36:37	DC800	"command to communications"
25:39.0	21:36:39	FED	"go ahead command"
25:40.0	21:36:40	DC800	"do you have a message"
25:44.0	21:36:44	FED	"That's correct. The EMS duty officer is still over on alpha 4 if you need to contact him. Advise Eagle 2 is enroute with a ten minute ETA, landing at Rittenhouse and Kenilworth"
26:00.0	21:37:00	DC800	"okay"
26:03.0	21:37:03	DC800	"Medic 8-44 are you on the scene yet?"
26:14.0	21:37:14	MD844	"side alpha"
26:21.0	21:37:21	DC800	"okay, I need you to side alpha"
26:25.0	21:37:25	VC812A	"chief 8-12-A to medic engine 8-30"
26:40.0	21:37:40	VC812A	"chief 8-12-a to command"
26:52.0	21:37:52	DC800	"command go ahead"
26:56.0	21:37:56	VC812A	"There's a medic asking for his drug box in the ambulance behind engine company 9. I think medic engine 30 is up there"
27:07.0	21:38:07	DC800	"okay, give me that one more time"
27:10.0	21:38:10	VC812A	"a medic needs a drug box in the ambulance behind engine company 9"
27:19.0	21:38:19	DC800	"You said you need a medic with a drug box?"

27:22.0	21:38:22	VC812A	"a drug box...drug"
28:42.0	21:39:42		"side alpha"
28:46.0	21:39:46		"...send your officers over to the command post"
28:58.0	21:39:58		"ambulance 8-0-1 turn your running lights on"
29:22.0	21:40:22	FED	"Command go ahead"
29:25.0	21:40:25	DC800	"off the EMS task force ahh... whichever ambulance hasn't made it to the scene and committed yet I need them to position at 57 th and Rittenhouse and meet 7s ambulance . They are blocked in and can't get out... with a patient"
29:43.0	21:40:43	FED	"Okay... I believe all EMS units are apparently on the scene"
29:57.0	21:40:57	FED	"Copy. Additional EMS, 57 th and Rittenhouse"
30:02.0	21:41:02	DC800	"correct"
30:05.0	21:41:05	DC800	"Right now all of, umm...personnel are accounted for. We're doing a secondary search of the uhh... occupancy now and I'll get to you on total number of firefighters we have injured"
30:17.0	21:41:17	FED	"Okay. Are all injured firefighters being transported by ground?"
30:25.0	21:41:25	DC800	"as of right now correct so we may be turning Eagle 2 around"
30:31.0	21:41:31	FED	"okay"
31:02.0	21:42:02	BA716	"air 7-16 is enroute"
31:07.0	21:42:07	FED	"air unit 7-16"
31:19.0	21:42:19	VC855B	"855B to command"
31:24.0	21:42:24	DC800	"go ahead"
31:26.0	21:42:26	VC855B	"Okay, be advised ambulance 8-12 is on the scene. They are uncommitted. They are going over to ambulance 8-0-7 to get that patient to ahh... get him outta here"
31:38.0	21:42:38	DC800	"I copy"
31:40.0	21:42:40	VC855B	"Also, umm... using engine 8-28 for the landing zone. That'll be at the uh...Autozone parking lot at Rittenhouse and Kenilworth"
32:18.0	21:43:18	VC809A	"command to communications, I need a total of 2 more BLS units to the scene"

32:28.0	21:43:28	FED	"communications to command"
32:33.0	21:43:33	FED	"communications to command"
32:41.0	21:43:41	VC809A	"Command go ahead"
32:31.0	21:43:31	FED	"communications command"
32:47.0	21:43:47	FED	"Is ambulance 8-0-7 on the scene? We just sent them as your additional BLS request. We didn't have them on the scene prior to us dispatching them. Can you let us know" (<i>next transmission cut this one off</i>)
32:54.0	21:43:54	VC809A	"Ambulance 7 is (inaudible) but they're blocked in by the units. Ambulance 12's taking that patient. I still got 2 more firefighters up here"
33:04.0	21:44:04	FED	"Okay. we were not aware that 7 made it to the scene undispatched. We'll start you 2 more BLS units"
33:15.0	21:44:15	NSO	"northern safety to command"
33:27.0	21:44:27	NSO	"northern safety officer to command"
33:33.0	21:44:33	VC809A	"go ahead"
33:36.0	21:44:36	NSO	"medic 8-30 at this point needs a driver... they'll be on their way to Medstar"
33:42.0	21:44:42	VC809A	"alright"
33:51.0	21:44:51	VC812	"interior to command"
33:58.0	21:44:58	VC809A	"go ahead"
33:58.0	21:44:58	VC812	"Secondary search of the structure is negative. I have engine 8-0-1, truck 8-0-1 operating in the basement. Squad 8-0-1 operating on division 1. engine 8-12 is outside charlie working on some exterior fire. All members are accounted for and let everybody know; they're pretty much aware of it inside, but if we rotate crews, the interior stairs are burned out"
34:24.0	21:45:24	VC809A	"I copy. We'll advise them if we have to rotate out"
34:32.0	21:45:32	VC812	"and command, if you have a fresh truck company that has the ability to run some lights to side charlie. There's a very steep drop back there and it's not lit up right now"

34:51.0	21:45:51	VC855B	"855B to command"
35:10.0	21:46:10	VC809A	"Unit calling command go ahead"
35:12.0	21:46:12	VC855B	"Yeah its 855B...ummm...just to let you know. Communications let me know on alpha 4 that Trooper 3 has a 20 minute ETA as well. I do have the Eagle overhead now."
35:32.0	21:46:32	VC809A	"Command to 55B you can cancel the second helicopter for now. We're still getting a determination for (<i>inaudible</i>)"
35:41.0	21:46:41	VC855B	"I'm okay"
35:45.0	21:46:45	VC809A	"command to the EMS supervisor"
35:55.0	21:46:55		(<i>short inaudible sound</i>)
35:58.0	21:46:58		(<i>inaudible 3 syllables</i>)
37:32.0	21:48:32	FC	"Fire Chief to command, what's the exact location of the command post?"
37:37.0	21:48:37	VC809A	"Side alpha between engine 7-2 and truck 9. Black Tahoe"
37:44.0	21:48:44	FC	"copy"
38:15.0	21:49:15		(<i>inaudible 1 syllable possibly "Four"</i>)
38:25.0	21:49:25	DC800	"I copy at 11 and 8-34 and I'll give you an update"
38:31.0	21:49:31	FED	"K"
38:32.0	21:49:32	DC800	"6334 57 th was a, uh... approximately 40 by 30 one story with a basement fire throughout the first floor and the basement. Uhh... Steps had burned away. Primary uh...search was negative. Secondary searches are underway. They're being conducted by Chief 12 and engine 8-12. Engine 8-55, truck 12 with the RIC group. EMS uh... supervisor has the EMS group. I have both.... both safety officers that I have on the scene, northern (<i>inaudible</i>)... I'm sorry, northern safety and southern safety and numerous other command officers I have not assigned them umm...an assignment as of yet. Fire is out, under control. We're checking for umm...extension now and then the secondary searches are underway. Duty chief is in command, chief 9-a is operations"

39:30.0	21:50:30	FED	"I copy command at 21-51. Just wanna hold this as your thirty minute duration?"
39:35.0	21:50:35	DC800	"and right now it looks like a total of 7 firefighters have uh... that are injured and have been transport...transported"
39:43.0	21:50:43	FED	"copy command"
39:48.0	21:50:48	DC800	"Uh... Correct that to 8"
39:50.0	21:50:50	FED	"copy, 8"
40:10.0	21:51:10	DC800	"command to communications"
40:22.0	21:51:22	DC800	"command to communications"
40:33.0	21:51:33	FED	"Command go ahead"
40:34.0	21:51:34	DC800	"though I have my chart right, give me every ems resource that you have on the call assigned"
40:43.0	21:51:43	FED	"Okay. All your ems units paramedic engine 8-30, medic 8-44, medic 8-30, medic 8-12, the ems duty officer, ambulance 8-55, ambulance 8-34, ambulance 8-12, ambulance 8-11, ambulance 8-0-9, ambulance 8-0-7, ambulance 8-0-1."
41:14.0	21:52:14	DC800	"44,30, and 12 are the only medic units?"
41:23.0	21:52:23	FED	"and medic 8-30 as well as paramedic engine 8-30 as ALS resource"
41:28.0	21:52:28	DC800	"ok"
41:45.0	21:52:45	FED	"copy, they're en route"
42:24.0	21:53:24	A834	"Ambulance 8-34 to communications"
42:29.0	21:53:29	FED	"Ambulance 8-34"
42:33.0	21:53:33	A834	"Do you have anything for us right now? We're on the scene"
42:38.0	21:53:38	FED	"Go direct with command"
42:55.0	21:53:55	FED	"Communications to command"
43:01.0	21:54:01		"Command go ahead"
43:03.0	21:54:03	FED	"Any need for the canteen unit?"
43:12.0	21:54:12	VC809A	"That's correct and after they get here 57 th and Somerset and also the command bus if available"
43:23.0	21:54:23	FED	"Ok, you wish that the canteen stage at 57 th and Somerset?"

43:35.0	21:54:35	VC809A	"Yeah, I don't have a map in front of me but looking ahead at Somerset and 57 th they should be able to get that way"
43:41.0	21:54:41	FED	"Ok"
44:40.0	21:55:40	MD812	"Medic 8-12 to communications"
44:44.0	21:55:44	FED	"Medic 8-12"
44:47.0	21:55:47	MD812	"Myself and ambulance 8-0-7's crew will be transporting 3 injured firefighters from company 8-0-7. 2 at this time superficial burns to the face, 1 possible broken rib. So I'm gonna' call 2 priority threes and 1 priority 2. We'll be going to uh... Medstar."
45:12.0	21:56:12	FED	"ok"
45:29.0	21:56:29	VC855B	"55B to command"
45:37.0	21:56:37	DC800	"Go ahead"
45:39.0	21:56:39	VC855B	"The Eagle is on the ground"
45:45.0	21:56:45	DC800	"ok"
45:46.0	21:56:46		End recording at 21:57hrs

Radio System Data A3

Time	Type	Unit	TG	Duration	E.I.	Description
02/24/2012 09:11:08 PM	Failed Call	BO 885 *P*				Audio Interrupt
02/24/2012 09:11:54 PM	PTT	ENGINE 807 B	A3 (INC 50)	6.2	No	1375616
02/24/2012 09:12:03 PM	PTT	PSCC FED 08	A3 (INC 50)	1.3	No	1375625
02/24/2012 09:12:05 PM	PTT	CHIEF 809 A	A3 (INC 50)	2.7	No	1375625
02/24/2012 09:12:07 PM	PTT	PSCC FED 08	A3 (INC 50)	2.6	No	1375625
02/24/2012 09:12:16 PM	PTT	CHIEF 807	A3 (INC 50)	3.9	No	1375647
02/24/2012 09:12:20 PM	PTT	TK 809 *3*	A3 (INC 50)	2	No	1375647
02/24/2012 09:12:22 PM	PTT	PSCC FED 08	A3 (INC 50)	2	No	1375647
02/24/2012 09:12:24 PM	PTT	PSCC FED 08	A3 (INC 50)	2.7	No	1375647
02/24/2012 09:12:29 PM	PTT	CHIEF 809 A	A3 (INC 50)	0.5	No	1375674
02/24/2012 09:12:30 PM	PTT	PSCC FED 08	A3 (INC 50)	3.3	No	1375674
02/24/2012 09:12:33 PM	PTT	PSCC FED 08	A3 (INC 50)	0.1	No	1375674
02/24/2012 09:12:33 PM	PTT	PSCC FED 08	A3 (INC 50)	19.6	No	1375674
02/24/2012 09:12:53 PM	PTT	TK 809 *2*	A3 (INC 50)	6.7	No	1375674
02/24/2012 09:13:00 PM	PTT	PSCC FED 08	A3 (INC 50)	2.2	No	1375674
02/24/2012 09:13:02 PM	PTT	PSCC FED 08	A3 (INC 50)	5.3	No	1375674
02/24/2012 09:13:18 PM	Failed Call	POL V 4559				Audio Interrupt
02/24/2012 09:13:19 PM	PTT	TK 809 *2*	A3 (INC 50)	8.7	No	1375690
02/24/2012 09:13:20 PM	Failed Call	TRUCK 828				Audio Interrupt
02/24/2012 09:13:27 PM	PTT	PSCC FED 08	A3 (INC 50)	7.7	No	1375693
02/24/2012 09:13:37 PM	PTT	CHIEF 807	A3 (INC 50)	3.2	No	1375728
02/24/2012 09:13:39 PM	Failed Call	SQ 801 *6*				Audio Interrupt
02/24/2012 09:13:40 PM	PTT	ENGINE 801	A3 (INC 50)	3.4	No	1375728
02/24/2012 09:13:42 PM	Failed Call	TK 809 *2*				Audio Interrupt
02/24/2012 09:13:43 PM	PTT	PSCC FED 08	A3 (INC 50)	5.9	No	1375728
02/24/2012 09:13:49 PM	PTT	ENGINE 807 B	A3 (INC 50)	8.4	No	1375728
02/24/2012 09:13:58 PM	PTT	PSCC FED 08	A3 (INC 50)	6.2	No	1375728
02/24/2012 09:14:04 PM	PTT	ENGINE 809	A3 (INC 50)	2.8	No	1375728
02/24/2012 09:14:07 PM	PTT	PSCC FED 08	A3 (INC 50)	3.6	No	1375728
02/24/2012 09:14:13 PM	PTT	CHIEF 812 A/B F	A3 (INC 50)	2.7	No	1375767
02/24/2012 09:14:14 PM	Failed Call	E 807 B *4*				Audio Interrupt
02/24/2012 09:14:16 PM	PTT	E 807 B *4*	A3 (INC 50)	0.2	No	1375767

02/24/2012 09:14:16 PM	PTT	PSCC FED 08	A3 (INC 50)	2.3	No	1375767
02/24/2012 09:14:18 PM	PTT	PSCC FED 08	A3 (INC 50)	0.2	No	1375767
02/24/2012 09:14:18 PM	PTT	E 807 B *4*	A3 (INC 50)	4.1	No	1375767
02/24/2012 09:14:18 PM	Failed Call	ENGINE 807 B				Stealth Reject
02/24/2012 09:14:20 PM	Failed Call	ENGINE 807 B				Audio Interrupt
02/24/2012 09:14:20 PM	Failed Call	CHIEF 812 F				Audio Interrupt
02/24/2012 09:14:22 PM	PTT	ENGINE 807 B	A3 (INC 50)	8.2	No	1375767
02/24/2012 09:14:24 PM	Failed Call	ID\$2530379				Requestor Not Affiliated to TG
02/24/2012 09:14:25 PM	Failed Call	SQ 801 *6*				Audio Interrupt
02/24/2012 09:14:31 PM	PTT	PSCC FED 08	A3 (INC 50)	6.9	No	1375767
02/24/2012 09:14:37 PM	PTT	CHIEF 809 A	A3 (INC 50)	4.7	No	1375767
02/24/2012 09:14:38 PM	Failed Call	VC 810 A *P*				Audio Interrupt
02/24/2012 09:14:42 PM	PTT	PSCC FED 08	A3 (INC 50)	2.3	No	1375767
02/24/2012 09:14:44 PM	PTT	TK 801 *5*	A3 (INC 50)	3.5	No	1375767
02/24/2012 09:14:46 PM	Failed Call	VC 810 A *P*				Audio Interrupt
02/24/2012 09:14:48 PM	PTT	PSCC FED 08	A3 (INC 50)	0.6	No	1375767
02/24/2012 09:14:49 PM	PTT	VC 810 A *P*	A3 (INC 50)	2.8	No	1375767
02/24/2012 09:14:49 PM	Failed Call	E 807 B *4*				Audio Interrupt
02/24/2012 09:14:50 PM	Failed Call	E 809 *2*				Audio Interrupt
02/24/2012 09:14:50 PM	Failed Call	VC 809 *P*				Audio Interrupt
02/24/2012 09:14:51 PM	Failed Call	E 809 *2*				Audio Interrupt
02/24/2012 09:14:51 PM	PTT	PSCC FED 08	A3 (INC 50)	2.1	No	1375767
02/24/2012 09:14:53 PM	PTT	VC 809 *P*	A3 (INC 50)	2.6	No	1375767
02/24/2012 09:14:55 PM	Failed Call	POL V 5385				Audio Interrupt
02/24/2012 09:14:56 PM	PTT	PSCC FED 08	A3 (INC 50)	1.9	No	1375767
02/24/2012 09:14:56 PM	Failed Call	POL V 5385				Audio Interrupt
02/24/2012 09:14:58 PM	PTT	CHIEF 809 A	A3 (INC 50)	5.4	No	1375767
02/24/2012 09:14:58 PM	Failed Call	OEM P CSU 890				Audio Interrupt
02/24/2012 09:15:05 PM	PTT	PSCC FED 08	A3 (INC 50)	5.4	No	1375793
02/24/2012 09:15:10 PM	PTT	E 809 OIC	A3 (INC 50)	4	No	1375793
02/24/2012 09:15:14 PM	PTT	TK 809 *1*	A3 (INC 50)	2	No	1375793
02/24/2012 09:15:16 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:15:16 PM	PTT	PSCC FED 08	A3 (INC 50)	2.8	No	1375793
02/24/2012 09:15:19 PM	PTT	E 809 OIC	A3 (INC 50)	7.2	No	1375793
02/24/2012 09:15:26 PM	PTT	TK 809 *3*	A3 (INC 50)	3.4	No	1375793

02/24/2012 09:15:30 PM	PTT	PSCC FED 08	A3 (INC 50)	1	No	1375793
02/24/2012 09:15:31 PM	PTT	CHIEF 809 A	A3 (INC 50)	10.6	No	1375793
02/24/2012 09:15:32 PM	Failed Call	RESCUE SQ 801				Audio Interrupt
02/24/2012 09:15:41 PM	Failed Call	POL V 5443				Audio Interrupt
02/24/2012 09:15:43 PM	PTT	CHIEF 809 A	A3 (INC 50)	2.7	No	1375861
02/24/2012 09:15:46 PM	Failed Call	CHIEF 809 A				Stealth Reject
02/24/2012 09:15:46 PM	PTT	E 809 *2*	A3 (INC 50)	4.5	No	1375861
02/24/2012 09:15:48 PM	Failed Call	SQ 801 OIC				Audio Interrupt
02/24/2012 09:15:49 PM	Failed Call	CHIEF 812 F				Audio Interrupt
02/24/2012 09:15:50 PM	PTT	TK 801 *5*	A3 (INC 50)	3.9	No	1375861
02/24/2012 09:15:51 PM	Failed Call	E 809 *2*				Stealth Reject
02/24/2012 09:15:52 PM	Failed Call	CHIEF 812 F				Audio Interrupt
02/24/2012 09:15:54 PM	PTT	CHIEF 812 F	A3 (INC 50)	5.1	No	1375861
02/24/2012 09:15:59 PM	PTT	CHIEF 809 A	A3 (INC 50)	7.3	No	1375861
02/24/2012 09:16:05 PM	Failed Call	TK 809 *1*				Audio Interrupt
02/24/2012 09:16:07 PM	PTT	PSCC FED 08	A3 (INC 50)	4.9	No	1375861
02/24/2012 09:16:12 PM	PTT	TK 812 *4*	A3 (INC 50)	0.6	No	1375861
02/24/2012 09:16:12 PM	PTT	PSCC FED 08	A3 (INC 50)	0.2	No	1375861
02/24/2012 09:16:12 PM	PTT	TK 812 *4*	A3 (INC 50)	1.6	No	1375861
02/24/2012 09:16:13 PM	Failed Call	CHIEF 809 A				Audio Interrupt
02/24/2012 09:16:14 PM	PTT	PSCC FED 08	A3 (INC 50)	1.9	No	1375861
02/24/2012 09:16:16 PM	PTT	E 809 OIC	A3 (INC 50)	3.4	No	1375861
02/24/2012 09:16:16 PM	PTT	PSCC FED 08	A3 (INC 50)	0	No	1375861
02/24/2012 09:16:17 PM	Failed Call	E 809 DR				Audio Interrupt
02/24/2012 09:16:17 PM	Failed Call	ENGINE 807 B				Audio Interrupt
02/24/2012 09:16:19 PM	PTT	CHIEF 809 A	A3 (INC 50)	2.2	No	1375861
02/24/2012 09:16:20 PM	Failed Call	ENGINE 807 B				Stealth Reject
02/24/2012 09:16:21 PM	Failed Call	TK 809 OIC				Audio Interrupt
02/24/2012 09:16:22 PM	PTT	TK 809 OIC	A3 (INC 50)	5.1	No	1375861
02/24/2012 09:16:22 PM	Failed Call	E 809 OIC				Stealth Reject
02/24/2012 09:16:22 PM	Failed Call	TK 801 *5*				Audio Interrupt
02/24/2012 09:16:22 PM	Failed Call	TK 809 *1*				Audio Interrupt
02/24/2012 09:16:22 PM	Failed Call	ENGINE 807 B				Audio Interrupt
02/24/2012 09:16:24 PM	Failed Call	TK 801 *5*				Audio Interrupt
02/24/2012 09:16:25 PM	Failed Call	SQ 801 *6*				Audio Interrupt

02/24/2012 09:16:25 PM	Failed Call	ENGINE 807 B				Audio Interrupt
02/24/2012 09:16:27 PM	PTT	ENGINE 807 B	A3 (INC 50)	5.2	No	1375861
02/24/2012 09:16:28 PM	Failed Call	CHIEF 809 A				Audio Interrupt
02/24/2012 09:16:32 PM	PTT	E 809 OIC	A3 (INC 50)	4.1	No	1375861
02/24/2012 09:16:34 PM	Failed Call	CHIEF 809 A				Audio Interrupt
02/24/2012 09:16:34 PM	Failed Call	E 809 DR				Audio Interrupt
02/24/2012 09:16:35 PM	Failed Call	SQ 801 OIC				Audio Interrupt
02/24/2012 09:16:36 PM	PTT	CHIEF 809 A	A3 (INC 50)	11	No	1375861
02/24/2012 09:16:37 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:16:38 PM	Failed Call	TK 809 OIC				Audio Interrupt
02/24/2012 09:16:41 PM	Failed Call	POL P 3430				Audio Interrupt
02/24/2012 09:16:41 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:16:41 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:16:42 PM	Failed Call	TK 801 *5*				Audio Interrupt
02/24/2012 09:16:45 PM	Failed Call	TK 809 *1*				Audio Interrupt
02/24/2012 09:16:47 PM	PTT	CHIEF 812 A/B F	A3 (INC 50)	2	No	1375861
02/24/2012 09:16:47 PM	Failed Call	ENGINE 801				Audio Interrupt
02/24/2012 09:16:48 PM	Failed Call	E 807 B *4*				Audio Interrupt
02/24/2012 09:16:48 PM	Failed Call	SHF V 0730				Audio Interrupt
02/24/2012 09:16:48 PM	Failed Call	TK 801 OIC				Audio Interrupt
02/24/2012 09:16:49 PM	PTT	TK 801 OIC	A3 (INC 50)	5.7	No	1375861
02/24/2012 09:16:49 PM	Failed Call	ENGINE 801				Audio Interrupt
02/24/2012 09:16:49 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:16:50 PM	Failed Call	ENGINE 801				Audio Interrupt
02/24/2012 09:16:51 PM	Failed Call	ENGINE 801				Audio Interrupt
02/24/2012 09:16:53 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:16:55 PM	PTT	CHIEF 809 A	A3 (INC 50)	6.3	No	1375861
02/24/2012 09:16:56 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:16:58 PM	Failed Call	TK 801 *5*				Audio Interrupt
02/24/2012 09:17:00 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:17:01 PM	PTT	ENGINE 801	A3 (INC 50)	4.7	No	1375861
02/24/2012 09:17:01 PM	Failed Call	E 809 OIC				Stealth Reject
02/24/2012 09:17:02 PM	Failed Call	TK 809 OIC				Audio Interrupt
02/24/2012 09:17:02 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:17:03 PM	Failed Call	TK 809 *2*				Audio Interrupt

02/24/2012 09:17:06 PM	PTT	E 809 OIC	A3 (INC 50)	1	No	1375861
02/24/2012 09:17:06 PM	PTT	TK 809 *2*	A3 (INC 50)	2.2	Yes	1376214
02/24/2012 09:17:07 PM	Failed Call	E 820 B OIC			Audio Interrupt	
02/24/2012 09:17:07 PM	Failed Call	TK 801 *5*			Audio Interrupt	
02/24/2012 09:17:08 PM	PTT	PSCC FED 08	A3 (INC 50)	35.1	Yes	1376214
02/24/2012 09:17:09 PM	Failed Call	TK 809 OIC			Audio Interrupt	
02/24/2012 09:17:14 PM	Failed Call	E 809 OIC			Audio Interrupt	
02/24/2012 09:17:15 PM	Failed Call	E 809 OIC			Audio Interrupt	
02/24/2012 09:17:17 PM	Failed Call	TK 801 OIC			Audio Interrupt	
02/24/2012 09:17:18 PM	Failed Call	E 809 OIC			Audio Interrupt	
02/24/2012 09:17:19 PM	Failed Call	TK 801 OIC			Audio Interrupt	
02/24/2012 09:17:22 PM	Failed Call	CHIEF 809 A			Audio Interrupt	
02/24/2012 09:17:22 PM	Failed Call	TK 801 OIC			Audio Interrupt	
02/24/2012 09:17:23 PM	Failed Call	TK 801 OIC			Audio Interrupt	
02/24/2012 09:17:25 PM	Failed Call	TK 801 OIC			Audio Interrupt	
02/24/2012 09:17:30 PM	Failed Call	CHIEF 809 A			Audio Interrupt	
02/24/2012 09:17:31 PM	Failed Call	E 809 OIC			Audio Interrupt	
02/24/2012 09:17:32 PM	Failed Call	TK 801 OIC			Audio Interrupt	
02/24/2012 09:17:38 PM	Failed Call	TK 809 OIC			Audio Interrupt	
02/24/2012 09:17:41 PM	Failed Call	CHIEF 809 A			Audio Interrupt	
02/24/2012 09:17:43 PM	PTT	TK 809 *1*	A3 (INC 50)	2.7	Yes	1376214
02/24/2012 09:17:45 PM	Failed Call	E 812 *4*			Audio Interrupt	
02/24/2012 09:17:46 PM	PTT	PSCC FED 08	A3 (INC 50)	7.4	Yes	1376214
02/24/2012 09:17:47 PM	Failed Call	TK 809 *3*			Audio Interrupt	
02/24/2012 09:17:53 PM	PTT	PSCC FED 08	A3 (INC 50)	1.4	Yes	1376214
02/24/2012 09:17:55 PM	PTT	CHIEF 809 A	A3 (INC 50)	0.2	Yes	1376214
02/24/2012 09:17:55 PM	PTT	PSCC FED 08	A3 (INC 50)	9.4	Yes	1376214
02/24/2012 09:18:04 PM	PTT	PSCC FED 08	A3 (INC 50)	1.3	Yes	1376214
02/24/2012 09:18:06 PM	PTT	TK 809 OIC	A3 (INC 50)	1.1	Yes	1376214
02/24/2012 09:18:07 PM	PTT	E 809 OIC	A3 (INC 50)	4.1	Yes	1376214
02/24/2012 09:18:09 PM	Failed Call	CHIEF 809			Audio Interrupt	
02/24/2012 09:18:11 PM	PTT	CHIEF 809	A3 (INC 50)	5.8	Yes	1376214
02/24/2012 09:18:12 PM	Failed Call	E 809 OIC			Audio Interrupt	
02/24/2012 09:18:13 PM	Failed Call	CHIEF 809 A			Audio Interrupt	
02/24/2012 09:18:17 PM	PTT	TK 801 *5*	A3 (INC 50)	4.1	Yes	1376214

02/24/2012 09:18:18 PM	Failed Call	CHIEF 809 A				Stealth Reject
02/24/2012 09:18:19 PM	Failed Call	E 807 B OIC				Audio Interrupt
02/24/2012 09:18:20 PM	Failed Call	TK 809 *3*				Audio Interrupt
02/24/2012 09:18:20 PM	Failed Call	E 807 B OIC				Audio Interrupt
02/24/2012 09:18:20 PM	Failed Call	CHIEF 809 A				Audio Interrupt
02/24/2012 09:18:21 PM	PTT	E 807 B OIC	A3 (INC 50)	4.1	Yes	1376214
02/24/2012 09:18:23 PM	Failed Call	CHIEF 809 A				Audio Interrupt
02/24/2012 09:18:25 PM	PTT	E 809 OIC	A3 (INC 50)	1.1	Yes	1376214
02/24/2012 09:18:26 PM	PTT	TK 809 *1*	A3 (INC 50)	11.4	Yes	1376214
02/24/2012 09:18:27 PM	Failed Call	E 807 B OIC				Audio Interrupt
02/24/2012 09:18:27 PM	Failed Call	CHIEF 809 A				Stealth Reject
02/24/2012 09:18:29 PM	Failed Call	E 807 B OIC				Audio Interrupt
02/24/2012 09:18:36 PM	Failed Call	CHIEF 809				Audio Interrupt
02/24/2012 09:18:37 PM	PTT	CHIEF 809 A	A3 (INC 50)	8.9	Yes	1376214
02/24/2012 09:18:46 PM	PTT	PSCC FED 08	A3 (INC 50)	0	Yes	1376214
02/24/2012 09:18:46 PM	PTT	TK 801 *5*	A3 (INC 50)	5.6	Yes	1376214
02/24/2012 09:18:52 PM	PTT	PSCC FED 08	A3 (INC 50)	0.7	Yes	1376214
02/24/2012 09:18:53 PM	PTT	E 807 B OIC	A3 (INC 50)	18.5	Yes	1376214
02/24/2012 09:18:53 PM	Failed Call	E 801 *2*				Audio Interrupt
02/24/2012 09:19:09 PM	Failed Call	TK 801 OIC				Audio Interrupt
02/24/2012 09:19:11 PM	PTT	CHIEF 809 A	A3 (INC 50)	10.5	Yes	1376214
02/24/2012 09:19:22 PM	Failed Call	E 812 *4*				Audio Interrupt
02/24/2012 09:19:22 PM	PTT	CHIEF 809 A	A3 (INC 50)	0.8	Yes	1376214
02/24/2012 09:19:22 PM	PTT	PSCC FED 08	A3 (INC 50)	1.1	Yes	1376214
02/24/2012 09:19:24 PM	PTT	TK 801 OIC	A3 (INC 50)	4.2	Yes	1376214
02/24/2012 09:19:25 PM	Failed Call	E 807 B OIC				Audio Interrupt
02/24/2012 09:19:28 PM	PTT	TK 809 *1*	A3 (INC 50)	5.3	Yes	1376214
02/24/2012 09:19:29 PM	Failed Call	E 807 B *4*				Audio Interrupt
02/24/2012 09:19:33 PM	PTT	CHIEF 809 A	A3 (INC 50)	5.8	Yes	1376214
02/24/2012 09:19:33 PM	Failed Call	E 807 B OIC				Stealth Reject
02/24/2012 09:19:34 PM	Failed Call	E 801 OIC				Stealth Reject
02/24/2012 09:19:34 PM	Failed Call	E 807 B OIC				Audio Interrupt
02/24/2012 09:19:35 PM	Failed Call	E 801 OIC				Audio Interrupt
02/24/2012 09:19:36 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:19:37 PM	Failed Call	CO AMB M30622				Audio Interrupt

02/24/2012 09:19:37 PM	Failed Call	E 807 B OIC				Audio Interrupt
02/24/2012 09:19:38 PM	Failed Call	E 801 OIC				Audio Interrupt
02/24/2012 09:19:38 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:19:39 PM	PTT	CHIEF 809 A	A3 (INC 50)	1.3	Yes	1376214
02/24/2012 09:19:40 PM	PTT	E 809 OIC	A3 (INC 50)	4.3	Yes	1376214
02/24/2012 09:19:41 PM	Failed Call	E 807 B OIC				Stealth Reject
02/24/2012 09:19:41 PM	Failed Call	E 801 OIC				Stealth Reject
02/24/2012 09:19:44 PM	PTT	E 807 B OIC	A3 (INC 50)	3.3	Yes	1376214
02/24/2012 09:19:46 PM	Failed Call	E 801 OIC				Audio Interrupt
02/24/2012 09:19:47 PM	Failed Call	E 801 OIC				Audio Interrupt
02/24/2012 09:19:48 PM	PTT	PSCC FED 08	A3 (INC 50)	4	Yes	1376214
02/24/2012 09:19:48 PM	Failed Call	E 807 B *4*				Audio Interrupt
02/24/2012 09:19:52 PM	PTT	PSCC FED 08	A3 (INC 50)	2.7	Yes	1376214
02/24/2012 09:19:54 PM	PTT	E 801 OIC	A3 (INC 50)	1.7	Yes	1376214
02/24/2012 09:19:55 PM	Failed Call	STP P 9381				Audio Interrupt
02/24/2012 09:19:56 PM	PTT	PSCC FED 08	A3 (INC 50)	1.8	Yes	1376214
02/24/2012 09:19:56 PM	Failed Call	E 828 *1*				Audio Interrupt
02/24/2012 09:19:57 PM	Failed Call	VC 812 A *P*				Audio Interrupt
02/24/2012 09:19:58 PM	PTT	CHIEF 809 A	A3 (INC 50)	3.6	Yes	1376214
02/24/2012 09:20:02 PM	PTT	TK 809 *1*	A3 (INC 50)	1.2	Yes	1376214
02/24/2012 09:20:03 PM	PTT	TK 809 *1*	A3 (INC 50)	0.5	Yes	1376214
02/24/2012 09:20:03 PM	PTT	TW 833 *2*	A3 (INC 50)	1.9	Yes	1376214
02/24/2012 09:20:05 PM	Failed Call	VC 812 A *P*				Audio Interrupt
02/24/2012 09:20:05 PM	PTT	E 801 OIC	A3 (INC 50)	2.2	Yes	1376214
02/24/2012 09:20:07 PM	PTT	DC 800 A *P*	A3 (INC 50)	4.1	Yes	1376214
02/24/2012 09:20:11 PM	PTT	CHIEF 809 A	A3 (INC 50)	6.7	Yes	1376214
02/24/2012 09:20:14 PM	Failed Call	DC 800 A *P*				Audio Interrupt
02/24/2012 09:20:15 PM	Failed Call	DC 800 A *P*				Audio Interrupt
02/24/2012 09:20:15 PM	Failed Call	VC 812 A *P*				Audio Interrupt
02/24/2012 09:20:16 PM	Failed Call	DC 800 A *P*				Audio Interrupt
02/24/2012 09:20:17 PM	Failed Call	E 812 *4*				Audio Interrupt
02/24/2012 09:20:18 PM	PTT	E 809 OIC	A3 (INC 50)	6.2	Yes	1376214
02/24/2012 09:20:18 PM	Failed Call	DC 800 A *P*				Stealth Reject
02/24/2012 09:20:19 PM	Failed Call	VC 812 A *P*				Stealth Reject
02/24/2012 09:20:20 PM	Failed Call	E 828 *2*				Audio Interrupt

02/24/2012 09:20:21 PM	Failed Call	TK 809 OIC				Audio Interrupt
02/24/2012 09:20:24 PM	PTT	E 801 OIC	A3 (INC 50)	6.9	Yes	1376214
02/24/2012 09:20:24 PM	Failed Call	DC 800 A *P*				Stealth Reject
02/24/2012 09:20:26 PM	Failed Call	DC 800 A *P*				Audio Interrupt
02/24/2012 09:20:31 PM	PTT	DC 800 A *P*	A3 (INC 50)	12.8	Yes	1376214
02/24/2012 09:20:31 PM	Failed Call	VC 812 A *P*				Stealth Reject
02/24/2012 09:20:37 PM	Failed Call	POL V 5457				Audio Interrupt
02/24/2012 09:20:40 PM	Failed Call	MSP CS L Base				Audio Interrupt
02/24/2012 09:20:44 PM	PTT	E 809 OIC	A3 (INC 50)	7	Yes	1376214
02/24/2012 09:20:44 PM	Failed Call	TRUCK 828				Stealth Reject
02/24/2012 09:20:45 PM	Failed Call	VC 855 B *P*				Stealth Reject
02/24/2012 09:20:45 PM	Failed Call	VC 812 A *P*				Audio Interrupt
02/24/2012 09:20:47 PM	Failed Call	E 812 DR				Audio Interrupt
02/24/2012 09:20:49 PM	Failed Call	E 807 B OIC				Audio Interrupt
02/24/2012 09:20:51 PM	PTT	E 812 DR	A3 (INC 50)	3.8	Yes	1376214
02/24/2012 09:20:51 PM	Failed Call	E 801 OIC				Stealth Reject
02/24/2012 09:20:54 PM	Failed Call	VC 812 A *P*				Audio Interrupt
02/24/2012 09:20:55 PM	PTT	NORTH DIV CMDR	A3 (INC 50)	2.7	Yes	1376214
02/24/2012 09:20:58 PM	PTT	PSCC FED 08	A3 (INC 50)	1.8	Yes	1376214
02/24/2012 09:20:59 PM	PTT	NORTH DIV CMDR	A3 (INC 50)	5.8	Yes	1376214
02/24/2012 09:21:01 PM	Failed Call	POL V 5045				Audio Interrupt
02/24/2012 09:21:05 PM	PTT	PSCC FED 08	A3 (INC 50)	10.8	Yes	1376214
02/24/2012 09:21:16 PM	PTT	NORTH DIV CMDR	A3 (INC 50)	2.6	Yes	1376214
02/24/2012 09:21:19 PM	PTT	NORTH DIV CMDR	A3 (INC 50)	1.6	Yes	1376214
02/24/2012 09:21:20 PM	PTT	VC 809 *P*	A3 (INC 50)	3.4	Yes	1376214
02/24/2012 09:21:21 PM	Failed Call	E 801 *3*				Stealth Reject
02/24/2012 09:21:24 PM	PTT	E 812 *4*	A3 (INC 50)	1.1	Yes	1376214
02/24/2012 09:21:25 PM	PTT	VC 809 *P*	A3 (INC 50)	9.4	Yes	1376214
02/24/2012 09:21:26 PM	Failed Call	CHIEF 809 A				Audio Interrupt
02/24/2012 09:21:28 PM	Failed Call	E 801 *3*				Audio Interrupt
02/24/2012 09:21:33 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:21:34 PM	Failed Call	E 801 OIC				Audio Interrupt
02/24/2012 09:21:34 PM	PTT	PSCC FED 08	A3 (INC 50)	8.6	Yes	1376214
02/24/2012 09:21:36 PM	Failed Call	E 812 *4*				Audio Interrupt
02/24/2012 09:21:37 PM	Failed Call	E 812 *4*				Audio Interrupt

02/24/2012 09:21:43 PM	PTT	PSCC FED 08	A3 (INC 50)	1.6	Yes	1376214
02/24/2012 09:21:44 PM	PTT	E 809 OIC	A3 (INC 50)	6.4	Yes	1376214
02/24/2012 09:21:49 PM	Failed Call	E 801 *3*				Audio Interrupt
02/24/2012 09:21:49 PM	Failed Call	VC 809 *P*				Audio Interrupt
02/24/2012 09:21:50 PM	Failed Call	VC 809 *P*				Audio Interrupt
02/24/2012 09:21:51 PM	PTT	PSCC FED 08	A3 (INC 50)	6.9	Yes	1376214
02/24/2012 09:21:52 PM	Failed Call	CHIEF 809 A				Audio Interrupt
02/24/2012 09:21:53 PM	Failed Call	VC 809 *P*				Audio Interrupt
02/24/2012 09:21:56 PM	Failed Call	CHIEF 809 A				Audio Interrupt
02/24/2012 09:21:58 PM	PTT	E 809 OIC	A3 (INC 50)	3.5	Yes	1376214
02/24/2012 09:21:58 PM	Failed Call	VC 812 A *P*				Stealth Reject
02/24/2012 09:21:58 PM	Failed Call	CHIEF 809 A				Stealth Reject
02/24/2012 09:21:59 PM	Failed Call	POL P 3379				Audio Interrupt
02/24/2012 09:22:00 PM	Failed Call	TK 801 *5*				Audio Interrupt
02/24/2012 09:22:01 PM	PTT	E 809 OIC	A3 (INC 50)	0.5	Yes	1376214
02/24/2012 09:22:02 PM	PTT	SQ 801 *5*	A3 (INC 50)	9.2	Yes	1376214
02/24/2012 09:22:04 PM	Failed Call	VC 809 *P*				TG Request on Regrouped TG
02/24/2012 09:22:11 PM	PTT	PSCC FED 08	A3 (INC 50)	9.9	Yes	1376214
02/24/2012 09:22:21 PM	PTT	E 812 *4*	A3 (INC 50)	0.6	Yes	1376214
02/24/2012 09:22:21 PM	PTT	E 812 *4*	A3 (INC 50)	0.1	Yes	1376214
02/24/2012 09:22:21 PM	PTT	E 812 *4*	A3 (INC 50)	10.1	Yes	1376214
02/24/2012 09:22:31 PM	PTT	PSCC FED 08	A3 (INC 50)	0.9	Yes	1376214
02/24/2012 09:22:32 PM	PTT	CHIEF 809 A	A3 (INC 50)	11.6	Yes	1376214
02/24/2012 09:22:37 PM	Failed Call	NORTH DIV CMDR				Audio Interrupt
02/24/2012 09:22:38 PM	Failed Call	NORTH DIV CMDR				Audio Interrupt
02/24/2012 09:22:39 PM	Failed Call	NORTH DIV CMDR				Audio Interrupt
02/24/2012 09:22:40 PM	Failed Call	NORTH DIV CMDR				Audio Interrupt
02/24/2012 09:22:41 PM	Failed Call	POL V 5035				Audio Interrupt
02/24/2012 09:22:44 PM	PTT	PSCC FED 08	A3 (INC 50)	1	Yes	1376214
02/24/2012 09:22:45 PM	PTT	PSCC FED 08	A3 (INC 50)	1.4	Yes	1376214
02/24/2012 09:22:46 PM	PTT	NORTH DIV CMDR	A3 (INC 50)	1.8	Yes	1376214
02/24/2012 09:22:48 PM	PTT	PSCC FED 08	A3 (INC 50)	0.2	Yes	1376214
02/24/2012 09:22:48 PM	PTT	PSCC FED 08	A3 (INC 50)	4.8	Yes	1376214
02/24/2012 09:22:53 PM	PTT	CHIEF 809 A	A3 (INC 50)	5.3	Yes	1376214
02/24/2012 09:22:58 PM	PTT	CHIEF 809 A	A3 (INC 50)	0.5	Yes	1376214

Appendix 4

02/24/2012 09:22:59 PM	PTT	PSCC FED 08	A3 (INC 50)	4.8	Yes	1376214
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PSC Recording Transcript – Talk Group 8 Alpha 4

Elapsed Time	Actual Time	Unit	Message
	21:21:00		Start
00:00.0	21:21:00	VC855B	"Chief 8-55-B"
00:00.0	21:21:00	FED	"Ambulance 8-5-5, status enroute"
00:03.0	21:21:03	FED	"medic 8-30 status enroute"
00:10.0	21:21:10	FED	"engine 8-55 status enroute"
00:22.0	21:21:22	FED	"engine 8-5-5 status enroute"
01:37.0	21:22:37	FED	"engine or ambulance 8-5-5 on alpha 4"
02:08.0	21:23:08	FED	"engine 8-5-5 status enroute"
02:14.0	21:23:14	A801	"Ambulance 8-0-1, engine 8-55 is responding in front of me"
02:19.0	21:23:19	FED	"okay, ambulance 8-5-5, you're dedicated to the EMS taskforce, acknowledge"
02:28.0	21:23:28	A801	"This is ambulance 8-0-1, engine 8-55 is ahead of me, am I dedicated to the EMS taskforce as well?"
02:35.0	21:23:35	FED	"engine 8-5-5 is part of the fire taskforce, ambulance 8-5-5 is part of the... EMS taskforce"
02:48.0	21:23:48	E855	"engine 8-5-5 to communications, we're staging at Kenilworth and Riverdale correct?"
02:53.0	21:23:53	FED	"that's correct"
02:56.0	21:23:56	E828	"Engine 8-28, I'm staging as well"
02:59.0	21:23:59	?	(inaudible male voice)
03:05.0	21:24:05	TK812	"truck 8-12 staging as well"
03:07.0	21:24:07	FED	"truck 8-12"
03:33.0	21:24:33	VC809A	"command to communications, do you have a second medic unit on the uh... ems taskforce? I need them to the scene"
03:41.0	21:24:41	FED	"yeah, okay, medic 8-30, medic 8-30, alpha 3 and report to the scene. Medic 8-3-0?"

03:49.0	21:24:49	VC809A	"command to communications A3 is tied up with the E.I. Need everyone on A-4 and you're gonna' have to make a notification on A3, I can't get through"
03:58.0	21:24:58	FED	"okay"
04:00.0	21:25:00	VC809A	"also have the first engine and first special uhh, special service on the taskforce report to side A for rapid intervention. I got squad 1 operating on the inside now"
04:14.0	21:25:14	FED	"engine 8-5-5, truck 8-12, engine 8-5-5, truck 8-12, side A rapid intervention. Engine 8-5-5?"
04:25.0	21:25:25	E855	"copy"
04:27.0	21:25:27	FED	"truck 8-12 acknowledge"
04:32.0	21:25:32	TK812	"copy"
04:35.0	21:25:35	FED	"truck 8-28 this channel?"
04:38.0	21:25:38	TK828	"that's correct"
04:40.0	21:25:40	FED	"alright, you're not due on this assignment, you can take the transfer to station 13. acknowledge and go to Talk Group 1"
04:47.0	21:25:47	TK828	"copy"
04:59.0	21:25:59	?	(half second of inaudible open mic)
05:17.0	21:26:17	MD830	"medic 8-30 to communications"
05:20.0	21:26:20	FED	"medic 8-30 you can remain on this channel and report to side alpha for injured firefighters, acknowledge"
05:30.0	21:26:30	FED	"Ambulance 8-5-5 to the scene. Ambulance 8-5-5?"
05:38.0	21:26:38	A855	"ambulance 8-55"
05:42.0	21:26:42	FED	"okay I need you to go to the scene for injured firefighters"
05:50.0	21:26:50	A855	"direct"
05:57.0	21:26:57	FED	"communications to command on alpha 4"
05:58.0	21:26:58	TK809	"truck 8-0-9 to command, want the roof opened up?"
06:12.0	21:27:12	VC855B	"chief 8-55-B staging"

06:17.0	21:27:17	FED	"chief 8-55-B, I'll put you on the assignment. Also engine 8-5-5, truck 8-12, they're going to side alpha as your RIC team and ambulance 8-5-5, medic 8-30 are also enroute. Your additional medic units if you can relay to command are paramedic engine 8-30, medic 8-44... the engine from 30 is going to be ALS"
07:26.0	21:28:26	?	(inaudible muffled 3 or 4 syllables)
07:36.0	21:28:36	RS801	"rescue squad 1 go ahead" (muffled behind SCBA)
07:45.0	21:28:45	NSO	"northern safety officer's on scene"
07:59.0	21:28:59	DC800	"communications to rescue squad 8-0-1 on 4"
08:10.0	21:29:10	FED	"command, they're back on alpha 3. they keep bouncing back and forth"
08:56.0	21:29:56	?	"8-0-7"
08:59.0	21:29:59	FED	"8-0-7, alpha 3 now, alpha 3"
09:21.0	21:30:21	FED	START TONE
09:24.0	21:30:24	FED	END TONE
09:25.0	21:30:25	FED	"all units involved in firefighting operations, alpha 3. all units involved in firefighting operations, 8 alpha 3"
10:41.0	21:31:41	PE830	"paramedic engine 8-30 to communications, do we have a staging location for the taskforce and am I on the fire or the EMS taskforce?"
10:47.0	21:31:47	FED	"you're part of the EMS taskforce and you are to go to the scene. They have uh..4 downed firefighters"
10:53.0	21:31:53	PE830	"okay"
10:55.0	21:31:55	FED	"medic 8-44, medic 8-44, likewise, you are to go to the scene for the downed firefighters"
11:02.0	21:32:02	MD844	"we copy"
12:05.0	21:33:05	FED	"communications to chief 8-55-b"
12:08.0	21:33:08	VC855B	"go ahead communications"
12:11.0	21:33:11	FED	"Okay, are you at the command post...by any chance?"
12:15.0	21:33:15	VC855B	"that's negative. I'm in...I'm in the staging area right now at, ah... Rittenhouse and Kenilworth"

12:21.0	21:33:21	FED	"okay, I'm gonna' start you an engine, the eagle is on the way and I'm just going to have them land at Riverdale and Kenilworth in the uh.. Shopping center parking lot... for right now"
12:33.0	21:33:33	VC855b	"ahh...actually, if you want to put them closer, why don't you put them at the... in the parking lot of the ahh... the Advanced Autoparts which is right at Rittenhouse and Kenilworth"
12:44.0	21:33:44	FED	"okay"
12:49.0	21:33:49	VC855B	"also, I do have uh... engine 8-28 right here in the staging area. I can use them for the landing zone if you want"
12:57.0	21:33:57	FED	"okay, that will work and we can back fill staging"
13:08.0	21:34:08	FED	"okay, and you can switch to alpha 3 now"
15:02.0	21:36:02	FED	"communications to EMS duty officer"
15:08.0	21:36:08	EMSDO	"EMS duty officer"
15:12.0	21:36:12	?	(inaudible male voice)
15:18.0	21:36:18	EMSDO	"...command enroute, ETA should be less than 7 minutes"
16:57.0	21:37:57	FED	"communications to the EMS duty officer"
17:07.0	21:38:07	EMSDO	"EMS duty officer"
17:10.0	21:38:10	FED	"EMS duty officer channel 4"
17:24.0	21:38:24	FED	"communications to the EMS duty officer, you copy command calling you?"
17:29.0	21:38:29	EMSDO	"EMS duty officer"
17:38.0	21:38:38	NSO	"northern safety officer to EMS duty officer, channel 4"
17:49.0	21:38:49	FED	"communications to EMS duty officer, you co..., you copy the northern safety officer?"
17:56.0	21:38:56	SOC	"Southern operations commander to the EMS duty officer"
18:08.0	21:39:08	SOC	"southern operations commander to communications"
18:12.0	21:39:12	FED	"southern operations commander"
18:15.0	21:39:15	SOC	"I'm on the scene of Riverdale, duty chief was asking me to get a total number of firefighters transported. Ahh... I'm assuming they're all going to the burn center."
18:25.0	21:39:25	FED	"just a second... communications to the EMS duty officer"

18:37.0	21:39:37	VC807	"northern division commander this is chief 8-0-7, when you get a chance can you give me an update or should I just go to Medstar"
18:48.0	21:39:48	NDC	"Go to Medstar, Communications... ah... when you get that number I'll be waiting for it, we're trying to ah...get the PAR straightened out, make sure we don't have anybody else missing
18:58.0	21:39:58	FED	"communications copy"
19:05.0	21:40:05	EMSDO	"EMS duty officer"
19:09.0	21:40:09	FED	"EMS duty officer, they need a number of the firefighters injured and how many are being flown"
19:16.0	21:40:16	FED	"Command is requesting the number of injured firefighters, how many are being flown and where they are going"
19:24.0	21:40:24	EMSDO	"oka.."
19:25.0	21:40:25	?	open mic electronic garble
19:29.0	21:40:29	?	"Seargeant Harper Lee with Chief 7... <i>(inaudible)</i> "
19:35.0	21:40:35	FED	"copy you're 5 minutes out. Communications to the taskforce commander"
20:11.0	21:41:11	FED	"communications to chief 8-55-b"
20:14.0	21:41:14	VC855B	"go ahead communications"
20:17.0	21:41:17	FED	"did you copy commands request? They need a number of injured firefighters, how many are being flown, and where they're going"
20:25.0	21:41:25	?	open mic electronic garble
20:28.0	21:41:28	DC800	"can I get back to you on the total number of firefighters that we have injured"
20:33.0	21:41:33	VC855B	"okay, yeah, I just ahh... I copied them on alpha 3 and they're gonna get a total here in a minute. Umm.. Who's my lan... the unit coming for the landing zone? I don't believe that the crew from engine 8-28 are with the piece. They may be already committed to the scene"
21:02.0	21:42:02	A812	"ambulance 8-12, we're at 58th and Rittenhouse, would you like us to take that patient with ambulance 8-0-7?"
21:16.0	21:42:16	VC855B	8-55-B, is that ambulance 8-12?"
21:21.0	21:42:21	A812	"that's correct"
21:24.0	21:42:24	VC855B	"yeah, that's correct, go over to ambulance 8-0-7 and rendezvous with them if you can get out cause they're uh...they're uh blocked in"

21:32.0	21:42:32	A812	"ah..right, we're on our way"
21:35.0	21:42:35	A801	"ambulance 8-0-1 to EMS command"
21:50.0	21:42:50	A801	"ok, ambulance 8-0-1 to EMS command"
21:56.0	21:42:56	?	open mic electronic garble
22:04.0	21:43:04	A807	"ambulance 8-0-7 to command"
22:12.0	21:43:12	FED	"communications to ambulance 8-11"
22:15.0	21:43:15	VC807	"Tony, call me on my cell phone"
22:25.0	21:43:25	FED	"communications to ambulance 8-11"
23:23.0	21:44:23	SOC	"southern operations commander to EMS duty officer, come in"
23:30.0	21:44:30	EMSDO	"EMS duty officer"
23:33.0	21:44:33	SOC	"we're trying to get the PAR straight, I think we have 4 from station 7 that were transported, and 2 from station 9, and you have chief 12-a who's burned and working his way to you. Does that account for everybody that you have?"
23:53.0	21:44:53	?	(female voice)"ummm... standby, I can try an..."
24:20.0	21:45:20	FED	"communications to chief 8-55-B"
24:24.0	21:45:24	VC855B	"go ahead communications"
24:26.0	21:45:26	FED	"ahh... Landline with Syscom now, they're advising the Eagle is overhead, do you have visual?"
24:31.0	21:45:31	VC855B	"umm...I do ha... I can hear 'em. Ahh.. I got engine 8-28...ummm... taking care of the landing zone now...over at the...ahhh... Advanced Autoparts parking lot"
24:44.0	21:45:44	FED	"copy by the Advanced Autoparts parking lot"
24:52.0	21:45:52	FED	"okay,chief 8-55-B, if you're gonna' need a second uh... helicopter...uhh... let us know, they advised trooper 3 has a, about 20 minute ETA if you need them"
25:03.0	21:46:03	VC855B	"I'm okay"
25:32.0	21:46:32	FED	"okay, chief 855B, they're advising ca.. They don't have any alpha channels..umm.. They can pick up charlie 3, but they don't have any alpha channels"
25:40.0	21:46:40	FED	"and also if you have 28 shine a spot light"
25:59.0	21:46:59	VC855B	"55-B to communications, you can go ahead and cancel Trooper 3"

26:12.0	21:47:12	FED	"ok, I copy negative, you do not need trooper 3 and I just confirm umm... they advise they can't... they don't have radio contact with you. Are you confirming that they are landing at the parking lot?"
26:24.0	21:47:24	VC855B	"advise we will not need trooper 3"
26:30.0	21:47:30	?	(female voice 1 syllable inaudible)
26:37.0	21:47:37	FED	"copy that"
26:41.0	21:47:41	DC800	"command to the EMS supervisor"
26:50.0	21:47:50	?	"go ahead" (female voice nearly inaudible)
26:51.0	21:47:51	EMSDO	"EMS duty officer..."
26:56.0	21:47:56	DC800	"ok, you're aware we turned Trooper 3 around correct?"
27:13.0	21:48:13	?	open mic electronic garble
27:18.0	21:48:18	EMSDO	"EMS duty officer..."
27:23.0	21:48:23	DC800	"okay... you are aware we turned trooper 3 around correct?"
27:30.0	21:48:30	EMSDO	"Im just pulling up on the scene. I'm just uhh...getting into position right, going to command"
27:38.0	21:48:38	DC800	"okay"
27:40.0	21:48:40	DC800	"command to the unit at the L-Z with uhh... Eagle 2"
27:45.0	21:48:45	VC855B	"8-55-B, go ahead"
27:49.0	21:48:49	DC800	"which unit do you have there with you?"
27:52.0	21:48:52	VC855B	"right now I have engine 8-28 with the landing zone. I do believe I just have ahh...it looks like ambulance 8-11 just pulled up... as well."
28:04.0	21:49:04	DC800	"ok"
28:10.0	21:49:10	E828	"engine 8-28 to whatever officer is running this L-Z, I got cars and foot traffic coming out of these stores here. someone can give me a hand so we can get this bird down . I don't have any way to contact them to let them know there's wires running right down the center of this parking lot... splits it"
28:30.0	21:49:30	FED	"communications to command"
28:33.0	21:49:33	?	open mic electronic garble
28:49.0	21:49:49	VC855B	"command to communications"
28:52.0	21:49:52	FED	"command go ahead"

28:55.0	21:49:55	VC855B	"uh..yeah.. See if you can get ahold of the Eagle and let them know that umm..that this parking lot may not be a good area. We got, ah.. Wires looks like its running down the middle of the lot itself...and if you could give me an additional unit to assist with umm...the foot traffic in this parking lot.. if they determine they can land here, we may need an additional units to assist with uhh.. the landing zone. "
29:21.0	21:50:21	FED	"command, I'm landline with Syscom now, the message is delivered, do not land in the parking lot, wires running down the middle of the parking lot. Uh... can you advise an alternate L-Z?"
29:30.0	21:50:30	VC855B	"standby...we'll uh... let me see if we can figure one out"
29:49.0	21:50:49	A811	"ambulance 8-11"
30:24.0	21:51:24	FED	"communications to engine 8-2-8"
30:26.0	21:51:26	E828	"go"
30:28.0	21:51:28	FED	"ah.. You're at the landing site, correct?"
30:31.0	21:51:31	E828	"correct, I went store to store stopped the foot traffic I believe for now... They can set it down here, but they have to put it in the area of advanced auto. There's uh... 2 light posts and wires running between them from a bar heading towards Kenilworth Avenue. There's enough room for the bird but they gotta put it right there. we have a guy in the middle with a flashlight showing them where they can set it."
30:56.0	21:51:56	FED	"okay , they advised they do not have any of the alpha channels, advised they do have charlie channels..uh.. If we could try..uhh.. 8 charlie 3. See if you can get them on that"
31:10.0	21:52:10	E828	"ok. We're walking where the wires are right now. What charlie channel can they go to? I didn't hear you, Iwas talking to an investigator"
31:18.0	21:52:18	FED	"I'm advising them to try 8 charlie 3."
31:22.0	21:52:22	E828	"ok, it's Eagle 1?"
34:48.0	21:55:48	FED	"Communications to chief 8-55-B"
34:51.0	21:55:51	VC855B	"go ahead"
34:52.0	21:55:52	FED	"uh.. Can you confirm that the Eagle is on the ground..uh..."

34:56.0	21:55:56	VC855B	"okay, yeah, he's..uh...he's making an attempt right now... also umm...if you could put a call in to the County P.D. We're gonna' need more police down in this intersection... and to uh... to help with the uh...the parking lot as well once the Eagle is on the ground"
35:13.0	21:56:13	FED	"I copy, need County police, additional County police for the uh...block the parking lot for traffic and if you can let me know uh...when they're on the ground I'm on the phone now with Syscom I can coordinate
35:31.0	21:56:31	FMBC	"F.M. battalion chief to communications"
35:34.0	21:56:34	FED	"F.M. battalion chief"
35:37.0	21:56:37	FMBC	"I'm at the landing site. They're on the ground"
35:41.0	21:56:41	FED	"copy, helicopter is on the ground"
36:47.0	21:57:47	FED	"communications to chief 8-55-B"
36:52.0	21:57:52	VC855B	"go ahead communications"
36:54.0	21:57:54	FED	"uh.. Medic 8-30's status...ah...transport...ah.. Didn't advise where , do you know which hospital, what the transport info is?"
37:02.0	21:58:02	VC855B	"ah.. That's negative. I just saw 'em pass me. They were coming off of Rittenhouse... I do believe they are probably headed towards Medstar"
37:12.0	21:58:12	FED	"okay, I'll see if I can get them...uhh... Communications to medic 8-30"
			end recording at 21:58:00

Radio System Activity A4

Time	Type	Unit	TG	Duration	E.I.	Description
02/24/2012 09:10:09 PM	Site Affiliation	CHIEF 845 B				
02/24/2012 09:11:08 PM	Failed Call	BO 885 *P*				Audio Interrupt
02/24/2012 09:11:35 PM	Site Affiliation	POL P 2773				
02/24/2012 09:11:40 PM	Group Affiliation	VC 809 *P*	A4 (INC 51)			
02/24/2012 09:11:44 PM	Site Affiliation	SZ\$DEF				
02/24/2012 09:11:45 PM	Site Affiliation	BFRO STAFF *4*				
02/24/2012 09:11:51 PM	Site Affiliation	MNC P 338				
02/24/2012 09:12:06 PM	Site Affiliation	VC 827 *P*				
02/24/2012 09:12:08 PM	Site Affiliation	FM 1503 *P*				
02/24/2012 09:12:09 PM	Site Affiliation	VC 832 *P*				
02/24/2012 09:12:15 PM	Group Affiliation	TK 809 *2*	A4 (INC 51)			
02/24/2012 09:12:18 PM	Site Affiliation	FM 1515 *P*				
02/24/2012 09:12:25 PM	Site Affiliation	A 826 DR				
02/24/2012 09:12:50 PM	Site Affiliation	DC FD 1100748				
02/24/2012 09:12:54 PM	Site Affiliation	SQ 827 *2*				
02/24/2012 09:13:00 PM	Site Affiliation	EMS DO *P*				
02/24/2012 09:13:08 PM	Site Affiliation	TK 825 OIC				
02/24/2012 09:13:18 PM	Failed Call	POL V 4559				Audio Interrupt
02/24/2012 09:13:20 PM	Failed Call	TRUCK 828				Audio Interrupt
02/24/2012 09:13:30 PM	Site Affiliation	DC FD 1100421				
02/24/2012 09:13:39 PM	Failed Call	SQ 801 *6*				Audio Interrupt
02/24/2012 09:13:42 PM	Site Affiliation	CHIEF 837				
02/24/2012 09:13:42 PM	Failed Call	TK 809 *2*				Audio Interrupt
02/24/2012 09:13:47 PM	Site Affiliation	FM 1503 *P*				
02/24/2012 09:14:07 PM	Site Affiliation	MO FD 2500321				
02/24/2012 09:14:14 PM	Failed Call	E 807 B *4*				Audio Interrupt
02/24/2012 09:14:18 PM	Failed Call	ENGINE 807 B				Stealth Reject
02/24/2012 09:14:20 PM	Failed Call	ENGINE 807 B				Audio Interrupt
02/24/2012 09:14:20 PM	Failed Call	CHIEF 812 F				Audio Interrupt
02/24/2012 09:14:24 PM	Failed Call	ID\$2530379				Requestor Not Affiliated to TG
02/24/2012 09:14:25 PM	Failed Call	SQ 801 *6*				Audio Interrupt
02/24/2012 09:14:26 PM	Site Affiliation	MO FD 2501790				

02/24/2012 09:14:30 PM	Site Affiliation	MNC P 338			
02/24/2012 09:14:38 PM	Failed Call	VC 810 A *P*			Audio Interrupt
02/24/2012 09:14:42 PM	Site Affiliation	E 845 OIC			
02/24/2012 09:14:46 PM	Failed Call	VC 810 A *P*			Audio Interrupt
02/24/2012 09:14:49 PM	Failed Call	E 807 B *4*			Audio Interrupt
02/24/2012 09:14:50 PM	Failed Call	E 809 *2*			Audio Interrupt
02/24/2012 09:14:50 PM	Failed Call	VC 809 *P*			Audio Interrupt
02/24/2012 09:14:51 PM	Failed Call	E 809 *2*			Audio Interrupt
02/24/2012 09:14:52 PM	Site Affiliation	E 845 OIC			
02/24/2012 09:14:55 PM	Failed Call	POL V 5385			Audio Interrupt
02/24/2012 09:14:56 PM	Failed Call	POL V 5385			Audio Interrupt
02/24/2012 09:14:58 PM	Failed Call	OEM P CSU 890			Audio Interrupt
02/24/2012 09:15:06 PM	Site Affiliation	MNC V P076			
02/24/2012 09:15:13 PM	Site Affiliation	FM 1503 *P*			
02/24/2012 09:15:16 PM	Failed Call	E 809 OIC			Audio Interrupt
02/24/2012 09:15:32 PM	Failed Call	RESCUE SQ 801			Audio Interrupt
02/24/2012 09:15:41 PM	Failed Call	POL V 5443			Audio Interrupt
02/24/2012 09:15:46 PM	Failed Call	CHIEF 809 A			Stealth Reject
02/24/2012 09:15:48 PM	Failed Call	SQ 801 OIC			Audio Interrupt
02/24/2012 09:15:49 PM	Failed Call	CHIEF 812 F			Audio Interrupt
02/24/2012 09:15:51 PM	Failed Call	E 809 *2*			Stealth Reject
02/24/2012 09:15:52 PM	Failed Call	CHIEF 812 F			Audio Interrupt
02/24/2012 09:15:59 PM	Site Affiliation	MNC P 357			
02/24/2012 09:16:05 PM	Failed Call	TK 809 *1*			Audio Interrupt
02/24/2012 09:16:12 PM	Site Affiliation	AX FD 3104190			
02/24/2012 09:16:13 PM	Failed Call	CHIEF 809 A			Audio Interrupt
02/24/2012 09:16:17 PM	Failed Call	E 809 DR			Audio Interrupt
02/24/2012 09:16:17 PM	Failed Call	ENGINE 807 B			Audio Interrupt
02/24/2012 09:16:20 PM	Failed Call	ENGINE 807 B			Stealth Reject
02/24/2012 09:16:21 PM	Failed Call	TK 809 OIC			Audio Interrupt
02/24/2012 09:16:22 PM	Failed Call	E 809 OIC			Stealth Reject
02/24/2012 09:16:22 PM	Failed Call	TK 801 *5*			Audio Interrupt
02/24/2012 09:16:22 PM	Failed Call	TK 809 *1*			Audio Interrupt
02/24/2012 09:16:22 PM	Failed Call	ENGINE 807 B			Audio Interrupt
02/24/2012 09:16:24 PM	Failed Call	TK 801 *5*			Audio Interrupt

02/24/2012 09:16:25 PM	Failed Call	SQ 801 *6*				Audio Interrupt
02/24/2012 09:16:25 PM	Failed Call	ENGINE 807 B				Audio Interrupt
02/24/2012 09:16:28 PM	Failed Call	CHIEF 809 A				Audio Interrupt
02/24/2012 09:16:34 PM	Failed Call	CHIEF 809 A				Audio Interrupt
02/24/2012 09:16:34 PM	Failed Call	E 809 DR				Audio Interrupt
02/24/2012 09:16:35 PM	Failed Call	SQ 801 OIC				Audio Interrupt
02/24/2012 09:16:35 PM	Site Affiliation	VC 846 B *P*				
02/24/2012 09:16:37 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:16:38 PM	Failed Call	TK 809 OIC				Audio Interrupt
02/24/2012 09:16:41 PM	Failed Call	POL P 3430				Audio Interrupt
02/24/2012 09:16:41 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:16:41 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:16:42 PM	Failed Call	TK 801 *5*				Audio Interrupt
02/24/2012 09:16:45 PM	Failed Call	TK 809 *1*				Audio Interrupt
02/24/2012 09:16:47 PM	Failed Call	ENGINE 801				Audio Interrupt
02/24/2012 09:16:48 PM	Failed Call	E 807 B *4*				Audio Interrupt
02/24/2012 09:16:48 PM	Failed Call	SHF V 0730				Audio Interrupt
02/24/2012 09:16:48 PM	Failed Call	TK 801 OIC				Audio Interrupt
02/24/2012 09:16:49 PM	Failed Call	ENGINE 801				Audio Interrupt
02/24/2012 09:16:49 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:16:50 PM	Failed Call	ENGINE 801				Audio Interrupt
02/24/2012 09:16:51 PM	Failed Call	ENGINE 801				Audio Interrupt
02/24/2012 09:16:53 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:16:55 PM	Site Affiliation	MO FD 2501790				
02/24/2012 09:16:56 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:16:58 PM	Failed Call	TK 801 *5*				Audio Interrupt
02/24/2012 09:17:00 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:17:01 PM	Failed Call	E 809 OIC				Stealth Reject
02/24/2012 09:17:02 PM	Failed Call	TK 809 OIC				Audio Interrupt
02/24/2012 09:17:02 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:17:03 PM	Failed Call	TK 809 *2*				Audio Interrupt
02/24/2012 09:17:07 PM	Failed Call	E 820 B OIC				Audio Interrupt
02/24/2012 09:17:07 PM	Site Affiliation	FM 1503 *P*				
02/24/2012 09:17:07 PM	Failed Call	TK 801 *5*				Audio Interrupt
02/24/2012 09:17:09 PM	Failed Call	TK 809 OIC				Audio Interrupt

02/24/2012 09:17:14 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:17:15 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:17:17 PM	Failed Call	TK 801 OIC				Audio Interrupt
02/24/2012 09:17:18 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:17:19 PM	Failed Call	TK 801 OIC				Audio Interrupt
02/24/2012 09:17:22 PM	Failed Call	CHIEF 809 A				Audio Interrupt
02/24/2012 09:17:22 PM	Failed Call	TK 801 OIC				Audio Interrupt
02/24/2012 09:17:23 PM	Failed Call	TK 801 OIC				Audio Interrupt
02/24/2012 09:17:25 PM	Failed Call	TK 801 OIC				Audio Interrupt
02/24/2012 09:17:30 PM	Failed Call	CHIEF 809 A				Audio Interrupt
02/24/2012 09:17:31 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:17:32 PM	Failed Call	TK 801 OIC				Audio Interrupt
02/24/2012 09:17:38 PM	Failed Call	TK 809 OIC				Audio Interrupt
02/24/2012 09:17:41 PM	Failed Call	CHIEF 809 A				Audio Interrupt
02/24/2012 09:17:45 PM	Failed Call	E 812 *4*				Audio Interrupt
02/24/2012 09:17:47 PM	Failed Call	TK 809 *3*				Audio Interrupt
02/24/2012 09:17:48 PM	Site Affiliation	MO FD 2501232				
02/24/2012 09:17:58 PM	Group Affiliation	E 801 DR	A4 (INC 51)			
02/24/2012 09:18:09 PM	Failed Call	CHIEF 809				Audio Interrupt
02/24/2012 09:18:09 PM	Site Affiliation	MO FD 2501790				
02/24/2012 09:18:10 PM	Site Affiliation	MO FD 2501232				
02/24/2012 09:18:12 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:18:13 PM	Failed Call	CHIEF 809 A				Audio Interrupt
02/24/2012 09:18:18 PM	Failed Call	CHIEF 809 A				Stealth Reject
02/24/2012 09:18:19 PM	Failed Call	E 807 B OIC				Audio Interrupt
02/24/2012 09:18:20 PM	Failed Call	TK 809 *3*				Audio Interrupt
02/24/2012 09:18:20 PM	Failed Call	E 807 B OIC				Audio Interrupt
02/24/2012 09:18:20 PM	Failed Call	CHIEF 809 A				Audio Interrupt
02/24/2012 09:18:23 PM	Failed Call	CHIEF 809 A				Audio Interrupt
02/24/2012 09:18:27 PM	Failed Call	E 807 B OIC				Audio Interrupt
02/24/2012 09:18:27 PM	Failed Call	CHIEF 809 A				Stealth Reject
02/24/2012 09:18:29 PM	Failed Call	E 807 B OIC				Audio Interrupt
02/24/2012 09:18:33 PM	Site Affiliation	DC FD 1101068				
02/24/2012 09:18:36 PM	Failed Call	CHIEF 809				Audio Interrupt
02/24/2012 09:18:46 PM	Site Affiliation	MO FD 2501790				

02/24/2012 09:18:53 PM	Failed Call	E 801 *2*			Audio Interrupt
02/24/2012 09:18:54 PM	Group Affiliation	E 809 *2*	A4 (INC 51)		
02/24/2012 09:19:04 PM	Site Affiliation	MO FD 2501232			
02/24/2012 09:19:09 PM	Failed Call	TK 801 OIC			Audio Interrupt
02/24/2012 09:19:22 PM	Failed Call	E 812 *4*			Audio Interrupt
02/24/2012 09:19:25 PM	Failed Call	E 807 B OIC			Audio Interrupt
02/24/2012 09:19:29 PM	Failed Call	E 807 B *4*			Audio Interrupt
02/24/2012 09:19:33 PM	Failed Call	E 807 B OIC			Stealth Reject
02/24/2012 09:19:34 PM	Failed Call	E 801 OIC			Stealth Reject
02/24/2012 09:19:34 PM	Failed Call	E 807 B OIC			Audio Interrupt
02/24/2012 09:19:35 PM	Failed Call	E 801 OIC			Audio Interrupt
02/24/2012 09:19:36 PM	Failed Call	E 809 OIC			Audio Interrupt
02/24/2012 09:19:37 PM	Failed Call	CO AMB M30622			Audio Interrupt
02/24/2012 09:19:37 PM	Failed Call	E 807 B OIC			Audio Interrupt
02/24/2012 09:19:38 PM	Failed Call	E 801 OIC			Audio Interrupt
02/24/2012 09:19:38 PM	Failed Call	E 809 OIC			Audio Interrupt
02/24/2012 09:19:41 PM	Failed Call	E 807 B OIC			Stealth Reject
02/24/2012 09:19:41 PM	Failed Call	E 801 OIC			Stealth Reject
02/24/2012 09:19:46 PM	Failed Call	E 801 OIC			Audio Interrupt
02/24/2012 09:19:47 PM	Failed Call	E 801 OIC			Audio Interrupt
02/24/2012 09:19:48 PM	Failed Call	E 807 B *4*			Audio Interrupt
02/24/2012 09:19:52 PM	Site Affiliation	SPT VEH M50604			
02/24/2012 09:19:55 PM	Failed Call	STP P 9381			Audio Interrupt
02/24/2012 09:19:56 PM	Failed Call	E 828 *1*			Audio Interrupt
02/24/2012 09:19:57 PM	Failed Call	VC 812 A *P*			Audio Interrupt
02/24/2012 09:19:58 PM	Site Affiliation	SPT VEH M50604			
02/24/2012 09:20:05 PM	Failed Call	VC 812 A *P*			Audio Interrupt
02/24/2012 09:20:14 PM	Failed Call	DC 800 A *P*			Audio Interrupt
02/24/2012 09:20:15 PM	Failed Call	DC 800 A *P*			Audio Interrupt
02/24/2012 09:20:15 PM	Failed Call	VC 812 A *P*			Audio Interrupt
02/24/2012 09:20:16 PM	Failed Call	DC 800 A *P*			Audio Interrupt
02/24/2012 09:20:17 PM	Failed Call	E 812 *4*			Audio Interrupt
02/24/2012 09:20:18 PM	Failed Call	DC 800 A *P*			Stealth Reject
02/24/2012 09:20:19 PM	Failed Call	VC 812 A *P*			Stealth Reject
02/24/2012 09:20:20 PM	Failed Call	E 828 *2*			Audio Interrupt

02/24/2012 09:20:21 PM	Failed Call	TK 809 OIC				Audio Interrupt
02/24/2012 09:20:24 PM	Failed Call	DC 800 A *P*				Stealth Reject
02/24/2012 09:20:26 PM	Failed Call	DC 800 A *P*				Audio Interrupt
02/24/2012 09:20:28 PM	Site Affiliation	VC 845 A *P*				
02/24/2012 09:20:31 PM	Failed Call	VC 812 A *P*				Stealth Reject
02/24/2012 09:20:32 PM	Site Affiliation	E 829 *1*				
02/24/2012 09:20:35 PM	Site Affiliation	E 817 *2*				
02/24/2012 09:20:37 PM	Failed Call	POL V 5457				Audio Interrupt
02/24/2012 09:20:40 PM	Failed Call	MSP CS L Base				Audio Interrupt
02/24/2012 09:20:44 PM	Failed Call	TRUCK 828				Stealth Reject
02/24/2012 09:20:45 PM	Failed Call	VC 855 B *P*				Stealth Reject
02/24/2012 09:20:45 PM	Failed Call	VC 812 A *P*				Audio Interrupt
02/24/2012 09:20:46 PM	Group Affiliation	A 807 OIC	A4 (INC 51)			
02/24/2012 09:20:47 PM	Failed Call	E 812 DR				Audio Interrupt
02/24/2012 09:20:49 PM	Failed Call	E 807 B OIC				Audio Interrupt
02/24/2012 09:20:50 PM	Group Affiliation	A 808 DR	A4 (INC 51)			
02/24/2012 09:20:51 PM	Failed Call	E 801 OIC				Stealth Reject
02/24/2012 09:20:51 PM	Site Affiliation	CHIEF 838				
02/24/2012 09:20:54 PM	Failed Call	VC 812 A *P*				Audio Interrupt
02/24/2012 09:20:57 PM	Group Affiliation	VC 818 *P*	A4 (INC 51)			
02/24/2012 09:20:58 PM	Site Affiliation	TK 825 OIC				
02/24/2012 09:20:59 PM	Group Affiliation	AMBULANCE 812	A4 (INC 51)			
02/24/2012 09:20:59 PM	Group Affiliation	A 801 B DR	A4 (INC 51)			
02/24/2012 09:21:00 PM	Group Affiliation	VC 809 *P*	A4 (INC 51)			
02/24/2012 09:21:00 PM	Site Affiliation	TK 825 OIC				
02/24/2012 09:21:01 PM	Failed Call	POL V 5045				Audio Interrupt
02/24/2012 09:21:01 PM	Group Affiliation	E 833 *4*	A4 (INC 51)			
02/24/2012 09:21:03 PM	Site Affiliation	FM VEH M51101				
02/24/2012 09:21:04 PM	Site Affiliation	MO FD 2501232				
02/24/2012 09:21:10 PM	Site Affiliation	TK 825 OIC				
02/24/2012 09:21:21 PM	Failed Call	E 801 *3*				Stealth Reject
02/24/2012 09:21:22 PM	Site Affiliation	TRUCK 825				
02/24/2012 09:21:25 PM	Call	PSCC FES 02	A4 (INC 51)	7.90	No	1376018
02/24/2012 09:21:25 PM	PTT	PSCC FES 02	A4 (INC 51)	7.90	No	1376018
02/24/2012 09:21:26 PM	Failed Call	CHIEF 809 A				Audio Interrupt

02/24/2012 09:21:28 PM	Failed Call	E 801 *3*				Audio Interrupt
02/24/2012 09:21:33 PM	Failed Call	E 809 OIC				Audio Interrupt
02/24/2012 09:21:34 PM	Failed Call	E 801 OIC				Audio Interrupt
02/24/2012 09:21:34 PM	Group Affiliation	A 806 OIC	A4 (INC 51)			
02/24/2012 09:21:35 PM	Group Affiliation	CHIEF 855 B	A4 (INC 51)			
02/24/2012 09:21:36 PM	Failed Call	E 812 *4*				Audio Interrupt
02/24/2012 09:21:37 PM	Site Affiliation	EXEC LIAS OFC				
02/24/2012 09:21:37 PM	Failed Call	E 812 *4*				Audio Interrupt
02/24/2012 09:21:38 PM	Group Affiliation	CO AMB M30632	A4 (INC 51)			
02/24/2012 09:21:38 PM	Call	CHIEF 855 B	A4 (INC 51)	8.10	No	1376029
02/24/2012 09:21:38 PM	PTT	CHIEF 855 B	A4 (INC 51)	0.00	No	1376029
02/24/2012 09:21:38 PM	PTT	PSCC FES 02	A4 (INC 51)	2.80	No	1376029
02/24/2012 09:21:41 PM	PTT	PSCC FES 02	A4 (INC 51)	0.50	No	1376029
02/24/2012 09:21:41 PM	PTT	PSCC FES 02	A4 (INC 51)	4.80	No	1376029
02/24/2012 09:21:41 PM	Site Affiliation	MO FD 2500201				
02/24/2012 09:21:46 PM	Site Affiliation	VC 829 *P*				
02/24/2012 09:21:49 PM	Call	PSCC FES 02	A4 (INC 51)	5.20	No	1376034
02/24/2012 09:21:49 PM	PTT	PSCC FES 02	A4 (INC 51)	5.20	No	1376034
02/24/2012 09:21:49 PM	Failed Call	E 801 *3*				Audio Interrupt
02/24/2012 09:21:49 PM	Failed Call	VC 809 *P*				Audio Interrupt
02/24/2012 09:21:50 PM	Failed Call	VC 809 *P*				Audio Interrupt
02/24/2012 09:21:52 PM	Failed Call	CHIEF 809 A				Audio Interrupt
02/24/2012 09:21:53 PM	Failed Call	VC 809 *P*				Audio Interrupt
02/24/2012 09:21:56 PM	Failed Call	CHIEF 809 A				Audio Interrupt
02/24/2012 09:21:58 PM	Failed Call	VC 812 A *P*				Stealth Reject
02/24/2012 09:21:58 PM	Failed Call	CHIEF 809 A				Stealth Reject
02/24/2012 09:21:59 PM	Failed Call	POL P 3379				Audio Interrupt
02/24/2012 09:21:59 PM	Group Affiliation	BATT CHIEF 884 R	A4 (INC 51)			
02/24/2012 09:22:00 PM	Failed Call	TK 801 *5*				Audio Interrupt
02/24/2012 09:22:00 PM	Call	PSCC FES 02	A4 (INC 51)	5.70	No	1376051
02/24/2012 09:22:00 PM	PTT	PSCC FES 02	A4 (INC 51)	5.70	No	1376051
02/24/2012 09:22:01 PM	Site Affiliation	MO FD 2500201				
02/24/2012 09:22:01 PM	Site Affiliation	E 829 *1*				
02/24/2012 09:22:04 PM	Failed Call	VC 809 *P*				TG Request on Regrouped TG
02/24/2012 09:22:08 PM	Site Affiliation	DC FD 1101068				

02/24/2012 09:22:13 PM	Site Affiliation	MO FD 2501790				
02/24/2012 09:22:37 PM	Failed Call	NORTH DIV CMDR				Audio Interrupt
02/24/2012 09:22:38 PM	Failed Call	NORTH DIV CMDR				Audio Interrupt
02/24/2012 09:22:39 PM	Failed Call	NORTH DIV CMDR				Audio Interrupt
02/24/2012 09:22:40 PM	Failed Call	NORTH DIV CMDR				Audio Interrupt
02/24/2012 09:22:41 PM	Failed Call	POL V 5035				Audio Interrupt
02/24/2012 09:22:47 PM	Site Affiliation	MO FD 2501790				
02/24/2012 09:22:51 PM	Site Affiliation	A 809 DR				
02/24/2012 09:22:57 PM	Group Affiliation	TW 833 *2*	A4 (INC 51)			

APPENDIX 5 - PSC INCIDENT PERFORMANCE RATING REPORT

Incident Performance

Case #: 120550321 - Meets Standards 1

(No filter applied)

Selected Protocol: EMD, EFD

Dispatcher name: Position: EDA Date of Call: 2/24/2012

Complaint description: house on fire Time: 21:09:21

Agency: Prince Georges County Shift/Team:

Caller party: 2 How obtained? E911

CRITICAL

	<u>Compliance</u>
Chief Complaint Selection	Compliant
Address obtained	Compliant
Comment: The caller threw several different numbers and street names at you. Good Job verifying the location.	
Callback number obtained	Compliant
Comment: Make sure if a person gives you a different number than what is recorded in ANI/ALI that you enter the number that is provided by the caller.	
Major DLS Deviation (PAI, PDI)	Compliant
Critical DLS Deviation (PAI, PDI)	Compliant
Calltaker did not shunt appropriately	Compliant
Determinant Level incorrect	Compliant
Used prohibited behavior (Customer Service Standard 8)	Compliant

MAJOR

	<u>Compliance</u>
Address asked and verified	Compliant
Comment: The caller threw several different numbers and street names at you. Good Job verifying the location.	
Callback number asked and verified	Compliant
Comment: Make sure if a person gives you a different number than what is recorded in ANI/ALI that you enter the number that is provided by the caller.	
"Tell me exactly what happened" asked	Compliant
Key Question not asked	Compliant
Level 1 diagnostic not used	Compliant
Determinant Descriptor incorrect	Compliant
Determinant Suffix incorrect	Compliant
Moderate DLS Deviation (PAI, PDI)	Compliant
Failure to follow appropriate protocol links	Compliant
Failure to gather appropriate Vehicle Description Essentials	Compliant
Incorrect gathering of appropriate Vehicle Description Essentials	Compliant

MODERATE

	<u>Compliance</u>
Any Case Entry or Key Question asked incorrectly	Compliant
Answer to any question recorded incorrectly	Compliant
Any freelance question asked	Compliant
Any freelance instruction given	Compliant
Any protocol question asked or instruction given in inappropriate area	Compliant
Level 2 diagnostic not used or used incorrectly	Compliant
Level 1 diagnostic used incorrectly	Compliant
Calming techniques not used when appropriate	Compliant

Incident Performance

Case #: 120550321 - Meets Standards 1

(No filter applied)

Selected Protocol: EMD, EFD

Dispatcher name:

Position: EDA

Date of Call: 2/24/2012

Complaint description: house on fire

Time: 21:09:21

Agency: Prince Georges County

Shift/Team:

Caller party: 2

How obtained? E911

MINOR

	<u>Compliance</u>
Case Entry Questions asked out of order	Compliant
Key Questions asked out of order	Compliant
Minor DLS Deviation (PDI)	Compliant
Customer Service Standards 1-7 – Provided or Minor Deviation	Compliant
Displayed service attitude	Compliant
Used correct volume/tone	Compliant
Displayed compassion	Compliant
Avoided gaps	Compliant
Explained actions	Compliant
Provided reassurance	Compliant
Created expectations	Compliant

Key Questions

	<u>Compliance</u>
Is anyone injured?	Correct
How many floors or stories are there?	Correct
Which floor is the fire on?	Correct
Case Entry ECHO	Correct
Do you see flames or smoke?	Correct
Are you at that location now?	Correct
What type of building is involved?	Correct
Is anyone trapped inside the building?	Correct
Did the caller indicate that there are any trapped persons?	Correct

Overall Performance: Meets Standards 1

Comments: _____

Employee: _____ Date: _____

Supervisor: _____ Date: _____

Fire Advisor: _____ Date: _____

Incident Performance

Case #: 120550322 - Meets Standards 2

(No filter applied)

Selected Protocol: EMD, EFD

Dispatcher name:

Position: EDA

Date of Call: 2/24/2012

Complaint description: NEIGHBORS HOUSE ON FIRE

Time: 21:09:56

Agency: Prince Georges County

Shift/Team:

Caller party: 2

How obtained? E911

CRITICAL

	<u>Compliance</u>
Chief Complaint Selection	Compliant
Address obtained	Compliant
Comment: Excellent job taking control of the situation and getting the correct location.	
Callback number obtained	Compliant
Major DLS Deviation (PAI, PDI)	Compliant
Critical DLS Deviation (PAI, PDI)	Compliant
Calltaker did not shunt appropriately	Compliant
Determinant Level incorrect	Compliant
Used prohibited behavior (Customer Service Standard 8)	Compliant

MAJOR

	<u>Compliance</u>
Address asked and verified	Compliant
Comment: Excellent job taking control of the situation and getting the correct location.	
Callback number asked and verified	Compliant
"Tell me exactly what happened" asked	Compliant
Key Question not asked	Compliant
Level 1 diagnostic not used	Compliant
Determinant Descriptor incorrect	Compliant
Determinant Suffix incorrect	Compliant
Moderate DLS Deviation (PAI, PDI)	Compliant
Failure to follow appropriate protocol links	Compliant
Failure to gather appropriate Vehicle Description Essentials	Compliant
Incorrect gathering of appropriate Vehicle Description Essentials	Compliant

MODERATE

	<u>Compliance</u>
Any Case Entry or Key Question asked incorrectly	Compliant
Answer to any question recorded incorrectly	Compliant
Any freelance question asked	Compliant
Any freelance instruction given	Compliant
Any protocol question asked or instruction given in inappropriate area	Compliant
Level 2 diagnostic not used or used incorrectly	Compliant
Level 1 diagnostic used incorrectly	Compliant
Calming techniques not used when appropriate	Compliant

Comment: Outstanding job telling the caller that we had the call in and to stay on the line.

Incident Performance

Case #: 120550322 - Meets Standards 2

(No filter applied)

Selected Protocol: EMD, EFD

Dispatcher name:

Position: EDA

Date of Call: 2/24/2012

Complaint description: NEIGHBORS HOUSE ON FIRE

Time: 21:09:56

Agency: Prince Georges County

Shift/Team:

Caller party: 2

How obtained? E911

MINORCompliance

Case Entry Questions asked out of order	Compliant
Key Questions asked out of order	Compliant
Minor DLS Deviation (PDI)	Compliant
Customer Service Standards 1-7 – Provided or Minor Deviation	Compliant
Displayed service attitude	Compliant
Used correct volume/tone	Compliant
Displayed compassion	Compliant
Avoided gaps	Compliant
Explained actions	Compliant
Provided reassurance	Compliant
Created expectations	Compliant

Key QuestionsCompliance

Is anyone injured?	Correct
How many floors or stories are there?	Insignificant
Case Entry ECHO	Correct
Do you see flames or smoke?	Correct
Are you at that location now?	Correct
What type of building is involved?	Correct
Is anyone trapped inside the building?	Correct
Did the caller indicate that there are any trapped persons?	Correct

Comment: You said, "Do you know how many floors or stories there are?" This is inappropriate. It was scored as insignificant this time, but in the future, be very careful of asking the questions verbatim, "How many floors or stories are there?" so as not to change the meaning of the question.

Overall Performance: Meets Standards 2

Comments:

Employee: _____ Date: _____

Supervisor: _____ Date: _____

Fire Advisor: _____ Date: _____

APPENDIX 6 – EXCERPTS FROM SCBA REPORT

Montgomery County Fire and Rescue Service
 SCBA Service & Repair Center
 8653 Grovemont Circle
 Gaithersburg, MD 20872
 240-777-2221

SCBA Evaluation Report for Personal Injury or SCBA Performance Investigation

1	Date of Evaluation	05/08/2012			
2	Submitted by	[Name Redacted]			
3	Primary Evaluators	1	[Name Redacted]		
		2			
<i>List any additional evaluators at the end of the report</i>					
4	Date of Incident / Event	02/24/2012			
5	Incident Number / Address	12-055-0321	6404 57th Ave.		
6	Brief Description of Incident or Event	The SCBA being evaluated was worn by Truck 809 Forcible Entry PGFD ID: xxxx9. He was injured during this incident involving a structure fire. He was operating on the scene with this SCBA.			
7	Was the User "On Air" at the time of the incident?	Yes			
8	Equipment being Evaluated	Identification / Service & Testing History / Condition			
Cylinder	Manufacturer:	Luxfer		Year: June-05	
	Model / Type	4500 PSI Carbon Fiber			
	Serial Number:	Ixxxxxx9			
	Other ID:	Bladensburg Label Engine ** unreadable due to heat			
	Latest Hydrostatic test date:	Month	May	Year	2010
	Condition / appearance on scene or upon arrival at air shop:				
	Amount of air remaining in cylinder (PSI)	1900			

	<p>Cylinder received shows 1900 PSI by using an external 7500 PSI calibrated Scott gauge. Hand wheel has fresh scrapes and some missing paint where it has been dragged. Rubber bumper is distorted and melted from exposure to high heat or flame. Hanger is intact. Gauge pressure cannot be seen on both sides of gauge. The gauge cover is melted and distorted and is bubbled in several spots on both sides. Note: The cylinder hand wheel lock nut has been turned in on the stem eliminating the designed safety feature that prevents the cylinder from being accidentally turned off. There are a few gouges and scrapes in the carbon fiber wrap especially around neck of cylinder. Hydrostatic test date of 05/10 set in epoxy on cylinder. There is peeling to the outer wrap where the factory decals were applied. This only occurs on the exposed portion of the Cylinder (the part of the cylinder not resting against the SCBA harness).</p> 		
Reducer / Hoses HUD Driver	Manufacturer:	Scott Health	Year: 2005
	Model / Type	Air Pack 50 with HUD	
	Serial Number:	RxxxxxxxxxxxxxB	
	Other ID:	PGFD 0370	
	Last inspection / test / service	Month March	Year 2011
	Condition / appearance on scene or upon arrival at air shop:		

	<p>High pressure hose intact, UAC/RIC boot intact. Missing rubber bumper on back of UAC/RIC assembly. EBSS hose intact with boot missing. Outside jacket of EBSS coupling has cut exposing inner cord of hose at Reducer. The boot from the EBSS hose was found in the evidence bag. It has been torn from the hose. The connector for the hose is still intact showing melting and bubbling. Gauge strap missing. Side of Reducer is stamped PG 0370. HUD driver has Energizer Industrial AA batteries with Exp. date of 03/18. Batteries were good when tested on battery tester. HUD Hose experienced exposure to high heat and impingement at Reducer. The pigtails for the HUD Hose has melted at the heat shrink wrap exposing all wires. The pigtails are also very brittle. The driver and hose are intact, but still appear to be operational. There is a Safeware flow test sticker on the underside of the Reducer over the primary and secondary seats marked 03/11. There is also another flow test sticker under the front of the reducer marked 04/06.</p> 
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8
cont

Equipment being Evaluated / Service & Testing History

Regulator	Manufacturer:	Scott Health	Year:	2005
	Model / Type	EZ Flow CBRN with QD		
	Serial Number:	RxxxxxxxxxxxxxF		
	Other ID:	Serial Number engraved on outside of CBRN cover PGFD ID: xxxx5 engraved on CBRN Regulator cover near air saver switch.		
	Last inspection / test / service	Month	August	Year
	Condition / appearance on scene or upon arrival at air shop:			

	<p>This Regulator belongs to another firefighter. It was used on Face piece PGFD ID: xxxx9. The CBRN cover and body are intact, held together by only the latch plate mounting bracket and retaining screws. It has separated at the Regulator body retainer tab exposing the lever assembly. The diaphragm was in an evidence bag when the pack was delivered to me. The diaphragm exhalation valve seat and post has been forcibly removed or torn by some means and is missing. The Regulator has been exposed to high heat and was still attached to the lens and low pressure airline. The entire part of the CBRN cover is distorted and melted from exposure to high heat, but all components of the cover are intact. The CBRN and EZ-FLO label melted and bubbled. Purge knob operates as designed, but shows signs of heat exposure and is smoke stained. HUD visor torn on top side. Air saver boot is intact without tears. Regulator gasket has no cuts, but shows normal wear. Latch operates properly with some wearing along the edge, and melting. Latch is distorted due to heat. Low pressure hose is in good condition except the HUD quick disconnect, which shows signs of melting at the connector. Retaining ring is intact still located in CBRN Regulator.</p>			
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Back frame / Straps	Manufacturer:	Scott Health		Year:	2005
	Model / Type	Air Pak 50			
	Serial Number:				
	Other ID:	Bladensburg Scotchlite sticker on back frame marked "902"			
	Last inspection / service	Month	March	Year	2011
	Condition / appearance on scene or upon arrival at air shop:				
	The shoulder harness straps both show complete discoloration indicating heat exposure or flame to both straps. The Scotchlite on the shoulder pads are both				

	<p>melted and blistered indicating exposure to high heat. Waist to shoulder strap have no discoloration, blistering, or melting but have been cut by a knife in two places. Waist pad shows discoloration for the entire length. Cylinder release latch still operates freely without issue but is missing the nylon tab. All buckles operate freely. The Cylinder retention assembly is blistered and distorted but was still operational. The adjusting buckle is also blistered and is intact. The locking tab is also blistered. The frame itself is in fairly good condition with no cracks but has some discoloration. Backside of frame has two Scotchlite labels with "Bladensburg" and "902" on different labels. Back frame rubber gasket intact in frame. Note: All waist straps were folded back and restrained in the buckles. It appears that the waist belt was not used.</p> 		
Mask	Manufacturer: Model / Type Serial Number: Other ID: Last inspection / service Condition / appearance on scene or upon arrival at air shop: PGFD ID:	Scott Health AV-3000 Large w/Standard Large Harness xxxx9 engraved on top bezel Month <input type="text"/> Year <input type="text"/> Upper and lower bezels are undamaged. The face piece lens has been exposed to very high heat. There is	Year: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>

	<p>excessive crazing and a few deeper scratches across the full lens. There is a deep scrape on the lens near the face piece opening. It appears that the lens has softened where the deep crazing occurs. On the inside of the lens you see signs of where the melting has occurred with immediate failure which would probably follow. The temple and neck straps are in place and not stretched. Right side neck strap has been torn away from the face seal. Nose cup and retaining ring in place. Voicemitters and voicemitter ducts intact. Right side Voicemitter is pushed in where it appears it has been hit. Both Inhalation valves in place. All sizing dots in place. One of the four sizing dots is missing. Fit test done 08/22/11.</p> 		
P.A.S.S / Console	Manufacturer: Model / Type Serial Number: Other ID: Last inspection / service Condition / appearance on scene or upon arrival at air shop:	Scott Health Pak Alert SE+, Integrated P.A.S.S. xxxxx0 Console: Serial Number worn off. Month March Year 2011 Pak Alert Module appears in good shape with no signs of exposure to heat. Placing batteries in Pak Alert module causes a dead short in console. The Pak	Year: 2005

	<p>Alert activates after receiving supplying power but cannot be reset. It appears to have a short to the resister board. Manual activation of Pak Alert does not work nor reset. Both 9v Energizer Industrial batteries Exp. 03/14 were checked and were good. Pak Alert wire harness and gauge line appear to be undamaged and have smoke stain throughout. The console shows signs of high heat exposure. Gauge lens is distorted and blistered. The gauge is not visible. Cover for indicator lights is distorted and melted. The red and yellow buttons for the emergency and reset are visible. The areas around the emergency and reset button are melted and distorted. The back of the Pak Alert has plastic that has melted and adhered completely covering most of the rear cover. Serial Number unreadable. Gauge strap is missing. Seal appears to be intact.</p> 
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8
cont

Equipment being Evaluated / Service & Testing History

Comm. Equip	Manufacturer:		Year:		
	Model / Type				
	Serial Number:				
	Other ID:				
	Last inspection / service	Month		Year	
	Condition / appearance on scene or upon arrival at air shop: N/A				
Other Equip	Manufacturer:		Year:		
	Model / Type				
	Serial Number:				
	Other ID:				

	Last inspection / service	Month	Year
	Condition / appearance on scene or upon arrival at air shop:		
	N/A		

9	Method of Delivery to Air Shop	Delivered by PGFD [Name Redacted] 04/16/2012
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10	List chain of custody		
Date	Action	Name	Position
04/16/2012	Delivered to MOCO	[Name Redacted]	Battalion Chief
04/16/2012	Received by	[Name Redacted]	MOCO Supervisor
05/08/2012	Evaluated by	[Name Redacted]	MOCO Supervisor
06/05/2012	Returned	[Name Redacted]	PGFD ID: xxx1

11	Name of facility	MOCO Service & Repair Center
	Street address	8653 Grovemont Circle
	City / State /Zip	Gaithersburg MD 20877

Pre Test Evaluation <i>damage should have already been noted above during initial check in</i>		
Perform Daily Check on all equipment being evaluated / enter comments		
Cylinder note that visual damage was previously mentioned during check in	PSI Reading	1900
	Any damage" <u>requiring repair</u> " prior to bench test Cylinder opened fully connected to PGFD 0370 Reducer and MOCOTEST Regulator without air leaks. No repairs at this time but cylinder will need gauge cover, and bumper. Used MOCOTEST Regulator due to original Regulator not in a condition to perform daily check.	
Evaluators initials	MB	
Reducer / Hoses HUD		Any damage" <u>requiring repair</u> " prior to bench test Cylinder opened fully connected to PGFD 0370 Reducer and MOCOTEST Regulator without air leaks. No repairs at this time but SCBA will need EBSS

Evaluators initials	MB	hose and boot assembly, HUD Regulator Hose. Used MOCOTEST Regulator due to original regulator not in a condition to perform daily check. HUD lights operated intermittently indicating that the HUD driver was OK and HUD Hose was at fault.
Regulator		Any damage" <u>requiring repair</u> " prior to bench test Regulator not in a condition to perform a daily check. It will need CBRN cover, diaphragm, visor, and a latch.
Evaluators initials	MB	Any damage" <u>requiring repair</u> " prior to bench test
Back frame / Straps		No repairs needed at this time. Condition of back frame and straps noted earlier in report. Parts needed will be shoulder straps, waist to shoulder straps, waist pad, and a nylon tab.
Evaluators initials	MB	Any damage" <u>requiring repair</u> " prior to bench test Condition of mask noted earlier in report. PGFD ID: xxxx9 will need a new face piece. The condition of this Face piece will not allow for a Mask test to be performed.
P.A.S.S / Console		Any damage" <u>requiring repair</u> " prior to bench test Manual activation and reset of Pak Alert failed due to short in resister board. It also failed while on air. All lights failed manual and emergency functions. Motion sensor operating as it should. Batteries read good on battery tester. Note: used another resister board to check operation of Pak Alert and all functions operated properly. Batteries read good on Battery tester.
Communications Equipment		Any damage" <u>requiring repair</u> " prior to bench test N/A
Other / Misc Equipment		Any damage" <u>requiring repair</u> " prior to bench test N/A
Evaluators initials	MB	

Pre Test SCBA: Test SCBA in condition it was received

13

If any repairs were required for Pre-testing equipment on PosiChek, comment on the repairs and list parts used.

Replaced cut EBSS Socket & Hose Assembly, Dust boot and HUD Regulator hose.

14

Test SCBA on PosiChek /did all components pass / comment on results / attach test sheets

The Mask test was not performed due to the extensive damage with Face piece PGFD ID: xxxx9. The Regulator test was not performed due to the extensive damage to PGFD ID: xxxx5 regulator. This Regulator was used with reducer PG 0370 while on Incident 12-055-0321. Functional test was performed using MOCOTEST Face piece with MOCOTEST Regulator with PGFD ID: xxxx9 (PG 0370) Reducer. The reducer passed all functional tests. No other pre tests could be performed due to extensive damage to the Face piece and the Regulator. See attached results.

Attach Initial PosiChek test sheets to this page

Post Test Evaluation

15

Disassemble reducer and regulator AS NEEDED to complete evaluation. At minimum, do a normal annual inspection, checking filters and replacing batteries. Note findings as equipment is disassembled, conditions of filters, gaskets, pistons, etc. Note any repairs to back frame or straps. Inspect and repair mask. If replacement parts are used, list parts replaced and KEEP USED PARTS!

Equipment	Comments
Reducer / Pak Alert / Console	Reducer Primary and secondary seats and filters checked. All filters changed. Removed cover and inspected low cylinder transfer and auto transfer valve. Removed cover and checked piston heads, low cylinder transfer, and auto transfer valve. Batteries were changed in Pak Alert. Replaced HUD Regulator Hose, EBSS Hose & Socket Assembly, complete PASS Console assembly including resister board, gauge lens, Module cover, cover for indicator lights, and replaced 9V batteries in Pak Alert. Note: Resister board had build up of corrosion on it from water leaking into console causing the short in Pak Alert module.
Regulator / HUD	Disassembled, inspected and cleaned all parts. Lubricated demand piston and adjusted lever assembly. Replaced CBRN Regulator cover, Diaphragm, latch, and purge knob, and replaced AA batteries in HUD driver.
Mask	Mask PGFD ID: xxxx9 was not in condition to test.

	Cleaned and inspected. The back frame will need new shoulder straps, waist pad, waist to shoulder straps. The Cylinder Retention Assembly will also need to be replaced. These parts were not replaced by MCFRS. Cylinder parts replaced were the Gage cover and the cylinder bumper guard. Note: I did not reset the ratchet on the hand wheel of the cylinder. It is in the same position as received.	
16	Cleaning Process: Note what cleaning was done if any. Major cleaning was required. The whole unit was cleaned then re-inspected.	
Post Testing: Test SCBA after inspection and repairs completed.		
17	Test SCBA on PosiChek /did all components pass / comment on results / attach test sheets Post testing of Reducer PGFD ID: xxxx9 (PG 0370) passed functional testing. Regulator ID: xxxx5 passed HP Regulator testing after parts were replaced after disassembly and inspection. Components were not tested as a complete unit but separately. I used PGFD ID: xxxx9 (PG 0370) Reducer with the MOCOTEST Regulator to check operation of HUD driver only, which passed. I then attached the PGFD ID: xxxx5 Regulator to MOCOTEST reducer and checked the HUD Regulator hose and lights which also passed. I then connected the PGFD ID: xxxx 9 (PG 0370) Reducer with the PGFD ID: xxxx5 Regulator together and the HUD works fine.	
Attach Post PosiChek test sheets to page 8		
Attach Post PosiChek test sheets to this page		
18	Is any of the equipment being evaluated unable to be returned to service?	Yes
	List the equipment unable to return to service and reason	
	Damage from heat to face piece. See previous comments. All straps including shoulder, waist, and waist to shoulder strap on back frame need replacing, and Cylinder retention Strap Assembly.	
19	Cost to replace equipment not repairable	N/A

20	<p>Cost of any repairs that were made to equipment</p> <p>Parts Replaced: 1 - HUD Regulator Hose 200016-01, 1 - HUD regulator Hose 200017-01, 1 - CBRN cover 804110-03, 1 - Diaphragm 200083-01, 1 - purge knob 10005218, 1 - Latch 10008532, 1 - PASS Alert Assembly 805191-03, 1 - Hose & Socket Assembly 804335-04, 1 - Dust cap 10008531, 2 - Filters 10005250, 1 - Gage cover 36750-01, 1 - Cylinder bumper 804113-01, 2 - Bumper Screws 10007775, 2 - Duracell Procell PC - 1500 AA batteries, 2 - Duracell Procell PC - 1604 9v batteries,</p>												
21	<p>Evaluators Comments or notes</p> <p>It appears that this SCBA and face piece was exposed to significant heat and flame. After being disassembled, inspected, reassembled, and parts replaced the Reducer and the Regulator passed all functional tests. Parts were replaced on cylinder and that is also in good shape. Note: The cylinder hand wheel lock nut has been turned in on the stem eliminating the designed safety feature that prevents the cylinder from being accidentally turned off, it is still in that position. All parts that were replaced were bagged and will be returned. The reducer was removed from the Back frame and is being returned not reattached to the frame.</p>												
22	<table border="1"> <tr> <td>Additional Evaluators</td> <td>1</td> <td></td> </tr> <tr> <td></td> <td>2</td> <td></td> </tr> </table>	Additional Evaluators	1			2							
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	2												
	<table border="1"> <tr> <td>Primary Evaluators #1 Signature</td> <td></td> <td>Date 07/05/2012</td> </tr> <tr> <td>Primary Evaluators #2 Signature</td> <td></td> <td>Date</td> </tr> <tr> <td>Additional Evaluators #3 Signature</td> <td></td> <td>Date</td> </tr> <tr> <td>Additional Evaluators #4 Signature</td> <td></td> <td>Date</td> </tr> </table>	Primary Evaluators #1 Signature		Date 07/05/2012	Primary Evaluators #2 Signature		Date	Additional Evaluators #3 Signature		Date	Additional Evaluators #4 Signature		Date
Primary Evaluators #1 Signature		Date 07/05/2012											
Primary Evaluators #2 Signature		Date											
Additional Evaluators #3 Signature		Date											
Additional Evaluators #4 Signature		Date											

Montgomery County Fire and Rescue Service
 SCBA Service & Repair Center
 8653 Grovemont Circle
 Gaithersburg, MD 20872
 240-777-2221

SCBA Evaluation Report for Personal Injury or SCBA Performance Investigation

1	Date of Evaluation	05/04/2012		
2	Submitted by	[Name Redacted]		
3	Primary Evaluators	1	[Name Redacted]	
		2		
<i>List any additional evaluators at the end of the report</i>				
4	Date of Incident / Event	02/24/2012		
5	Incident Number / Address	12-055-0321	6404 57th Ave.	
6	Brief Description of Incident or Event	The SCBA being evaluated was worn by Truck 809 Officer PGFD ID: xxxx2. He was injured during this incident involving a structure fire. He was operating on the scene with this SCBA.		
7	Was the User "On Air" at the time of the incident?	Yes		
8	Equipment being Evaluated	Identification / Service & Testing History / Condition		
Cylinder	Manufacturer:	Luxfer		
	Model / Type	4500 PSI Carbon Fiber		
	Serial Number:	Ixxxxxxxx7		
	Other ID:			
	Latest Hydrostatic test date:	Month	May	Year
	Condition / appearance on scene or upon arrival at air shop:			
	Amount of air remaining in cylinder (PSI)	3200		

	<p>Cylinder received shows 3200 PSI by using an external 7500 PSI calibrated Scott gauge. Hand wheel has scrapes and some missing paint. Rubber bumper intact but is torn from the mounting bracket. The bumper has red paint painted on the inside of the bumper. Hanger intact but severely bent. Gauge shows cylinder pressure but is hard to read on both sides, and shows signs of heat. The gauge cover is melted and distorted and is hard to read. Note: The cylinder hand wheel lock nut has been turned in on the stem eliminating the designed safety feature that prevents the cylinder from being accidentally turned off. There are some gouges and scrapes in the carbon fiber wrap especially around neck of cylinder. Hydrostatic test date of 05/10 set in epoxy on cylinder. No visible heat, nor blistering as seen on the cylinder. Cylinder appears to be in pretty good shape. Most labels are intact. No paint or stickers added to cylinder.</p> 		
Reducer / Hoses HUD Driver	Manufacturer: Model / Type Serial Number: Other ID: Last inspection / test / service Condition / appearance on scene or upon arrival at air shop:	Scott Health Air Pack 50 with HUD RxxxxxxxxxxxxxB PGFD 0375 Month April Year 2011	Year: 2005

	<p>High pressure hose intact, UAC/RIC boot intact, EBSS hose intact with boot missing, gauge strap intact. Side of Reducer is stamped PG 0375. HUD driver has Energizer Industrial AA batteries with Exp. date of 3/18. HUD Hose shows no damage or areas of heat impingement. Both batteries were tested on battery tester and both were good. The driver and hoses are intact, and appear to be operational. The UAC/RIC is intact and is missing a rubber bumper on back side. There is a Safeware flow test sticker on the underside of the Reducer marked 4/11.</p> 
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8
cont

Equipment being Evaluated / Service & Testing History

Regulator	Manufacturer:	Scott Health	Year:	2005	
	Model / Type	EZ Flow CBRN with QD			
	Serial Number:	RxxxxxxxxxxxxxF			
	Other ID:				
	Last inspection / test / service	Month	July	Year	2011
	Condition / appearance on scene or upon arrival at air shop:				
PGFD ID: 18472 engraved on Regulator CBRN cover. Regulator					

	<p>PGFD ID: xxxx2 engraved on Regulator CBRN cover. Regulator appears to be in good condition. CBRN cover and body intact. CBRN label melted and bubbled but visible. Purge knob operates freely, not distorted but has minor melting. Visor torn on top side. Air saver boot is torn at left side. Reg. gasket no cuts or torn. Latch operates properly with some wearing along the edge and some minor melting. Low pressure hose and connector good condition. Diaphragm extremely dirty. Retaining ring intact. EZ Flow regulator label melted.</p> 			
	Manufacturer:	Scott Health	Year:	June -05
	Model / Type	Air Pak 50		
	Serial Number:	None		
	Other ID:			
	Last inspection / service	Month	April	Year
				2011
Back frame / Straps	Condition / appearance on scene or upon arrival at air shop:			
	<p>Back frame is in poor shape. The cylinder latching assembly is twisted and shifted left. The shoulder harness straps both show discoloration indicating heat exposure to both straps. The right shoulder strap is torn near the top. The Scotchlite on the shoulder pads are both melted and torn. Waist and the waist to shoulder strap have no discoloration, blistering, or melting and are in good shape. Cylinder release latch still operates freely without issue. All buckles operate freely. Cylinder retention strap has normal wear but shows signs of heat exposure to the locking tab. Backside of frame has two Scotchlite labels with "901" and "Engine 92. Back frame rubber gasket loose and not sealing in frame. Note: All waist straps were folded back and restrained in the buckles. It appears that the waist belt was not used.</p> 			
Mask	Manufacturer:	Scott Health	Year:	
	Model / Type	AV-3000 Medium w/Standard Harness		

	Serial Number:			
	Other			
	ID:	xxxx2 engraved on top bezel		
	Last inspection / service	Month	July	Year
	Condition / appearance on scene or upon arrival at air shop:			
	PGFD ID: xxxx2 engraved on top bezel and is also marked in Magic Marker on head net. Lens has excessive scratching and a few deeper scratches all across the lens. There is no crazing nor melting. Temple and Neck straps in place and not stretched. Nose cup and retaining ring in place. Upper and lower bezels are undamaged. Voicemitters and Voicemitters ducts intact. Both Inhalation valves in place. Face seal appears in good shape without issue. All sizing dots in place. Three of the four sizing dots are missing. Fit test done 07/13/11.			
				
P.A.S.S / Console	Manufacturer:	Scott Health	Year:	2005
	Model / Type	Pak Alert SE+, Integrated P.A.S.S.		
	Serial Number:	xxxxxx1		
	Other			
	ID:	Console: Serial Number worn off.		
	Last inspection / service	Month	April	Year
	Condition / appearance on scene or upon arrival at air shop:			
	Both appear in good shape without apparent damage. Gauge lens has slight haze that could have been caused by exposure to some heat but is			

	still readable. Both items do not show any real effects of heat damage. Gauge retaining strap present. Battery indicator flashes green when battery checked. Under Manual activation Pak Alert worked and reset. Both 9v Energizer Industrial batteries Exp. 03/14 were checked and were good. Pak Alert wire harness and gauge line are undamaged and have some smoke stain. Console has just wear and tear scratches from general use. Seal appears to be intact.
	

8
cont

Equipment being Evaluated / Service & Testing History

Comm. Equip	Manufacturer:			Year:		
	Model / Type					
	Serial Number:					
	Other ID:					
	Last inspection / service	Month		Year		
	Condition / appearance on scene or upon arrival at air shop: N/A					
Other Equip	Manufacturer:			Year:		
	Model / Type					
	Serial Number:					
	Other ID:					
	Last inspection / service	Month		Year		
	Condition / appearance on scene or upon arrival at air shop: N/A					

9

Method of Delivery to Air Shop

Delivered by PGFD [Name Redacted] 04/16/2012

10

List chain of custody			
Date	Action	Name	Position
04/16/2012	Delivered to MOCO	[Name Redacted]	Battalion Chief
04/16/2012	Received by	[Name Redacted]	MOCO Supervisor
05/04/2012	Evaluated by	[Name Redacted]	MOCO Supervisor
06/05/2012	Returned	[Name Redacted]	PGFD ID: xxx1

11

Name of facility	MOCO Service & Repair Center
Street address	8653 Grovemont Circle
City / State /Zip	Gaithersburg MD 20877

12

Pre Test Evaluation			
<i>Visual damage should have already been noted above during initial check in</i>			
Perform Daily Check on all equipment being evaluated / enter comments			
Cylinder note that visual damage was previously mentioned during check in		PSI Reading	3200
		Any damage" <u>requiring repair</u> " prior to bench test	
Evaluators initials	MB	Cylinder opened fully connected to Reducer and Regulator without air leaks. No repairs at this time but will need gauge cover, hanger, and bumper.	
Reducer / Hoses HUD		Any damage" <u>requiring repair</u> " prior to bench test	
Evaluators initials	MB	Everything appears operational, Vibralert activated, HUD lights operated correctly, no air leaks detected.	
Regulator		Any damage" <u>requiring repair</u> " prior to bench test	
Evaluators initials	MB	No repairs required at this time but will need air saver boot and visor. Vibralert, HUD lights, purge, and no air leaks detected, all appeared to be in normal operating condition.	
Back frame / Straps		Any damage" <u>requiring repair</u> " prior to bench test	
Evaluators initials	MB	No repairs needed at this time. Condition of back frame noted earlier in report. Note: It will need a new frame.	
Mask		Any damage" <u>requiring repair</u> " prior to bench test	

Evaluators initials	MB	Condition of mask noted earlier in report. It appears that it will not need any parts for the pre test but should receive a new lens.
P.A.S.S / Console		Any damage" <u>requiring repair</u> " prior to bench test
Evaluators initials	MB	Manual activation and reset of Pak Alert worked properly and also on air. All lights working properly. Motion sensor operating as it should. Alarm activated when cylinder turned on. Batteries read good on battery tester.
Communications Equipment		Any damage" <u>requiring repair</u> " prior to bench test
Evaluators initials	MB	N/A
Other / Misc Equipment		Any damage" <u>requiring repair</u> " prior to bench test
Evaluators initials	MB	N/A

Pre Test SCBA: Test SCBA in condition it was received

13

If any repairs were required for Pre-testing equipment on PosiChek, comment on the repairs and list parts used.

No repairs needed to perform pre test.

14

Test SCBA on PosiChek /did all components pass / comment on results / attach test sheets

A number of tests were performed. The first test was the Mask test, using PGFD ID:xxxx2 with MOCOTEST Reducer and MOCOTEST Regulator. The mask passed all tests. The second was the Regulator test, using PGFD ID: xxxx2 Regulator with MOCOTEST Face piece and MOCOTEST Reducer. The third test was the Functional test for PGFD ID: xxxx2 Reducer with MOCOTEST Regulator and MOCOTEST Face piece. All tests passed. The final test was with all PGFD components PGFD ID: xxxx5 Reducer/ Regulator/ Face piece. All tests passed Functional tests. See attached test results.

Attach Initial PosiChek test sheets to this page

Post Test Evaluation

15	Disassemble reducer and regulator <u>AS NEEDED</u> to complete evaluation. At minimum, do a normal annual inspection, checking filters and replacing batteries. Note findings as equipment is disassembled, conditions of filters, gaskets, pistons, etc. Note any repairs to back frame or straps. Inspect and repair mask. If replacement parts are used, list parts replaced and KEEP USED PARTS!	
	Equipment	Comments
	Reducer / Pak Alert / Console	Reducer Primary and secondary seats and filters checked. All filters changed #10009250. Removed cover and checked piston heads, low cylinder transfer, and auto transfer valve. Batteries were changed in Pak Alert. Replaced gauge cover in Pak Alert 10011202, replaced 9V batteries in Pak Alert Module PC-1604.
	Regulator / HUD	Disassembled, inspected and cleaned all parts. Lubricated demand piston and adjusted lever assembly. Replaced Air Saver boot 804194-01, replaced CBRN label 31000073, replaced AA batteries in HUD PC-1500, replaced HUD Visor 10012602.
	Mask	Cleaned and inspected inhalation valves. Did not replace lens. It will have to be replaced by PGFD shop.
16	Back frame / Straps /Other Miscellaneous	Cleaned and inspected. Frame was not replaced by MCFRS due to cylinder latching assembly bent and twisted. Replaced EBSS hose and socket assembly 804335-04 and Dust cap 10008531. Cylinder parts replaced were Bumper guard 804113-01, Gage cover 36550-01, Screw 10007775, and Cylinder hanger 10006289. Note: I did not reset the ratchet on the hand wheel of the cylinder. It is in the same position as received.
	Cleaning Process: Note what cleaning was done if any.	Major cleaning was required. The whole unit was cleaned then re-inspected.

	Post Testing: Test SCBA after inspection and repairs completed.	
17	Test SCBA on PosiChek /did all components pass / comment on results / attach test sheets	
	All post testing of components passed functional testing. Components were tested as a unit. I used PGFD ID: xxxx2 Reducer with MOCOTEST Regulator to check operation of HUD driver only, which passed. I then attached PGFD ID: xxxx2 Regulator to the MOCOTEST Reducer and checked the HUD regulator hose and lights which also passed. I then connected both the PGFD ID: xxxx2 Reducer and regulator together and the HUD works fine.	
	Attach Post PosiChek test sheets to page 8	
	Attach Post PosiChek test sheets to this page	
18	Is any of the equipment being evaluated unable to be returned to service?	<input type="checkbox"/> Yes
	List the equipment unable to return to service and reason	
	PGFD ID: xxx5 Back frame needs replacing. PGFD ID: xxxx2 Face piece lens needs replacing. See prior notes concerning both items.	
19	Cost to replace equipment not repairable	N/A
20	Cost of any repairs that were made to equipment	Parts replaced: 2 - Duracell Procell PC - 1500 AA batteries, 2 - Duracell Procell PC - 1604 9v batteries, 1- Air Saver Button 804194-01, 2 - 10005250 Filters, 1 - Gage cover 36550-01, 1 - Visor 10012602, 1 - Cylinder hanger 10006289, 1 - Gage cover 36750-01, 1 - Bumper guard 804113-01, 1 - Screw 10007775, 1 - CBRN label 31000073.
21	Evaluators Comments or notes	
	Passed post functional test. Major cleaning was done prior to returning. The cylinder needs a new Hydrostatic test before being returned to the field. There are some gouges near neck of cylinder as being noted previously. Initial inspection indicated that the SCBA had been exposed to moderate	

heat conditions at some point within the Cylinder, Regulator, and Face piece. However once cleaned up all components appeared in fairly good condition and passed all tests with some minor heat damage observed. All parts that were replaced were bagged and will be returned.

22

Additional Evaluators	1
	2

Primary Evaluators #1 Signature		Date 7/5/2012
Primary Evaluators #2 Signature		Date
Additional Evaluators #3 Signature		Date
Additional Evaluators #4 Signature		Date

APPENDIX 7 – PPE REPORT SUMMARY

EXAMINATION OF SELECTED FIREFIGHTER PPE WORN BY FIREFIGHTERS DURING FEBRUARY 24, 2012 STRUCTURE FIRE AT 6404 57TH AVENUE, RIVERDALE HEIGHTS, MD

Safety Investigation Team
Prince George's County Fire/EMS Department
9201 Basil Court, Suite 452
Largo, MD 20774

JEFFREY O. STULL / GRACE G. STULL
INTERNATIONAL PERSONNEL PROTECTION, INC.
P. O. BOX 92493
Austin, TX 78709

10 JULY 2012
Updated 31 October 2012



International Personnel
Protection, Inc.TM

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EXAMINATION OF SELECTED FIREFIGHTER PPE WORN BY FIREFIGHTERS DURING FEBRUARY 24, 2012 STRUCTURE FIRE AT 6404 57TH AVENUE, RIVERDALE HEIGHTS, MD

July 10, 2012

Summary

This report describes our examination of the personal protective equipment items worn by two different firefighters, who sustained burn injuries in the structure fire at 6404 57th Avenue, Maryland on February 24, 2012. It also includes our analysis of information provided for other personal protective equipment that was worn by other firefighters that sustained lesser injuries. A detailed review was conducted for the types of injuries sustained by each firefighter, the condition of the PPE items that were provided for examination directly or through photographs/external comments, the individual statements of the firefighters involved in the incident, and other information provided by the Prince George's County Fire/EMS Department.

The incident involved several firefighters responding to a fire in a small residential structure with a basement. The fire was described as producing heavy smoke that significantly reduced visibility at the fire scene. A truck company initiated a search of the first floor while one engine company also entered the first floor through the front door to begin fire suppression. A second engine company entered the basement from the rear of the structure. A shift in the already heavy winds caused an escalation of the fire conditions forcing all firefighters to retreat; however, two truck company firefighters remained trapped on the first floor. One of these firefighters was able to escape and assist in retrieving the other trapped firefighter.

Six firefighters sustained injuries with the longest trapped truck company firefighter incurring burns to approximately 40% of his body. The truck company officer received inhalation burns upon reentering the structure without his SCBA facepiece in place. Three of the first floor engine company firefighters received burns to their head, face, and ears, while a fourth firefighter suffered fractured ribs when the truck company officer escaped through a window and landed on him.

Causes of injuries for each of the firefighters were identified and linked to the fireground conditions and/or their use of PPE. The improper deployment of the helmet ear covers and coat collars contributed to the ear and face burns. The most severely injured firefighter

suffered burns because of his prolonged exposure exceeded the capabilities of his clothing; however, he also wore a non-compliant, non-department set of gloves that contributed to his hand burns.

A number of recommendations were made for better tracking of the gear, periodic inspections to ensure that individual-owned gear meets department requirements and is serviceable, informing members in the proper wearing of firefighter protective clothing, and in better instituting a care and maintenance program for PPE. Non-compliant PPE should not be tolerated. Specific emphasis is recommended for instructing members in the proper deployment of ear covers and coat collars and recognizing the need for wearing department approved protective clothing and equipment.

Objective

We were asked by Safety Investigation Team of the Prince George's County Fire/EMS Department to determine if there were any defects or other factors related to the personal protective equipment items worn by different firefighters that may have contributed to their burn or physical injuries sustained while engaged in a structural fire at 6404 57th Avenue in Riverdale, Maryland on February 24, 2012.

Equipment and Information Provided for Examination

Inspection/Tracking Forms were provided for six different firefighters that were injured in the course of the structural fire. These documents identified each item, the manufacturer, the serial number, and the date of manufacture (in some cases). The protective clothing and equipment of two firefighters – Truck 809 Force Entry and Truck 809 Officer – were provided for direct examination. For each firefighter, this clothing and equipment included their protective coat, pants, helmet, hood, gloves, and footwear. Additional items provided for Truck 809 Force Entry included his flashlight and radio leather harness. Additional items for Truck 809 Officer included his radio leather harness and a thermal imaging camera. Photographs were provided of selected gear items for Engine 807B Nozzelman, Engine 807B Officer, Engine 807B 2nd-line, and Engine 807B Layout/Backup. A second set of Inspection/Tracking Forms described the SCBA worn by these firefighters.

Additional information included:

- A roster of the firefighters responding to the incident
- Statements of firefighters from the specific incident
- The floor plans for the first floor and basement level of the structure
- Photographs of the fire scene during the investigation
- Photographs of radios used at the fire scene
- Photographs of tools recovered from the fire scene
- Reports on the weather conditions on the day of the fire
- Specifications for the PG County Fire/EMS Department coat and pants (2000)
- Maintenance records on selection gear items
- A list of approved PPE for PG County Fire/EMS Department dated April 2008

Overview of the Incident

According to the information released by the media contact person of the Prince George's County Fire/EMS Department, the following account was given:

Seven firefighters were injured as they battled a house fire in Riverdale. At about 9:11 pm on Friday, February 24, firefighters were alerted to a house fire in the 6400 block of 57th Avenue. An engine company from Riverdale and a truck company from Bladensburg were the first to arrive and encountered a 1-story, with basement, single family home with fire on both levels.

Preliminary reports indicated that firefighters had initiated an interior attack on the fire when a sudden rush of air, fanned by high winds, entered from the rear of the house either from a door or window being opened or broken out. The sudden addition of a large amount of fresh air into the fire environment created a "fire ball" inside the structure engulfing those firefighters engaged in interior operations. Those firefighters inside the structure existed or attempted to escape the structure interior as conditions escalated.

Incident commanders immediately called for additional resources by requesting an EMS Task Force and a Fire Task Force in addition to sounding evacuation tones. There were ultimately about 65 firefighters, paramedics and incident commanders on the scene.

Firefighters and EMS personnel went to the aid of the injured firefighters and prepared them for transport to the Burn Unit at the Washington Hospital Center. The injuries included burns, fractures and lacerations. Of the seven firefighters transported; four (3 from Riverdale and 1 from College Park) will be released and sent home tonight. The most seriously injured firefighters were Truck 809 Officer and Truck 809 Forcible Entry from the Bladensburg Fire/EMS Station #809 that were part of the first arriving truck company.

Another team of firefighters regrouped outside and re-entered the structure and had the fire extinguished in about 25 minutes after arrival.

The cause of the fire is currently under investigation and fire loss estimates are not yet available. This is a vacant structure although firefighters believed the house may have been occupied as a car was parked in the driveway.



**Figure 1 – Press Photograph of Fire Scene at 6404 57th Avenue,
Riverdale Heights, MD on 24 February 2012**

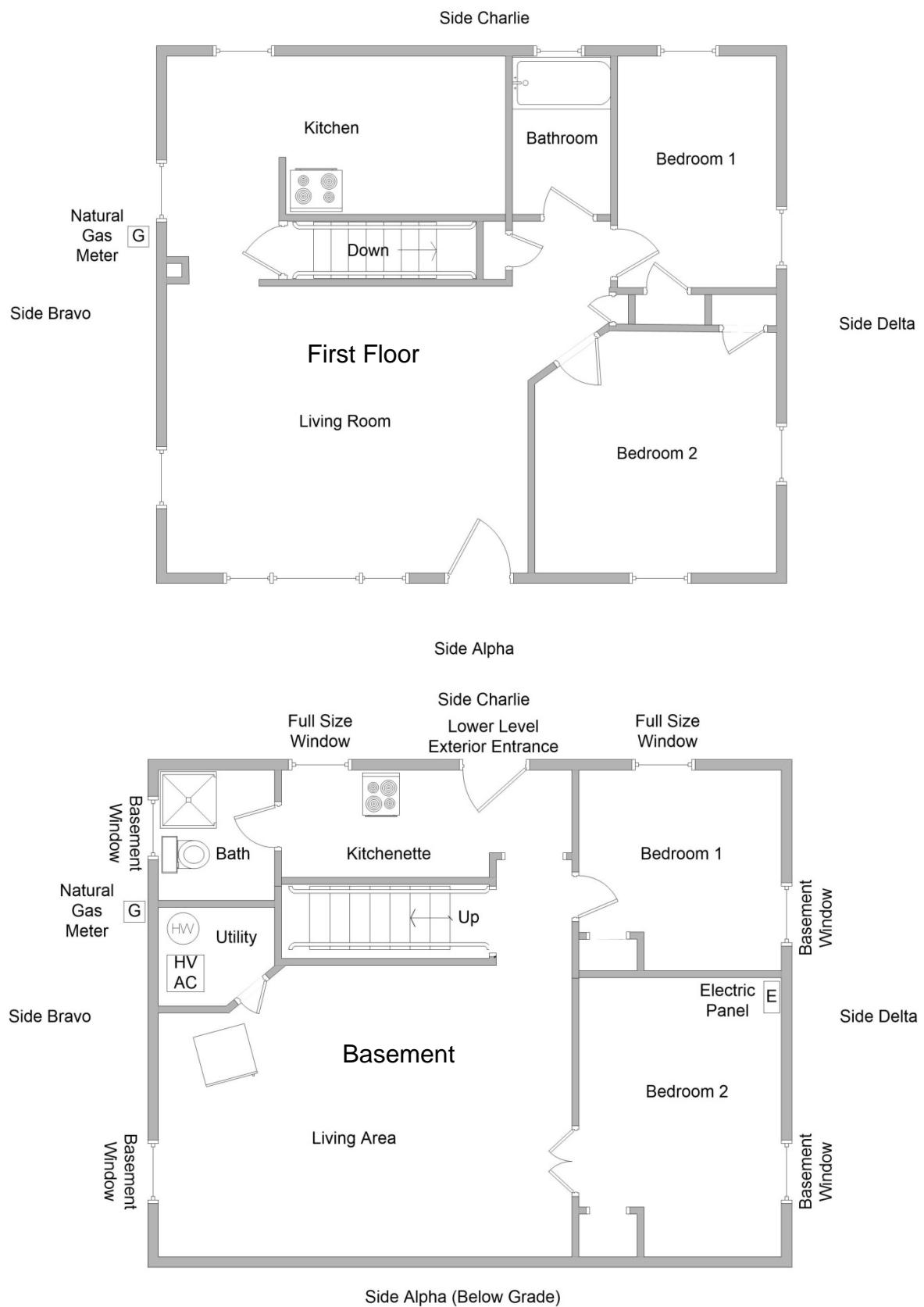


Figure 2 – Floor Plans for Structure at 6404 57th Avenue, Riverdale Heights, MD

A review of the post-incident statements taken of the incident firefighters provided additional details for the specific activity by each of the firefighters:

At approximately 9:10 pm on Friday February 24, 2012 units of the Prince Georges County Fire Department were alerted to respond to a reported house fire at 6404 57th Avenue in Riverdale Heights. Engine Company 807B, Engine Company 809 and Truck Company 809 arrived on the scene within minutes and reported a 2-story single family dwelling with fire showing from the basement window and requested the working fire dispatch. Firefighters arriving at the scene reported the fire with thick, black billowing smoke in front of the structure blowing to the alpha side of the structure and across the road due to high winds.

Engine 807B advanced an attack line to the front door and awaited forced entry from Truck 809. Truck 809 Officer and Truck 809 Forcible Entry went to the structure's front door on side Alpha. Truck 809 Officer went right and Truck 809 Forcible Entry went right in conducting a search of the structure interior. Truck 809 Officer noted fire coming across the ceiling on the Bravo-Charlie corner of the living room and went to locate Truck 809 Forcible Entry. Upon reaching Truck 809 Forcible Entry, Truck 809 Officer noted a rush of cold air through his clothing followed by immediate intense heat with the visibility being reduced from 5 feet to nothing. Truck 809 Officer instructed Truck 809 Forcible Entry to find a window and leave the structure. Truck 809 Forcible Entry dropped his ax and found a window on the Alpha side using his halligan tool to break the window but could not fit through even with Truck 809 Officer trying to push from behind. Both firefighters crawled along the Alpha side of the structure but could not get the door open. Truck 809 Forcible Entry attempted to transmit a Mayday. Truck 809 Officer reported laying on the floor with Truck 809 Forcible Entry and watching the flame front moving down from the ceiling toward them. He then found a window and went through it landing on another firefighter (Engine 807B 2nd-line). Truck 809 Officer stated that upon exiting, he pulled off his SCBA facepiece and reentered the structure to find Truck 809 Forcible Entry assisting in carrying him out of the structure before collapsing.

A hose line was brought into the structure by E807B as first arriving engine. The crew on the line consisted of Engine 807B Nozzleman, Engine 807B Forcible Entry, and Engine 807B Layout/Backup, and Engine 807B Officer. The crew was only able to advance 5 to 10 feet inside the structure when the then entire first floor erupted in flames forcing all firefighters to evacuate. Water was never applied from the hose line and the door shut after last crewman from Engine 807B exited the structure.

Engine 809 Officer and Engine 809 Nozzleman were part of the second-in engine crew. Equipped with a hose line from Engine 807B, they entered the basement level through the lower level exterior entrance (side Charlie) and encountered heavy fire conditions throughout. Beginning at the doorway, they swept their hose line right, and then continued down the hallway sweeping the hose line left and up the stairs to the first floor, proceeding straight into the basement's front room (on side Alpha). By the time they reached the front room, they had knocked down the majority of the fire and were focusing on hot spots when the evacuation tone sounded and they exited the structure

from the same door they entered. Engine 809 Nozzleman reported heavy smoke conditions in going around the house to the lower floor exterior door that required him to don his SCBA facepiece and reduced visibility to less than two feet. He also reported that when the wind changed direction, the fire observed in the basement windows on the Charlie side of the structure blew in. Both Engine 809 Officer and Engine 809 Nozzleman reported that the door came off the hinges upon entering the basement.

When the Emergency Identifier from Truck 809 Forcible Entry was activated, the Incident Commander ordered all personnel to leave the building. The Incident Commander also requested the working fire task force and an EMS task force due to the report of injured firefighters. While other firefighter at the scene crews were tending to the injured firefighters, crews from the remaining units on the call contained and extinguished the fire.

In total, seven firefighters were injured including 4 firefighter from Engine 807B and 2 firefighters from Truck 809. One firefighter from Engine 812 had an injury to his hand. The firefighters were transported to the hospital for evaluation and treatment.

Specific Description of Firefighter Injuries

The following burn injury descriptions and estimates were provided by the Prince George's County Fire/EMS Department:

- **Truck 809 Forcible Entry** sustained second and third degree burns to both hands and wrists, first and second degree burns to most of chest and back, and most of both legs and arms. Estimates were provided that he sustained burn injuries over 40% of his body. He was transported to and treated by the Washington Hospital Center's Burn Unit.
- **Truck 809 Officer** sustained first degree burns to both upper arms, chest, and back and second degree burns to upper back; had singed hair on top of heat and possible inhalation burns to throat and upper airways. He was transported to and treated by the Washington Hospital Center's Burn Unit.
- **Engine 807B Officer** sustained first degree burn injuries to both ears.
- **Engine 807B Layout/Backup** sustained first degree burns to the left side of face.
- **Engine 807B 2nd-line** suffered separated ribs and small burns to the top knuckles on both hands.
- **Engine 807B Nozzleman** sustained second degree burns to both ears.

Methodology Used in Evaluation

The primary approach in evaluating the provided items of personal protective equipment (PPE) was through a detailed inspection. Clothing and equipment were specifically evaluated for:

- Compliance with the relevant editions of NFPA 1971 standards at the time the item was indicated as being manufactured
- Conformity of the product design to the relevant design requirements of the NFPA 1971
- The general condition of the clothing in terms of its levels of soiling and wear
- Specific areas of physical damage and contamination
- The types, location, and severity of the thermal damage that may be linked to burn injuries sustained by the wearer
- Evidence of how the clothing item was worn and exposed
- Indications of prior care and maintenance

Knowledge of the general thermal environment conditions faced by the respective firefighters is used to assist in the characterization of the thermal damage sustained by the clothing. Particular attention is given to examining areas of the clothing or equipment that covered or was adjacent to areas of personal injury. This information is used to assist in establishing findings that can determine whether the PPE item contributed to or otherwise affected how the injury may have been sustained. In several cases, patterns of soiling and damage may be indicative of whether the clothing or equipment item was properly worn.

Observations for the types of damage found on different parts of the clothing and equipment items can provide clues as to the severity of the thermal exposures encountered by the respective firefighter. Many materials provide thermal signatures, i.e., telltale signs of specific damage that can be linked to certain exposure temperature or energies. For example, some dyed outer shell materials are known to release the dye through a process call dye sublimation (evaporation of the dye chemicals) at known temperatures. In addition, particular components of the clothing, such as trim, will tend to degrade at lower temperatures than the base materials used in the clothing's construction.

Where possible, assessments are made on interior layers and surfaces to determine the level of heat penetration that can be used to assess the propensity of heat transfer that led to burn injury. The relative susceptibility of each clothing or equipment layer and component is taken into account for judging the overall exposure levels and how the clothing or equipment item performed in the exposure environment.

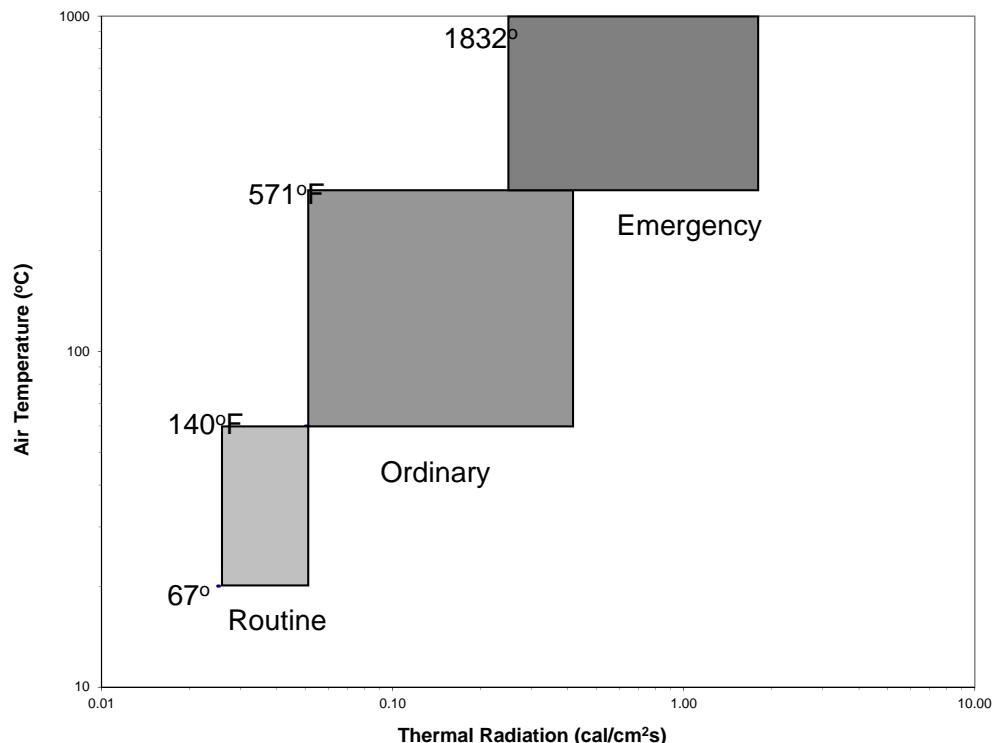
The Fireground Environment and its Effects on the Protective Clothing

One approach to analyze the burn injuries to the respective firefighters and the damage to their protective clothing is to examine industry information that shows the range of fireground conditions that can be experienced and relate these conditions to the types of damage that can occur to clothing and equipment. The relationship between

increasing thermal radiation (expressed in cal/cm²s) and the resulting rise in air temperature (expressed in degrees Celsius and degrees Fahrenheit) is presented in the figure below. Possible structural fire fighting situations are illustrated in this figure:^{1,2}

Figure 3 – Classification of Fireground Exposures

Figure 50. Range of Thermal Conditions Faced by Firefighters



- The **Routine** region describes conditions where one or two objects, such as a bed or waste basket, are burning in a room. The thermal radiation and the air temperatures are virtually the same as those encountered on a hot summer day. As shown in Figure 17, **Routine** conditions are accompanied by a thermal radiation range of 0.025 to 0.05 cal/cm²s and by air temperatures ranging from 68 to 140°F. Protective clothing for firefighters typically provides protection for tens of minutes under these conditions, but excessively long exposure times may create a burn injury situation.
- The **Ordinary** region describes temperatures encountered in fighting a more serious fire or being next to a "flash-over" room. **Ordinary** conditions are defined by a thermal range of 0.05 to 0.6 cal/cm²s, representing an air temperature range of 140 to 571°F. Under these conditions, protective clothing may allow sufficient

¹N. J. Abbott and S. Schulman, "Protection from Fire: Nonflammable Fabrics and Coatings, *Journal of Coated Fabrics*, Vol. 6, July 1976, pp. 48-64.

²H. P. Utech, "High Temperatures vs. Fire Equipment," *International Fire Chief*, Vol. 39, 1973, pp. 26-27.

time to extinguish the fire or to fight the fire until the nominal air supply is exhausted (usually at period limited to minutes).

- The **Emergency** region describes conditions in a severe and unusual exposure, such as those caused inside a "flash-over" room or next to a flame front. In **Emergency** conditions, the thermal load exceeds 0.6 cal/cm²s and temperatures exceed 571°F. In such conditions, the function of firefighters' clothing and equipment is simply to provide protection during the short time needed for an escape without serious injury.

In the incident description provided by the Prince George's County Fire/EMS Department, the injured firefighters were initially exposed to what presumably would be characterized as ordinary conditions that developed into emergency conditions on the first (main) floor of the structure after the wind changed direction that forced their immediate evacuation. The specific patterns of thermal damage to the clothing worn by Truck 809 Forcible Entry and Truck 809 Officer noted in the sections below corroborate this observation, as the most damaged areas involve degradation of multiple layers of the respective firefighters' clothing.

Identification of PPE Items Worn by Injured Firefighters

Table 1 provides an overview of the different personal protective equipment items worn by the six firefighters with identifying information as provided in the Inspection/Tracking Forms. Copies of these forms are provided in Appendix A. It is presumed that the label information present enabled the determination of the manufacturer, model, serial number and manufacturing date for the individual items. In a few cases, labels were indicated as missing or the item was not available to the department. Where serial numbers were not reported, it is assumed that the "write in" information on the printed label was not discernible or sufficiently legible to permit a complete identification of the item.

The Inspection/Tracking Forms made the distinction as to whether the items were owned by the Prince George's County Fire/EMS Department or individually owned. When individually owned, the item was compared against the list of approved PPE for PG County Fire/EMS Department dated April 2008 (Appendix B). In addition, these items were evaluated on the basis of the 10-year service life requirement stated in NFPA 1851, *Standard for the Selection, Care, and Maintenance of Protective Ensembles for Structural and Proximity Fire Fighting*.

General observations from the clothing and equipment for the six firefighters include:

- Protective coats and pants were provided by two different manufacturers – Globe Manufacturing Company and Sperian Protective Apparel. One of the older Sperian coats was identified as "Securitex," which is the former name of the same company. As the clothing was owned by the county, those items not examined were expected to have complied with the PG County Fire/EMS Department clothing specifications at the time of purchase. However, there was one

set of pants that appeared to be over 10 years old. In addition, there was one firefighter (Engine 807B 2nd-line) that had a set of pants from one manufacturer and a coat from a different manufacturer. This can sometimes create an issue since the overlap between coat and pants may not be properly maintained if completely different pant and coat designs are utilized.

- All of the listed helmets were leather styles owned by each individual firefighter. Of the two helmets directly examined, one did not have a label and the other helmet label indicated compliance only with the OSHA regulations. The helmets appear to be Cairns N6A but neither helmet appeared to have had trim. Of the helmets for the other firefighters, one was a style not on the “approved” list and was also not compliant with NFPA 1971, *Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*.

Table 1 – General Identification of Clothing and Equipment Items for Six Injured Fighters

Clothing or Equipment Item	Truck 809 Forcible Entry	Truck 809 Officer	Engine 807B Officer	Engine 807B Layout/Backup	Engine 807B 2 nd -Line	Engine 807B Nozzelman
Protective coat	Globe G-Xtreme Ser. No. 2904942 June 2005	Globe G-Xtreme Ser. No. 2904864 June 2005	Securitex Ser. No. 20369602 November 2004	Sperian Ser. No. 39483203 May 2011	Securitex Ser. No. 25695910 June 2006	Sperian Ser. No. 37751815 September 2010
Protective pants	Globe G-Xtreme Ser. No. 2904089 June 2005	Globe Label unreadable Mfg. date unknown	Sperian Ser. No. 36764306 April 2010	Sperian Ser. No. 30080804 April 2007	Globe G-Xtreme No provided July 2009	Sperian Ser. No. 37798005 September 2010
Protective helmet	Cairns Houston Label unreadable Mfg. date unknown Individually owned	Cairns Houston No label Mfg. date unknown Individually owned	Cairns Houston Ser. No. 6009080 October 2010 Individually owned	Cairns New Yorker Ser. No. 101879068 May 2010 Individually owned Unauthorized Not compliant with NFPA 1971	Cairns Houston Not provided November 2004 Individually owned	Cairns Houston Ser. No. 101260133 July 2007 Individually owned
Protective hood	Lifeliners (Nomex) Label info unreadable Mfg. date unknown	Lifeliners (Nomex) Label info unreadable Mfg. date unknown	Lifeliners (Nomex?) Not obtained	Lifeliners (Nomex?) Information not provided	Lifeliners (Nomex?) Information not provided	Not obtained
Protective gloves	Tempo Individually owned Unauthorized Not compliant with NFPA 1971	Dragon Alpha NX Label unreadable Mfg. date unknown Individually owned Unauthorized	American Firewear Not obtained	American Firewear Sleevemate Information not provided Individually owned	American Firewear Sleevemate Information not provided Individually owned	American Firewear Sleevemate Ser. No. 168897 February 2011

Clothing or Equipment Item	Truck 809 Forcible Entry	Truck 809 Officer	Engine 807B Officer	Engine 807B Layout/Backup	Engine 807B 2nd-Line	Engine 807B Nozzelman
Protective footwear	Globe Structural 14 Ser. No. 1201400 July 2008 Individually owned	Pro 9020 HP310767604 August 2010 Individually owned	Globe Structural 14 Ser. No. 1201400 August 2009 Individually owned	Weinbrenner Ser. No. 65000010 March 2007 Individually owned Unauthorized	Pro WP310216812 May 2003 Individually owned	Pro WP310795829 May 2007 Individually owned

- All hoods were reported as being from Lifeliners and appeared to be 100% Nomex. No serial numbers or manufacturer dates were reported because it was likely that the information no longer appeared on the label as the label style uses hand written information to indicate the fabric content, style, lot number, and date of manufacture. Of the two Lifeliners hoods directly examined, none of this information was readable from the labels. However, the label for Truck 809 Officer's hood indicated that the hoods were compliant with the 2000 edition of NFPA 1971, making the hood was at least 5 years old from their date of manufacture (since the current edition is 2007).
- The gloves for both firefighters that were directly examined were not gloves approved by PG County Fire/EMS Department. One set of these gloves (Truck 809 Officer) were compliant with the 2007 edition of NFPA 1971, but was not listed as gloves approved by the PG County Fire/EMS Department. The other pair of gloves was manufactured by Tempo Gloves and did not comply with NFPA 1971. In fact, the gloves are not certified and cite a long-discontinued standard. Additional information on this product is given in the subsequent sections. All other firefighters wore the approved American Firewear "Sleevemate" gloves.
- All footwear was indicated as being owned by the individual. With the exception of the footwear worn by Engine 807B Layout/Backup, the protective footwear worn by each firefighter was from the approved list for the PG County Fire/EMS Department.

The personal protective equipment items for two firefighters that had the most severe exposures were directly examined as part of this investigation.

Observations for Condition of Examined PPE Items

Table 2 provides a detailed description for the identification of the protective clothing and equipment items worn by Truck 809 Forcible Entry and Truck 809 Officer that were examined. Table 3 lists specific observations on the condition for each of these items. A more detailed description of the individual item condition is provided in the following narratives for each firefighter, which are accompanied by photographs that are included in separate appendices.

Truck 809 Forcible Entry

Photographs from the examination of the protective clothing and equipment items worn by Truck 809 Forcible Entry are provided in Appendix C. The protective helmet worn by Truck 809 Forcible Entry sustained severe heat damage as shown in the front, back, and side views (Figures C-1 through C-4). These photographs show significant heat charring and distortion to the helmet leather surfaces, ribs, and front edge beading. Bubbling of the painted surface appears on some parts of the helmet shell. There is dry wall or other white substance on the front of the helmet and parts of the helmet. Any reflective markings that may have been present are missing and the front shield is curled and charred. The helmet ear covers shown in Figure C-5 do not appear as soiled as the rest of the helmet and were likely not deployed. The chin strap was dirty but not

soiled and there was no heat damage to the hook and loop closure tape or plastic hardware.

**Table 2 – Specific Identification of Clothing and Equipment Items for Truck 809
Forcible Entry and Truck 809 Officer**

Protective Clothing or Equipment Item	Truck 809 Forcible Entry	Truck 809 Officer
Protective coat	Globe Firefighting Suits GXtreme Jacket 7.2 oz PBI Matrix Gold outer shell; Crosstech on PJ moisture barrier; Caldura Aralite quilt thermal barrier; Interior shoulder thermal barrier reinforcements Style # 31184410 Serial # 2904942 Cut # 51116C 48 chest; 35 length Mfr date: 6/2005 NFPA 1971-2000 compliant	Globe Firefighting Suits GXtreme Jacket 7.2 oz PBI Matrix Gold outer shell; Crosstech on PJ moisture barrier; Caldura Aralite quilt thermal barrier; Interior shoulder thermal barrier reinforcements Style # 31184410 Serial # 2904864 Cut # 51116C 46 chest; 35 length Mfr date: 6/2005 NFPA 1971-2000 compliant
Protective pants	Globe Firefighter Suits GXtreme Trouser 7.2 oz PBI Matrix Gold outer shell; Crosstech on PJ moisture barrier; Caldura Aralite quilt thermal barrier; Leather reinforced knees with interior liner moisture barrier layer; Style # 41184410 Serial # 2904089/Cut # 51116P 36 waist; 30 inseam Mfr date: 6/2005 NFPA 1971-2000 compliant	Globe Firefighter Suits Model name not discernible PBI/Kevlar outer shell; Crosstech PJ moisture barrier; Caldura Aralite quilt thermal barrier; Leather reinforced knees with no interior lining; Style # not readable Serial # not readable/Cut # not readable 36 waist; inseam not readable Mfr date: unknown NFPA 1971-2000 compliant
Protective helmet	MSA Cairns Leather No label present NFPA certification status unknown Lacks required trim	MSA Cairns Houston OSHA 1910.156 compliance label NFPA certification status unknown Lacks required trim
Protective hood	LifeLiners Beige color Label information not readable Appears to be 100% Nomex NFPA 1971-2007 compliant	LifeLiners Beige color Label information not readable Appears to be 100% Nomex NFPA 1971-2000 compliant

Protective Clothing or Equipment Item	Truck 809 Forcible Entry	Truck 809 Officer
Protective gloves	Tempo Max Leather shell, wool lining, no moisture barrier; Compliance indicates 1988 edition of NFPA 1973 with exception of water penetration and Fed OSHA and Cal OSHA, no manufacture date.	Dragon Fire Alpha NX Leather outershell Polyurethane moisture barrier Modacrylic/cotton liner (Kovenex) NFPA 1971-2007 compliant
Protective footwear	Globe Firefighting Suits 14" Structural Pull-on Boot Model # 3916-2 Style # 1201400 Serial # 60051168 Manufacture date 7/08 Size 10-1/2 extra wide NFPA 1971-2007 compliant	Warrington Pro Style # 9020 Serial # HP310767604 Manufacture date 8/10 Size 10 E NFPA 1971-2007 compliant

**Table 3 – Overview of Clothing and Equipment Item Condition for Truck 809
Forcible Entry and Truck 809 Officer**

Item	Truck 809 Forcible Entry	Truck 809 Officer
Protective coat	<p>Shell – Severely soiled with thermal damage; trim destroyed throughout coat; charring extensive on front and back of coat; collar was not deployed as evidenced by soiling pattern; melted residue on front shoulder; back of coat shows less charring and strap pattern due to SCBA; water wells cut open on left and right sleeves; shell label melted onto liner.</p> <p>Liner – Moisture barrier melted to lining on long seams on back; bottom of interior lining heavily soiled; thermal damage to both arms and shoulders, and mid front torso; wristlets cut; damage most extensive to right side; melted material on right wristlet; thermal damage extends to thermal barrier at shoulders; small burn hole on thermal barrier at mid chest next to front closure (likely due to ember entering coat).</p>	<p>Shell – Heavily soiled coat; residue in different places, trim damage on shoulders and arms (some portions unaffected); closure flap not secured properly; tar residue along places bottom of coat; small hole on shell left side mid torso; collar was not deployed, appears to be re-lettered (belonged to another fire department or fire fighter).</p> <p>Liner - Moderate soiling on moisture barrier side; minor scorch marks underneath left arm; soiling of thermal barrier side predominately front torso; condition of liner interior appears to be worn with some soiling but seams are intact.</p>

Item	Truck 809 Forcible Entry	Truck 809 Officer
Protective pants	Shell – Heavy fireground soiling and some thermal damage; carpet debris on knees and lower legs; tar residue on various portion on front; moderate charring to front and back of legs; physical damage on left and right cargo pockets; trim is totally degraded; significant wear to bottom of cuffs; interior condition of shell shows minor wear. Lining - Moderately soiled, primarily bottom of legs; mild wear, provided with inspection opening' moisture barrier slight wear with seams intact; thermal barrier has slight wear in crotch area.	Shell – Heavily soiled; moderate to heavy wear; tar residue on various locations; damage to leather patch on right cargo pocket; some charring on lower legs; pants have been patched and repaired previously on back of pants and lower side, tears and worn through areas in right leg; interior face fabric in fly area severely degraded; no label of shell (before practice of having shell label); appears to be beyond service life. Liner – Moderate to heavy soiling; soiling heaviest at bottom of pants near cuffs; multiple areas of quilt stitching are broken; minor tears in thermal barrier face cloth.
Protective helmet	Heavy soiling and thermal damage over entire shell shown by charring and distortion of leather; front shield severely distorted; some bubbling of paint; trim either disintegrated or never present; ear covers soiled but show pattern of not being deployed; chin strap soiled but still functional.	Heavily soiled; no reflective markings to begin with; missing leather edging on front right brim; cracked and warped primarily on sides and front; paint chipped across most crown ridges; ear covers appear to be deployed and heavily soiled; very mild thermal damage to ear covers; chin strap soiled but functional.
Protective hood	Moderate to heavy soiling around face opening; small rips on both left and right bibs.	Heavily soiled around face opening; tears on lower bib on both sides; heavily worn.
Protective gloves	Shell severely soiled (originally tan in color); melted residue on palm on both gloves; appear to have shrunk from original size; liner intact.	Moderately soiled mild damage to the fingertips; right glove has some white residue at the base at the wrist; mild thermal shrinkage.
Protective footwear	Overall moderate wear and tear; no significant thermal damage; toes soiled and scraped, moderate wear on upper and outsole; moderate soiling on exterior.	moderate soiling over exterior; moderate wear on outsole; no apparent thermal damage.

There was no label on the interior of Truck 809 Forcible Entry's helmet and it is likely that the label was removed (Figure C-6). In addition there does not appear that visibility markings were ever present on the helmet shell or that there was evidence of a compliance label. The helmet has indications of being the Sam Houston, which was certified to NFPA 1971; however, it is possible the visibility markings may have been removed.

Truck 809 Forcible Entry's protective hood was a Lifeliner knit hood. The write-in information on the hood was not discernible. Figure C-7 provides a front view of the hood while side views are provided in Figures C-8 and C-9. These pictures show fireground soiling and charring around face opening. There are also small tears at the bottom of the bib on the left and right sides (Figures C-10 and C-11). These tears may have been created in the urgency of removing Truck 809 Forcible Entry's hood after being pulled out of the structure. The hood label is shown in Figure C-12. The hood appears to be a 100% Nomex that was compliant to the 2007 edition of NFPA 1971 at the time of manufacture (the date of manufacture is also unreadable).

The front and back of Truck 809 Forcible Entry's protective coat are shown in Figures C-13 and C-14. The coat appears to have been heavily worn (prior to the fire incident) but also shows significant fireground soiling and thermal damage. Portions of the outer shell are charred, primarily on the front and along the sides. The trim is heavily damaged on the front of the coat and arms and the lower band on the back (see Figure C-15). The collar soiling patterns shows that the collar was never properly extended as seen in Figure C-16. The hook and loop tape is severely melted as apparent in Figure C-17 meaning that the collar closure was also not secured. The soiling and char pattern on the back of the coat shows where part of the clothing was shielded by the straps and mass of the self-contained breathing apparatus (Figure C-18). Some of the same white debris on Truck 809 Forcible Entry's helmet is also present on the upper right front of his protective coat (Figure C-19). The water wells in the coat sleeves had been cut (Figure C-20), presumably to rapidly remove the coat from Truck 809 Forcible Entry when he was brought out of the structure.

The interior views of the outer shell provided in Figures C-21 and C-22 show the contrasting appearance for the inside of the coat. While the char damage can be seen in some portions of the clothing (example shown in Figure C-23), the most telling sign of thermal damage is the label that is positioned on the upper interior back of the shell (Figure C-24). Portions of the label are missing because it melted onto the lining.

The liner was separately examined on both the moisture barrier and thermal barrier sides. The front and back of the liner moisture barrier side appear in Figures C-25 and C-26. Charring is most evident on the upper shoulder areas on both left and right sides (Figures C-27 and C-28). As previously indicated, the shell product label melted onto the liner (as shown in Figure C-29). Both wristlets, which are attached to the liner, show heavy soiling and were cut in removing the coat from Truck 809 Forcible Entry. The right sleeve wristlet (Figure C-30) shows a white solid residue melted to it.

The liner was provided with an inspection opening that permitted viewing the liner interior; however, several portions of the moisture barrier seam tape were melted onto the thermal barrier preventing its full inversion (Figures C-31 and C-32). The shoulder areas showed extensive moisture barrier film damage and dye sublimination of the interior shoulder reinforcement, which is normally a light blue color (Figure C-33). Similar damage occurred at the left shoulder but to a lesser degree (Figure C-34).

The thermal barrier side of the liner shows much less damage (Figures C-35 and C-36); however, there is a small burn hole on the right front side of the coat halfway up the front opening that may have been caused by a small ember that penetrated the front closure (C-37). The coat liner label appears in Figure C-38.

The protective pants worn by Truck 809 Forcible Entry are pictured in Figures C-39 and C-40. These pants show heavy soiling, particularly in the knee region (Figure C-41) and some physical damage particularly to the pockets (Figure C-42). There were deposits of a dark tar-like substance and carpet fibers embedded in melted residue particularly along the knees. The trim is heavily degraded though the retroreflective portion of the trim still seems functional (Figure C-43). The interior of the pants on the shell side show little damage but some soiling (Figures C-44 and C-45). The product label on the pants shell is shown in Figure C-46.

The interior of the pants show little damage but moderate to heavy soiling, particularly in the lower area near the pant cuffs on both the moisture barrier and thermal barrier sides (Figures C-47 through C-50). An inspection of the liner interior shows little damage. The moisture barrier tape appeared intact (Figure C-51) and there was some mild pilling of the batting side of the thermal barrier in the crotch area indicative of normal wear in bunker clothing (Figure C-52). The interior knee reinforcement is shown in Figure C-53, and the pants liner product label appears in Figure C-54.

The gloves were heavily soiled from the normal gold color on both the back and palm sides (Figure C-55 and C-56). One of the gloves had already been cut open showing the interior glove construction to consist of only a wool thermal barrier with no moisture barrier (Figure C-57). The product label for the glove provided in the glove interior appears in Figure 5-58. The backside of this label indicated compliance of the product to NFPA 1973, an older standard for gloves that had been discontinued in 1997 (Figure C-59). Yet the gloves did not appear to be over 15 years old. The specific product label language indicated compliance to the 1988 edition of the NFPA 1973 standard and stated there was an exclusion to one specific requirement that was part of the standard (Section 2-5.5 addressed water penetration resistance).

There was nothing unusual about the condition of the protective footwear worn by Truck 809 Forcible Entry. Various views of the footwear are presented in Figures C-60 through C-64 showing some wear and tear and fireground soiling, but no obvious or significant thermal damage. The product labels which are laminated to the liner in the footwear upper shaft are shown in Figures C-65 and C-66.

A number of other items that were worn or used by Truck 809 Forcible Entry were also presented for examination. These included a radio case and harness (Figure C-67), a large hand carrying flashlight (Figure C-68), and a small coat-mounted flashlight (Figures C-69 and C-70). There was no remarkable damage to the radio case and harness leather. However, there was some melting and deformation of the plastic components for both flashlights.

Truck 809 Officer

Photographs from the examination of the protective clothing and equipment items worn by Truck 809 Officer are provided in Appendix D.

The protective helmet worn by Truck 809 Officer has a similar appearance to the helmet worn by Truck 809 Forcible Entry, in the extent of fireground soiling and thermal damage, as seen in the various views provided in Figures D-1 through D-4. The front of the helmet shows deterioration of the front edge of the brim with the loss of material from severe deterioration. However, the exterior of the ear covers are moderately soiled indicating their deployment during the fire response (Figure D-5). The condition of the helmet interior is also similar, showing thermal damage and bubbling of the paint on the underside of the brim, but with the headgear and chin strip intact and functional (Figure D-6). Only an OSHA compliance label was found on the helmet interior and it is doubtful that this helmet complied with NFPA 1971 due to the lack of reflective markings. A charred number 9 appears in a location where a reflective marking should have appeared (Figure D-7).

The protective hood is likewise similarly soiled with the same appearance as the hood worn by Truck 809 Forcible Entry (Figures D-8 through D-10); however, soiling on the lower front bib of the hood that suggests that the hood bib was pulled out during his reentry into the structure. There is a tear on the right middle portion of the bib (Figure D-11). Yet, the hood worn by Truck 809 Officer predates the 2007 edition standard and has a label indicating compliance with the 2000 edition of NFPA 1971 (Figure D-12). A second hood was provided with Truck 809 Officer's gear that was a newer American Firewear hood of the same material but a different design. While worn and soiled, it did not appear to have been used during the fire incident.

Truck 809 Officer's protective coat showed signs of heavy wear and thermal degradation. The front and the back of the coat exterior, pictured in Figure D-13 and D-14, show soiling over the majority of the coat, melted/thermally-degraded trim and some physical damage. A close-up of the left shoulder shows the heavily soiling and thermal damage (Figure D-15). It is further apparent that the collar was not properly deployed when the normal extended side of the collar is examined (Figure D-16). Small burn holes are noted on the back and the front of the coat with the front hole shown in Figure D-17. The opposite side of the same hole is seen in Figure D-18 as visible from the interior shell side. The contrast in soiling condition can be observed for the shell interior in Figures D-19 and D-20. The outer shell label is provided in Figure D-21.

The inspection of Truck 809 Officer's protective coat liner showed that it was in relatively good condition. Photographs of the front and back of the liner are provided in Figures D-22 and D-23. A small light char mark is visible on the front left side of the liner consistent with the outer shell hole (Figure D-24). An examination of the lining interior showed the moisture barrier to be undamaged and the seams intact (Figure D-25). Similarly, there is very little soiling present and no indication of thermal damage on the thermal barrier side of the lining (Figure D-26 and D-27). A small tear was noted in a side seam, which may have occurred during manufacturer or during strain placed on the garment during use (Figure D-28). The product label that is affixed to the lining is shown in Figure D-29.

It was impossible to determine the age of Truck 809 Officer's pants as there was no label on the outer shell and portions of the liner product label was unreadable. It could be discerned that the product was manufactured to the 2000 edition of NFPS 1971, but the pants appears to be of an older generation of manufacturer's current pants styling. Figures D-30 and D-31 show well-worn pants that had been patched and repaired several times. Figure D-32 is a close-up of the top back of the pants showing multiple stitched and patched areas. Similar patches are shown on the top portion of the left cargo pocket (Figure D-33), while the bottom leather pocket reinforcement is badly damaged (Figure D-34). There is some trim deterioration from the exposure primarily in the form of soiling, though it appears that the trim was previously replaced (Figure D-35). The patches and wear were also evident on the interior of the lining (Figures D-36 and D-37); however, the facing (barrier) material in the pants fly is deteriorated from age (not heat) as shown in Figure D-38. There is heavy soiling on the interior lower legs of the pants shell (Figure D-39).

Much of the soiling shows up on the moisture barrier side of the lining (Figures D-40 and D-41). While this is lighter levels of soiling on the thermal barrier side of the lining (Figures D-42 and D-43), it is apparent that the lining is well worn by the wear holes and missing quilt stitching (Figure D-44). The product labels are positioned on the front of the pants liner instead of the back indicating that the pants are relatively old and likely more than 10 years old.

The protective gloves worn by Truck 809 Officer are heavily soiled but show only minor thermal damage (Figures D-45 and D-46). The product label on the glove interior indicates compliance with the 2007 edition of NFPA 1971 (Figure D-47), but the write-in language indicating the date of manufacture and lot number is un-readable (Figure D-48).

The protective footwear used by Truck 809 Officer during the fire incident appeared to be in reasonable condition (Figures D-49 through D-51). The footwear showed some fireground soiling but no thermal damage. The label for the footwear appears in Figure D-52.

Also provided with the gear for Truck 809 Officer was a thermal imaging camera. The left and right sides of this camera are shown in Figures D-53 and D-54. While there is

some slight thermal degradation of the camera on some plastic parts of the viewing area, the camera was primarily soiled with fireground contaminants.

Observations for Other Firefighters

Contact sheets with photographs for Engine 807B Officer, Engine 807B Layout/Backup, Engine 807B 2nd-Line, and Engine 807B Nozzleman were provided and examined for attributes that may have been cause for their injuries. Copies of these contract sheets are provided along with the Inspection/Tracking Forms in Appendix A. Observations were made on the condition of the protective clothing and equipment item on the basis of photographs and are provided in Table 4. Detailed observations were not possible since these items were not made available for direct examination. For example, except where significant charring occurred, it was not possible to distinguish soiling from charring of the textile components for these items.

A summary of these observations include:

- The protective helmets were much less soiled and did not exhibit the charring as observed for the helmets worn by Truck 809 Forcible Entry and Truck 809 Officer. With the exception of Engine 807B 2nd-Line (who sustained separated ribs and minor burn injuries to his hands), there were clear indications that the ear flaps had not been deployed.

Table 4 – General Observations on Condition of Firefighter Clothing and Equipment Items

Protective Clothing or Equipment Item	Engine 807B Officer	Engine 807B Layout/Backup	Engine 807B 2nd-Line	Engine 807B Nozzelman
Protective helmet	Helmet soiled, but paint appears intact; ear covers do not appear to have been deployed	Helmet soiled, but paint appears intact; ear covers do not appear to have been deployed	Helmet lightly soiled; not possible to determine if ear covers were deployed	Helmet soiled, but paint appears intact; ear covers do not appear to have been deployed
Protective hood	Soiling pattern consistent with fireground use with lack of ear cover use and collar extension	Soiling pattern consistent with fireground use with lack of ear cover use and collar extension	Soiling around face opening extending to back of head	Soiling pattern consistent with fireground use with lack of ear cover use and collar extension
Protective coat – shell	Moderate fireground soiling; collar not extended during use; trim still functional	Moderate fireground soiling; collar not extended during use; trim still functional	Moderate fireground soiling; collar not extended during use; trim still functional	Moderate fireground soiling; collar not extended during use; trim still functional
Protective coat – liner	Soiling penetrating shell to moisture barrier side of liner	Soil penetration to moisture barrier side of liner at shoulder areas	Soiling penetrating shell to moisture barrier side of liner	Very little soiling on moisture barrier side of liner
Protective pants – shell	Moderate fireground soiling	Light to moderate fireground soiling	Moderate fireground soiling	Light to moderate fireground soiling
Protective pants – liner	Soiling penetrating shell to moisture barrier side of liner	Some soil penetration to moisture barrier side of liner	Soiling penetrating shell to moisture barrier side of liner	Very little soiling on moisture barrier side of liner
Protective gloves	Gloves show moderate to heavy soiling, some loss of reflectivity on trim band	Gloves show moderate to heavy soiling	Gloves show moderate to heavy soiling	Gloves show light to moderate soiling
Protective footwear	No specific levels of soiling or damage was discernible	Moderate fireground soiling	No specific levels of soiling or damage was discernible	No specific levels of soiling or damage was discernible

- The protective hoods all showed significant soiling around the face opening, but in many cases the soiling extended to the sides and back indicating that the helmet ear covers were not deployed and the collars were not full extended and secured with the closure flap.
- The protective coats and pants showed significantly lower soiling levels than those worn by Truck 809 Forcible Entry and Truck 809 Officer. In particular, the trim appears to be functional over the majority of the clothing item.
- In many cases, it was difficult to determine with any level of certainty, if the collars for each of the firefighter protective coats were extended. The collar for each firefighter appeared not to have been worn upward for each of the firefighters.
- No remarkable levels of soiling or damage were noted to the gloves or footwear worn by each of the firefighters.

Additional observations for the condition of the gear were provided from a representative of the independent service provider. These observations are summarized in Table 5.

Table 5 – External Examination Findings for Other Firefighter Gear*

Firefighter	Item ID Provided	Comments and Recommendations
Engine 807B Officer	Coat-Sperian #20369602 11/2004 40T	<ul style="list-style-type: none"> • Excessive dirt/smoke/soot contamination • Storm flap Velcro compromised/thermal exposure • Right hand/wrist guard has several holes • Thermal liner has evidence of fraying around bottom • No other immediate signs of damage to thermal liner and moisture barrier
	Pant-Sperian #36764306 4/2010 34x30	<ul style="list-style-type: none"> • Excessive dirt/smoke/soot contamination • Bottom of legs on outer shell has holes and is worn in back from walking on material/possibly cut out • Seams on lower legs of outer shells are compromised/fraying and loss of seam strength • Scotchlite material on legs has holes and loose stitches • No other immediate signs of damage to thermal liner and moisture barrier

Firefighter	Item ID Provided	Comments and Recommendations
	Hood-White Nomex-Lifeliner	<ul style="list-style-type: none"> Excessive dirt/smoke/soot contamination-concentration around face opening/top/sides No evidence of physical damage, however possible thermal exposure evident **Condemn Hood** Due to FF Injury/compromised integrity
Engine 807B 2 nd -Line	Coat-Sperian #25695910 6/2006 42T	<ul style="list-style-type: none"> Excessive amount of dirt/smoke/soot contamination Several areas of scotchlite has stitches missing/loose No other immediate signs of damage to shell, thermal liner, or moisture barrier
	Pant-Globe #31026823 7/2000 Size Unreadable Possible 34x30	<ul style="list-style-type: none"> Excessive amounts of dirt/smoke/soot contamination Holes in bottom of legs Loose, missing stitches in scotchlite Missing suspender buttons **Condemn Pants**Due to age (12 yrs old & cost to repair)
	Hood-White Nomex-Lifeliner	<ul style="list-style-type: none"> Excessive amount of dirt/smoke/soot contamination w/concentration around face opening Possible thermal exposure **Condemn Hood**Due to possible thermal exposure
Engine 807B Nozzelman	Coat - Sperian #37751815 9/2010 42T	<ul style="list-style-type: none"> Excessive amount of dirt/smoke/soot contamination No other immediate signs of damage to shell, thermal liner, or moisture barrier
	Pant -Sperian #37798005 9/2010 36x30	<ul style="list-style-type: none"> Excessive amount of dirt/smoke/soot contamination No other immediate signs of damage to shell, thermal liner, or moisture barrier
	Hood-White Nomex-Lifeliner	<ul style="list-style-type: none"> Excessive amount of dirt/smoke/soot contamination w/concentration around face opening Evidence of thermal exposure and damage around face opening **Condemn Hood**Due to FF injury & damage to hood
Engine 807B Layout/Backup	Coat-Sperian #39483203 5/2011 54T	<ul style="list-style-type: none"> Excessive amount of dirt/smoke/soot contamination No other immediate signs of damage to shell, thermal liner, or moisture barrier
	Pant-Sperian #.30080804 11/2007 50x32	<ul style="list-style-type: none"> Excessive amount of dirt/smoke/soot contamination Damage to bottom of legs in back Scotchlite damaged, torn No other immediate signs of damage to thermal liner and moisture barrier

Firefighter	Item ID Provided	Comments and Recommendations
	Hood-White Nomex-Lifeliner	<ul style="list-style-type: none"> • Excessive amount of dirt/smoke/soot contamination w/concentration around face opening • Evidence of thermal exposure around face opening/sides • **Condemn Hood** Due to FF injury & damage to hood

* Information provided by Don H. Peete, Manager PPE Center, Uniform Sales, Maryland Fire & Rescue

Review of Standard Operating Procedures and PPE Cleaning/Maintenance History
 Three different fireground standard operating procedures (SOPs) for the PG County Fire/EMS Department were reviewed, including:

- General Order Number 06-01: Fireground Standard Operating Procedure for Structural Fires
- General Order Number 06-03: 2 In, 2 Out and Rapid Intervention
- General Order Number 06-04: Mayday Procedure

None of these standard operating procedures provides any specific instructions for the wearing of protective clothing other than the General Order Number 06-03 stating that the initial and standby teams be equipped with full protective clothing.

In addition, PG County Fire/EMS Department General Orders, Chapter 03 – Cleaning, Repair, Replacement and Alterations of Personal Protective Equipment, was provided. This document gives specific procedures for member responsibilities and logistical arrangements for the cleaning and care of PPE. It also provides the disposition for gear that has been contaminated or compromised, and includes procedures for the handling of gear involved in incidents where burns or other injuries have occurred. The provisions in this chapter are generally consistent with the requirements of NFPA 1851, *Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*, but there are no specific requirements for regular inspections and cleaning of the gear on an annual basis.

Care and maintenance records for the subject protective coats and pants were requested for each of the injured firefighters by Safety Investigation Team. The independent service provider (ISP), Maryland Fire Equipment Corporation, was only able to locate records identify 4 of 12 clothing items (coat and pants) by serial number or other identifying information. In one case, the provided serial number for Truck 809 Officer's coat was shown as being issued to a different firefighter. The records for protective pants were found for Truck 809 Forcible Entry and the records for both the coat and pants for Engine 807B Nozzelman were located. The records produced by Maryland Fire Equipment Corporation listed the individual as "Logistics" for several items, were relatively vague on the description of the repairs and did not indicate a date

or person responsible for the repairs. It did not appear that these clothing items had been subjected to the once a year advanced cleaning as required by NFPA 1851. It does not appear that all protective clothing items subject to routine care and maintenance (protective coat and pants) are identified in the system or are being subject to advanced cleaning, which is required annually.

Findings and Conclusions

Characterization of the Exposure Environment – The combination of the descriptions provided for the incident and the observed extent of damage noted for some clothing items indicates a wide range of exposure temperatures and levels of radiant heat. As previously described, the initial response would have taken place at the high end of ordinary fireground conditions. The fire present in the structure would have produced exposure temperatures in the range of 200 to 300°F depending on the location of the firefighters. Under these conditions, the firefighters inside the structure were able to carry out fire suppression duties, but when the wind direction changed and blew directly through opening(s) in the structure, the fire conditions dramatically changed with both air temperatures and radiant heat levels rising to over 400°F and beyond 0.25 cal/cm²s. The protective clothing ensemble can adequately provide protection under these conditions for a couple of minutes and show very little evidence of thermal damage. Yet, there are some clothing components, notably trim and helmet faceshields or Borque eyeshields that start to degrade at these temperatures. However, for the engine and truck company firefighter teams inside these structures, prolonged exposure with dynamically changing conditions can produce burn injuries to the less protected portions of the body. These were the conditions that were faced by Engine 807B Officer and the three other firefighters that accompanied him as part of the Engine 807B hose team.

The further escalation of interior temperature and radiant heat levels occurred as Truck 809 Forcible Entry and Truck 809 Officer found themselves trapped in the structure. These conditions approached temperatures of approximately 600°F and radiant energy levels near 0.5 cal/cm²s and caused full charring of the helmet exterior, full degradation of portions of trim, and some charring of the exterior portions of their clothing. Since Truck 809 Officer was able to escape, the degradation of his clothing was substantially less, because Truck 809 Forcible Entry experienced a sustained exposure inside the structure. Therefore, the principal differences in how the gear for each firefighter appeared are primarily due to difference in exposure times as evidenced by the following observations:

- Truck 809 Forcible Entry's coat shows more charring over the surface of the clothing and a greater portion of degraded trim. A comparison is made in Figure 4.



Back of Truck 809 Officer Coat

Back of Truck 809 Forcible Entry Coat

**Figure 4 – Differences in Levels of Charring and Trim Degradation for
Truck 809 Officer and Truck 809 Forcible Entry Protective Coats**

- The internal damage of the clothing liner, in particular, the moisture barrier is significantly more extensive for Truck 809 Forcible Entry as compared to Truck 809 Officer (see photographs in Figures 5 and 6).



Back of Truck 809 Officer Coat Liner

**Back of Truck 809 Forcible Entry Coat
Liner**

**Figure 5 – Differences in Charring Penetration to Liner for
Truck 809 Officer and Truck 809 Forcible Entry Protective Coats**

- Certain components of Truck 809 Forcible Entry's clothing showed melting that were not observed for Truck 809 Officer. The best examples of this observation is the penetration of heat through the shell causing melting of both moisture

barrier seam tape (melts slightly above 500°F) and the label on the shell interior as shown in Figure 7. The label is heat laminated to the shell material at a similar temperature.



Truck 809 Officer Coat



Truck 809 Forcible Entry Coat

**Figure 6 – Comparison for Condition of Moisture Barrier Degradation for
Truck 809 Officer and Truck 809 Forcible Entry Protective Coats**



Moisture Barrier Seam Tape to Liner



Outer Shell Label to Liner

Figure 7 – Examples of Melting inside Truck 809 Forcible Entry's Protective Coat

This comparison illustrates how an extended exposure to relatively harsh thermal exposure conditions can result in greater heat penetration and damage to the clothing and exceed the capabilities of the clothing element to provide protection to the individual firefighter.

Causes of Firefighter Injuries – Explanations can be provided on the location and cause of the different injuries sustained by each firefighter. This analysis is based on both a review of the firefighter statements and the examination of the firefighter clothing or equipment (and/or provided photographs). This information is presented in Table 6.

Table 6 – Findings for Causes of Burn Injuries and Contributing PPE Factors

Firefighter	Explanation for Injuries	Contributing PPE Factors
Truck 809 Forcible Entry	Truck 809 Forcible Entry was caught inside the structure and was unable to escape as the fireground worsened to emergency conditions; prolonged exposure to these conditions resulted in multiple burn injuries over his body. Poorly insulated gloves have a large amount of exposed surface areas that is susceptible to rapid heat transfer to the hands..	Much of the PPE was simply overwhelmed in the sustained emergency condition exposure; however, the gloves were not NFPA 1971 compliant and lacked a moisture barrier lessening their protective qualities and contributing to the severity of the hand injuries as compared to other parts of the body.
Truck 809 Officer	Truck 809 Officer reentered the structure after removing SCBA facepiece (due to damage sustained to the facepiece when originally caught in the structure).	The absence of a SCBA facepiece left a large portion of the face unprotected and resulted in Truck 809 Officer breathing superheated air and fire gases.
Engine 807B Officer	As part of the first arriving engine company, Engine 807B Officer led a hose line into the structure but had to retreat when the fire conditions worsened and the team was unable to apply water. Engine 807B Officer was burned on ears and face when exposed to excess heat during exit from the structure.	Engine 807B Officer did not deploy ear covers and did not properly extend and secure collar.
Engine 807B Layout/ Backup	As part of the first arriving engine company, Engine 807B Layout/Backup was part of team on a hose line that went into the structure but had to retreat when the fire conditions worsened and the team was unable to apply water. Engine 807B Layout/Backup was burned on the side of face when exposed to excess heat during exit from the structure.	Engine 807B Layout/Backup did not deploy ear covers and did not properly extend and secure collar.

Firefighter	Explanation for Injuries	Contributing PPE Factors
Engine 807B 2 nd -line	In exiting through a window on the first floor, Truck 809 Officer fell on top of Engine 807B 2 nd -line separating his ribs; Engine 807B 2 nd -line was burned on knuckles on top of hands.	Engine 807B 2 nd -line believes hands were burned when pressed down against structure when Truck Officer fell on top of him.
Engine 807B Nozzleman	As part of the first arriving engine company, Engine 807B Nozzleman was part of team on a hose line that went into the structure but had to retreat when the fire conditions worsened and the team was unable to apply water. Engine 807B Nozzleman was burned on his ears when exposed to excess heat during his exit from the structure.	Engine 807B Nozzleman did not deploy his ear covers and did not properly extend and secure collar.

Impact of Clothing Selection and Use – At least one helmet was unapproved and non-compliant with NFPA 1971. Even though the helmets worn by Truck 809 Officer and Truck 809 Forcible Entry appear to be NFPA 1971-compliant models of leather helmets, the absence of compliance labels and lack of trim suggest that these helmets may have not been compliant. There were also two sets of gloves worn by firefighters that were not approved, where one glove style was not compliant with NFPA 1971. Lastly, there was one set of footwear that was not approved, but it was still compliant with NFPA 1971.

With the exception of the set of gloves worn by Truck 809 Forcible Entry, none of the protective clothing and equipment items were found to be defective or contributory to the firefighter injuries. The NFPA 1971 non-compliant helmets did not contribute to any of the burn injuries. Rather, the failure to correctly wear the helmet, by fully deploying the ear covers, and fully extend the collars of their protective coats directly contributed to their face and ear injuries. Truck 809 Officer deployed his ear covers whereas Truck 809 Forcible Entry did not, seen in Figure 8.

**Truck 809 Officer's Helmet****Truck 809 Forcible Entry's Helmet****Figure 8 – Photographs of Protective Helmet Ear Covers**

It did not appear that any of the firefighters wore their collars extended and closed. This fact is readily apparent because the soiling appears on the wrong side of the collar (see Figure 9).

**Collar Not Raised – Soiling on Interior****Collar Raised – No Soiling****Figure 9 – Soiling on Protective Coat When Collar Not Raised**

It is also possible to note incorrect helmet ear cover and coat collar deployment by the soiling patterns present on the protective hood. In general, most fireground soiling should occur around the face opening where the hood is against the sides of the SCBA facepiece. However, if soiling is noted extending down the sides and back of the hood in a plane around the head, adjacent to the face opening, this observation is an indication of an incorrectly deployed ear cover or collar.

One of the most vulnerable parts of the firefighter's body can be the head and neck area because this area relies on the overlap of several ensemble elements to provide full

protection. The protective hood is only an interface device and consists of a limited number of layers with significantly less insulation than the rest of the clothing. To make up for this shortcoming, additional insulation is provided by the helmet ear covers and the collar being both raised and secured. These overlaps protect the sides of the wearer's face including their ears and portions of their neck that are not covered by the protective coat, helmet, and SCBA facepiece. Failure to properly deploy helmet ear covers and coat collars is one of the most frequent causes of firefighter head, face, and ear burns.

Of greatest concern were the gloves used by Truck 809 Forcible Entry. Not only were these gloves not on the "Approved PPE" list for the PG County Fire/EMS Department, but they were not even certified to any viable NFPA standard. The gloves, pictured in Figure 10, included a label stating that the gloves met Fed OSHA, Cal OSHA, and NFPA 1973 (1988 edition). The Fed OSHA and Cal OSHA requirements were written in the early 1980s and have been supplanted by the NFPA standards on protective clothing. While voluntary, the NFPA standards set more rigorous requirements that reflect the modern safety and protection needs of firefighters. Gloves that are designed only to meet the Fed OSHA and Cal OSHA requirements cannot meet current NFPA design and performance criteria for firefighter protective gloves. On the other hand, the labeling of these gloves as complying with NFPA 1973 is problematic for several reasons:



Identification Label



Compliance Statement

Figure 10 – Content of Label inside Non-Compliant Gloves Worn by Truck 809 Forcible Entry

- NFPA 1973 (1988) edition was replaced by 1997 edition of NFPA 1971 in early 1998. The standard is no longer valid.
- NFPA 1973-1988 had no requirements for third party certification as they exist today and since 1991, third party certification has been required for firefighter protective clothing indicated as compliant by a manufacturer to NFPA standards.

- The manufacturer for the gloves takes an exception to the NFPA 1973 standard by excluding the water penetration resistance requirement. This permitted the gloves to be made without a moisture barrier as is required in every other major element of firefighter protective clothing by the NFPA 1971 standard.

It is uncertain how such gloves would have been obtained, but it appears that similarly appearing gloves are currently offered on the manufacturer's website, though it is unknown what type of label is provided with the products identified on the website.

Without knowing the exact details of the third degree burns sustained by Truck 809 Forcible Entry on his hands, it is believed that the absence of the moisture barrier and the related non-compliant nature of these gloves were contributory to Truck 809 Forcible Entry's hand burns. The appendix for the last several editions of NFPA 1971 provides a detailed explanation for the importance of a moisture barrier for firefighter gloves based on federally funded scientific research and other work provided in peer-review journals.

Cleaning and Maintenance Issues – The review of care and maintenance records for the subject gear also reveals that consistent procedures for the identification, inspection, cleaning, and repair are not in place for the PG County Fire/EMS Department. Specific instances were found where gear was not accounted for in the department's PPE tracking program as maintained by its independent service provider (for inspection, cleaning, and repair). While the cleanliness of the gear prior to the fire incident cannot be ascertained, it does not appear that the items owned by the department are subject to a program of regular inspection, cleaning, and repair as needed. The provided general orders on this subject do not institute specific frequencies for conducting inspections and cleaning, though these procedures may be found in other department SOPs.

The SCBA facepiece and other SCBA worn by the firefighters were not presented for inspection. Each of the firefighters complained about the levels of visibility on the fireground and some remarked of the particularly black, thick smoke emanating around the structure. Some of the photographs provided for the SCBA facepieces worn by the injured firefighters in this incident appeared to be heavily soiled, and this soiling would have contributed to poor visibility. Truck 809 Officer specifically complained that his facepiece failed, as he indicated that the regulator fell off as he tried to remove it following his escape. He claimed it deformed and stuck to his gloved hand when he went to take it off. It was for this reason that he stated that he did not wear his SCBA facepiece in reentering the structure. It is presumed that a separate examination of the SCBA involved in this incident is being conducted.

Recommendations

As the result of this investigation, we recommend that the Prince George's Fire/EMS Department consider the following:

1. A program should be in place that accounts for all of the department-owned major items of protective clothing and equipment, which at least includes protective coats and protective pants.
2. If an item of clothing does not have a readable date of manufacture or serial number, procedures should be in place to obtain a replacement label from the manufacturer. This practice may not be practical for hoods, but separate tracking of these items may assist in ensuring that items can be identified. When new items are obtained by either the department or by individuals, the item, its model number, serial number, and date of manufacture should be separately recorded.
3. All PPE provided to members should have a manufacture date that is 10 years or less as indicated on the product label.
4. The department should conduct regular inspections of individually owned firefighter protective clothing to determine that it is consistent with the department's "Approved PPE" list and in a serviceable condition.
5. If gear is found to be unserviceable, the department should designate this gear as "compromised PPE" consistent with its general orders and ensure that item(s) are properly disposed of such they cannot be used in actual incidents or live fire training.
6. The department should determine how Truck 809 Forcible Entry acquired the non-approved and non-compliant gloves he used in the fire incident and inform the members in the department on the hazards for wearing gloves that do not have a moisture barrier. It is important to point out to the members that wearing of gloves, or other PPE, that is not independently certified may present hazards to their safety and health. It should be further pointed out that gloves just meeting Federal OSHA and Cal OSHA alone do not provide protection commensurate with the NFPA 1971 standard.
7. The SCBA used in this incident by the injured firefighters should be thoroughly examined. Specific attention should be provided to Truck 809 Officer's facepiece and second stage regulator given the complaints about his SCBA provided in his statement.
8. Instructions on the need and specific procedures for wearing of all personal protective clothing and equipment should be provided to each member. It is important to emphasize that all components must be deployed, and that all elements of the ensemble should be properly closed. If members indicate problems with any interface that leaves the interface area potentially exposed, corrections to the ensemble or wearing practices should be implemented for that individual. The

department should specifically instruct its members on the correct wearing of helmet ear covers and protective coat collars for structural firefighting.

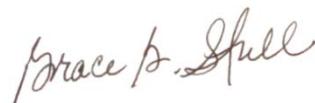
9. The department should include as part of its training that all members be aware of the limitation for the protective capabilities of their protective ensemble, and how burns may occur without warning under extended exposure conditions without any apparent damage to the clothing item.
10. The department should institute as part of its PPE program, a system for regular advanced inspections and cleaning of protective clothing at least on an annual basis. This program should include recordkeeping practices that identify the item, its serial number, the firefighter to which it is issued, the date of the service, details of any inspection findings or repairs, and the individual responsible for the service. If this responsibility is delegated to an independent service provider, then those same requirements should be applied to the service provider. This program should be implemented to be consistent with the requirements of NFPA 1851, *Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*.
11. For the clothing directly examined as part of the investigation, these items of clothing and equipment should be retained by the department because of its involvement in a situation where injuries were sustained. We recommend that the department retain the clothing and equipment for a period of at least 2 years with an appropriate chain of custody. The clothing should be condemned and destroyed after that period has elapsed.
12. A separate assessment should be made of the protective clothing used by the other firefighters that were not provided for direct examination as to its continued serviceability following the conclusion of this investigation. The same retention and disposal recommendation should apply if it is determined that these items are no longer serviceable.

Please contact us if you have any specific questions on this report.

Respectfully submitted,



Jeffrey O. Stull, President
International Personnel Protection, Inc.
Austin, Texas



Grace G. Stull, Vice President
International Personnel Protection, Inc.
Austin, Texas

APPENDIX 8 – GENERAL ORDERS

General Order 03-13 - Emergency Identifier Activation Procedure (10/11)

General Order 05-10 - Multiple Casualty Incident Operations (01/10)

General Order 06-01 - Fireground Standard Operating Procedure for Structural Fires
(01/10)

General Order 06-03 - 2-In-2 Out and Rapid Intervention (01/10)

General Order 06-04 - Mayday Procedure (10/11)

General Order 06-07 - Searching for Victims (01/10)

General Order 06-14 - Emergency Response Time (01/10)

General Order 08-17 - Respiratory Protection Program (01/10)

General Order 10-03 - Cleaning, Repair, Replacement, and Alterations of Personal Protective Equipment (01/10)



PRINCE GEORGE'S COUNTY, MARYLAND FIRE/EMERGENCY MEDICAL SERVICES DEPARTMENT GENERAL ORDER

General Order Number: 03-13	Effective Date: October 2011
Division: Communication and Information Management/Technology	
Chapter: Emergency Identifier Activation Procedure	
By Order of the Fire Chief: Marc S. Bashoor	Revision Date: N/A

POLICY

This General Order shall establish procedures for the prompt and appropriate handling of "distress calls" via the Emergency Identifier.

DEFINITIONS

Hot Mic – A 10 second in duration open microphone on the fire department radio after the activation of the Emergency Identifier.

PROCEDURES / RESPONSIBILITIES

1. Background

Emergency Identifier capability is a standard feature on Fire Department portable radio equipment. It is designed to provide a rapid means to transmit a silent call for help when personnel are in danger or in need of assistance.

In many cases, when such a situation exists, the sender is unable to include a verbal radio transmission due to danger from adversaries, injury, or other limiting factors.

In spite of adverse factors, it is imperative that all "distress calls" via the Emergency Identifier be handled promptly and appropriately. To accomplish this, the following procedures will be strictly adhered to by all fire service personnel.

The Emergency Identifier is a very effective means to transmit a distress signal to Public Safety Communications (PSC). It is, however, only effective when the location of the sender is known. On emergency incidents, this information is normally available.

Portable radios are equipped with Global Positioning System (GPS) capability. This capability, however, is only present when the radio is able to connect with a satellite. The radio does have the ability to retain the last known GPS location prior to losing connection with the satellite.

In other situations, such as a stop to assist disable motorists or in cases that may involve a level of risk, it is advisable for personnel who handle such matters to inform PSC of their location and purpose.

If such procedures are followed, PSC personnel can quickly send help to personnel in trouble when the Emergency Identifier signal is activated and the signal is confirmed.



PRINCE GEORGE'S COUNTY, MARYLAND FIRE/EMERGENCY MEDICAL SERVICES DEPARTMENT GENERAL ORDER

2. Emergency Identifier Activation

When personnel are in a situation that poses danger to themselves or others, they shall activate the Emergency Identifier by depressing the orange emergency button for 1 second. Upon receipt of the trouble signal, PSC personnel shall immediately broadcast the following coded confirmation transmission to verify the validity of the signal:

"Unit/individual radio ID number, verify EI status"

Example: "Engine 855, verify EI status"

NOTE: When PSC transmits the verification check, all other personnel will refrain from noncritical radio transmissions or telephone contacts until the distress signal is confirmed or canceled.

If within five (5) seconds no response is received from the individual or who activated the alarm, PSC will repeat the message:

"Unit/individual radio ID number, verify EI status"

If within five (5) seconds there is no response to the second call, PSC will make the following transmission, which indicates to the sender and to all Departmental personnel monitoring the radio that the distress signal has been verified and help is being sent:

"Unit/individual radio ID number EI signal confirmed"

- REPEAT MESSAGE -

At this time, PSC will immediately notify the appropriate police agency to respond to the location of the unit that activated the distress signal.

NOTE: At any time during the process, the unit/individual that transmitted the distress call may cancel by doing so with a vocal radio transmission explaining the circumstances.

In the event of cancellation, PSC shall announce the following:

"Unit/individual radio ID number EI signal canceled"

- REPEAT MESSAGE IMMEDIATELY -

3. Personnel in the Vicinity of a Confirmed Distress Signal

Departmental personnel within the vicinity of, or responding to, the same call as the unit/individual that activated the Emergency Identifier should attempt to assess the situation from a safe position. If the situation requires assistance that they can safely provide, such as a vehicle accident, they should:



PRINCE GEORGE'S COUNTY, MARYLAND FIRE/EMERGENCY MEDICAL SERVICES DEPARTMENT GENERAL ORDER

- Proceed to the location.
- Provide aid.
- Notify PSC.

If the situation poses unusual danger to other personnel, they should:

- Remain at a safe distance.
- Update PSC via telephone or radio that cannot be monitored by others who may be endangering the personnel who activated the Emergency Identifier.

4. Notification

Upon confirmation of a distress call, PSC will immediately make emergency notifications. Departmental notifications shall be handled according to normal procedures after emergency notifications have been completed.

5. Resetting the Emergency Identifier

On the current mobile (Motorola APX7500) and portable radios (Motorola APX6000/7000 Series) depress and hold the orange emergency button for 2 seconds until a tone is heard. Release the button and the radio will be in a normal operational mode.

REFERENCES

N/A

FORMS / ATTACHMENTS

Guide for Activating Emergency Identifier



PRINCE GEORGE'S COUNTY, MARYLAND
FIRE/EMERGENCY MEDICAL SERVICES DEPARTMENT GENERAL ORDER

General Order Number: 05-10	Effective Date: January 2010
Division: Emergency Medical	
Chapter: Multiple Casualty Incident Operations	
By Order of the Fire Chief: Marc S. Bashoor	Revision Date: N/A

POLICY

This General Order provides operational guidance for Multiple Casualty Incidents (MCI). A MCI is declared when the number of patients encountered severely taxes or exceeds normal Fire/EMS Department resources. This plan intends to maximize effectiveness and efficiency regardless of size or complexity of the incident.

DEFINITIONS

Blue Alert – When an EMS jurisdictional system is temporarily taxed to its limits in providing pre-hospital care and ambulance transportation due to extraordinary situations such as multi-casualty incidents, snow, icing, or flooding or other circumstances that contribute to high demand for ambulance service, the jurisdiction may declare blue alert status which suspends yellow alert. The jurisdiction's EMS Program Manager or his designee shall declare a Blue Alert.

EMRC – Emergency Medical Resource Center - The EMRC medical channel radio communications system links EMS providers in the field with hospital-based medical consultation. Consultation facilities and multiple hospitals can be patched into a single consultation. The EMRC plays a critical role that aids in ensuring a coordinated response to major incidents and catastrophic events.

Medical Ambulance Bus (MAB) – An EMS unit designed to transport twenty (20) non-ambulatory (immobilized) patients.

The department has one (1) Medical Ambulance Bus. Minimum staffing for this unit is three (3) personnel. There are seven (7) Medical Ambulance Buses within the National Capital Region (NCR).

Medical Care Support Unit (MCSU) – An EMS unit designed to carry supplies and equipment to specifically address the resource needs of a multiple casualty incident (MCI). These units are designed to rapidly deploy treatment areas and associated equipment.

The Department has two (2) Medical Care Support Units:

- MCSU 855 has the capability to address one hundred (100) patients
- MCSU 849 has the capability to address fifty (50) patients.



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Minimum staffing for these units is three (3) personnel. Generally, the station where the unit is assigned is responsible to meet the minimum staffing level. If the unit does not have three riding positions, the station officer will determine what means will be used to transport the crew to the scene. If this staffing level cannot be met with a single unit, additional units must be dispatched to fulfill this requirement.

There are Medical Care Support Units deployed throughout the National Capital Region for over 1000 patients.

S.T.A.R.T. (Simple Triage and Rapid Treatment) - The triage method designated by the Maryland Medical Protocols for Emergency Medical Providers (“Protocol”). S.T.A.R.T. is a thirty (30) second assessment utilizing the following physiological signs:

- Respirations
- Perfusion
- Mental Status

Personnel performing this initial triage assessment will use Triage tape to identify findings.

S.T.A.R.T. findings

- Immediate (Red) – Patients with airway compromise or respirations over 30/minute, and/or capillary refill greater than two (2) seconds, and/or unconscious or unable to follow simple commands
- Delayed (Yellow) – Patients with respirations under 30/minute, capillary refill less than two (2) seconds, and is able to follow simple command
- Minor (Green) – Walking wounded, patients that require only minor medical intervention
- Deceased (Black) – Victims found pulse less and/or apneic after opening airway. No CPR will be initiated during initial triage

Transportation Group (Transportation Group Supervisor) – The group that is responsible for:

- coordinating hospital capabilities
- assign patient transport destinations
- hospital communications, and
- transportation record keeping.

Treatment Group (Treatment Group Supervisor) – The group that is responsible for the overall management of patient care in the Treatment Units. The Treatment Group Supervisor must:

- Request and maintain sufficient personnel and supplies to adequately treat expected patient load.
- Maintain communications with the Transportation Group Supervisor and coordinate patient movement out of the treatment areas.



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- Ensure periodic reassessment of patients in the treatment area to ensure proper categorization.

Triage Group (Triage Group Supervisor)

The group that is responsible to assess and prioritize patients and maximize effective patient treatment and transportation. The S.T.A.R.T. method with triage tape will be used during initial triage.

PROCEDURES / RESPONSIBILITIES

1. General

During a Multiple Casualty Incident (MCI), it is vital to establish the essential EMS groups as needed within the established Incident Management System. These groups serve to effectively and efficiently triage, treat, and transport patients from the scene to an appropriate medical facility, according to their injuries or illnesses.

2. Dispatch

Public Safety Communications (PSC) or the Incident Commander may add a “Multiple Casualty Incident (MCI) Task Force” to the initial assignment when information indicates, such as:

- Motor vehicle collision involving multiple patients, such as a commuter bus
- Passenger train collision/derailment
- Occupied building explosion/collapse

The Multiple Casualty Incident (MCI) Task Force includes:

- 4 BLS Ambulances
- 2 ALS Medic Units
- 1 Medical Care Support Unit (MCSU)
- 2 Engine Companies
- 2 EMS Officers
- 1 Battalion Chief
- Medical Ambulance Bus (MAB) will be dispatched on all incidents involving 20 patients or greater.

3. Operations

The first unit to arrive on the scene establishes command and reports the following information:

- Type and/or cause of incident
- Any hazards present
- Approximate number of patients
- Area involved, including problems with scene access/egress



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The first arriving EMS unit assumes the Triage Group and initiates triage procedures utilizing S.T.A.R.T. Colored triage tape will be applied to each patient to indicate proper triage category. Units assigned to the Triage Group must:

- Consider the potential for patient contamination. If patients are contaminated, decontamination procedures must be completed prior to entering the treatment areas.
- Account for and retain all patients and potential patients
- Request additional resources, if needed.
 - Two (2) providers for every twenty (20) patients is a guideline.
- Move all "Green Patients" to a secure and supervised treatment area, if not already done
- Triage all remaining patients where they are found
- Request sufficient personnel to begin moving all patients to designated treatment areas

Incident Command

The Incident Commander should establish an EMS Operations Group (or Branch). The EMS Operations Group may consist of:

- Triage Group
- Treatment Group
- Transport Group
- EMS Staging
- EMS Supply Unit
- EMS Communications Unit

The EMS Operations Group should be assigned a separate radio channel for communication purposes.

EMS Operations Group should have a separate staging area. All suppression and EMS units assigned to the EMS Operations Group report to EMS Staging.

EMS Operations Group will contact EMRC for the following:

- Declare a Multiple Casualty Incident.
- Provide the type and approximate number of patients.
- Ensure area hospitals are notified
- Receive an initial assessment of each hospital's patient capability
- Consider placing the County on a "Blue Alert" status.
- Consider designating an EMS Communications Unit who maintains appropriate communications with hospital resources through EMRC.



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Treatment Group

The primary objective of the Treatment Group is to treat and stabilize patients until transportation is available.

The Treatment Group is established prior to moving triaged patients. Each Treatment Area should be established while considering:

- Area away from hazards
- Anticipating patient loads by patient category
- Distance from the incident site
- Level ground
- Access/egress for transport units

Patients are brought to the Treatment Area through a single entry point where secondary triage is performed and a MIEMSS/MWCOG Triage Tag is attached to each patient. A patient identifier sticker from the tag will be placed next to the patient's information on the Patient Tracking Form upon arrival in the Treatment Area.

The Treatment Group will consist of three (3) units:

- Red Treatment Unit
- Yellow Treatment Unit
- Green Treatment Unit

Initial staffing for each Treatment Unit is:

- Red Treatment Unit – one (1) ALS unit, one (1) BLS unit, and one (1) engine company
- Yellow Treatment Unit – one (1) BLS unit, and one (1) engine company
- Green Treatment Area – one (1) engine company

Treatment Unit staffing should increase in anticipation of increases in patient load.

All EMS providers in the Treatment Units operate under the established protocols within the *Maryland Medical Protocols for EMS Providers*. When a local jurisdiction declares an MCI, it is extremely important to maximize patient care resources and reserve EMS communications for emergent situations. Except for extraordinary care interventions, EMS providers may perform all skills and administer medications within protocol. When the MCI condition is instituted, the Exceptional Call box must be checked on the Patient Care Report (PCR).

Patients must be periodically re-assessed while in the Treatment Area.



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The Treatment Group Supervisor:

- Determines the order of patient transfer based on secondary triage and reassessment outcomes
- Coordinates patient transfers with the Transport Group Supervisor.

The Treatment Group Supervisor and Transport Group Supervisor document entry and exit of all patients on a Patient Tracking Form utilizing the patient identifier stickers from the triage tag.

The Medical Care Support Unit officer is designated as the EMS Supply Group. Additional medical supplies for Treatment Areas are through the Medical Supply Group.

No patients are permitted to leave the Treatment Area without the Treatment Group Supervisor's knowledge. Pediatric patients may only be released to verified immediate family member. Any person attempting to remove a pediatric patient from the scene must show proof of identification and be verified by a law enforcement officer.

Transport Group

The primary objectives of this group are:

- Maximize the effectiveness of transportation resources
- Monitor the status of all receiving hospitals
- Assign patients to transport resources
- Assign transportation destinations
- Account for all patients transported by completing Multiple Casualty Patient Forms.

The Transport Group Supervisor obtains hospital capabilities, including trauma or specialty beds from the EMS Operations Group Supervisor. Once hospital capabilities are established, patients are distributed as effectively as possible.

The Transport Group Supervisor coordinates with the EMS Operations Group and the EMS Staging Officer to ensure adequate ground and MEDEVAC transportation resources are available. The Transportation Group Supervisor must maintain an effective traffic pattern to avoid congestion and potential transport delays. Law enforcement personnel may be requested to assist.

Patients are moved to the Transport Group based on triage priority and when appropriate transport resources are available.

The Transport Group Supervisor:

- Documents the disposition of each patient to a transport unit and receiving hospital.
- Documents the hospital destination of each patient using the Multiple Casualty Patient Tracking Form.



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- Assigns the destination of all transport units.
- Provides all EMS/medical communications to receiving hospitals related to transport information, unless an EMS Communications Unit is created.
- Establishing a helicopter landing zone, if appropriate

MCI Transport information includes:

- Unit destination
- Estimated time of arrival
- Triage category and triage tag number
- Age/Sex of patient
- Chief complaint

Staging

In the event of a multiple casualty incident, separate staging areas should be considered for those units assigned to EMS tasks and those assigned for other suppression/rescue tasks. The EMS Staging Manager reports to the EMS Operations Group and is responsible for:

- Planning the layout of staging area (consider immediate and future needs)
- Maintaining direct communications and coordination with the Transportation Group Supervisor
- Establishing routes of travel for EMS transport units
- Request additional resources through command to maintain sufficient staffing levels and transport capabilities throughout the incident
- Coordinate with EMS Supply Unit to establish a system to restock transport units, if necessary

Temporary Morgue

The Morgue Group is established only if necessary. Its location must be away from the operational areas and not readily available to the public or other patients. Only deceased patients that hinder operations or victims that expire in the treatment area are transported to this area. Other deceased patients encountered on initial triage are left undisturbed as part of the investigation.

Bodies will be covered with sheets when available. Access to the morgue area will be restricted to authorized Fire/EMS personnel and law enforcement. The Morgue Group must maintain Patients Tracking Forms as the other EMS Operations Groups to track patient disposition.

Termination

All Group Supervisors must ensure a complete patient accountability and disposition can be constructed from their respective Patient Tracking Forms. When all victims have been accounted for and/or transported to medical facilities, the EMS Operations Group Supervisor may notify



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Incident Command and the incident can be downsized. At this time, a complete patient disposition report will be forwarded to the Incident Commander.

Triage Resources

Unit	Tags	Tape	Tarps
Fire	50	1/ea	
EMS	50	1/ea	
EMS Sup	50	1/ea	1 set
MCSU	200	4/ea	1 set/50 pt
MAB	200	4/ea	
Batt Ch	50	1/ea	

REFERENCES

Emergency Medical Protocols for Emergency Medical Services Providers

FORMS / ATTACHMENTS

Attachment #1 – Treatment Unit Patient Tracking Form

Attachment #2 – Transportation Unit Patient Tracking Form

Attachment #3 – START/Jump START Algorithm

Attachment #4 – Maryland/MWCOG Triage Tag



PRINCE GEORGE'S COUNTY, MARYLAND FIRE/EMERGENCY MEDICAL SERVICES DEPARTMENT GENERAL ORDER

General Order Number: 06-01	Effective Date: January 2010
Division: Emergency Operations	
Chapter: Fireground Standard Operating Procedure for Structural Fires	
By Order of the Fire Chief: Marc S. Bashoor	Revision Date: N/A

POLICY

This General Order establishes the standard operational guidelines for structural firefighting operations and investigating potentially hazardous situations. These procedures are designed to provide a framework for safe operations when dealing with structural fire incidents in common residential, commercial and mercantile type buildings within Prince George's County.

Units are assigned specific tasks based upon the type of incident and order of dispatch. All units are required to complete the listed responsibilities based upon their position in the dispatch sequence.

Units that are responding out of position will communicate this to the other responding units. The altering of assignments will be at the discretion of the responding command officer only.

DEFINITIONS

Command Officer – Career and Volunteer Chief Officers as established in General Order 01-03, Chain-of-Command.

Commercial Building – buildings used for industrial, mercantile, storage or office use.

High-Rise Building – for the purpose of this order, any building that is over four floors in height and is equipped with a fire department standpipe system that will be used for firefighting operations.

Incident Commander (IC) – the individual who has established or assumed command and is in control of all groups/divisions on an incident.

Multi-Family Dwelling – residential building containing more than one family unit under one roof.

Obvious Rescue – a building occupant that is visible to the fire/rescue personnel and is in immediate danger of injury or death.

Secondary Water Supply – water supply that has been established from a source other than the hydrant or static water supply utilized by the first arriving engine.

Single Family Dwelling – residential building containing one family unit under one roof.

Special Service – a truck company, rescue squad, quint operating as a truck company, or a rescue engine operating as a rescue squad.



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Unit Officer-In-Charge (OIC) – company officer or highest-ranking individual in charge of a specific unit (engine, truck, squad, ambulance, etc.), responding in the officer's seat of the apparatus.

PROCEDURES / RESPONSIBILITIES

1. General Provisions

The following provisions pertain to all types of alarms and building types and will be adhered to by all personnel.

Crews shall operate in teams of two (2) or more with a portable radio

All personnel are responsible to make obvious rescues and ensure occupants are evaluated and given appropriate emergency medical care.

Staging

- Level I Staging**

Level I staging shall be used when sufficient personnel are inside the structure and an initial size up is being conducted.

Units that are directed to Level I stage shall partially carry out the operational procedures established in this General Order. This includes reporting to side Alpha or Charlie, establishing a water supply, positioning aerial apparatus to use the aerial ladder, etc.

Personnel that are directed to Level I stage are not to enter the structure, advance attack hose lines, ladder the building, etc. They are to remain with the unit, standing by, and be fully prepared to complete the remainder of their operational responsibilities when directed to do so by the IC.

- Level II Staging**

Level II staging shall involve establishing a specific area designated by the IC to gather additional resources away from the scene but in close proximity (with less than a 3 minute response time) for situations such as a hazardous materials incident, a mass casualty incident, or significant fire involvement in a large or high occupancy structure, etc.

Level II staging shall also be used when the initial units responding directly to the scene need to remain uncommitted until a size up and operational plan can be formulated by the IC.

Units that are directed to Level II stage at a specific location away from the scene but in close proximity shall report directly there and remain uncommitted.



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Personnel shall remain intact in crews and shall not become engaged in operational activity unless directed to do so by the IC.

The first arriving engine OIC shall assume the Staging Group, until the Group is reassigned by the IC or a command officer arrives in the staging area.

PSC shall ensure that responding units are aware of the exact location of the staging area and the command/unit officer that is coordinating it.

Units in Staging and responding to the staging area shall be directed to an alternate radio channel than the fire ground channel by PSC.

- **Base Staging**

Base staging shall involve establishing a specific area designated by the IC to gather additional resources at a location that is away from the scene (within a 3 to 5 minute response time) for situations that will require extended operations, significant rotation of crews, etc. The same procedures established for Level II staging shall be followed for base staging.

- **Additional Responding Units**

Additional responding units, to include command officers, shall stage their apparatus uncommitted and report to the IC for assignment. Unit officers should refrain from requesting assignments over the radio. In no case should a unit or command officer “self-deploy”, except to remedy an immediately demonstrable safety concern or to affect an obvious rescue. In such cases, the unit or command officer shall immediately notify the IC of their actions.

Additional units responding on Task Force alarms or multiple alarms shall take no action, which has not been specifically assigned to them by the IC.

Engine companies responding extra, or on additional alarms, shall not lay additional supply lines unless directed to do so by the IC.

Standpipe and Sprinkler Systems

Standpipes shall be charged immediately to the required pressure for the reported fire location.

Sprinkler systems shall be charged immediately if they are part of the standpipe system. Otherwise, they shall be charged and maintained at 125 PSI if:

- Smoke or flame is visible
- The water motor gong is ringing
- The OIC directs it to be done



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The engine operator shall advise the IC when the system(s) has been charged.

Building Side/Quadrant/Exposure Designation System

This system has been established to uniformly identify particular building segments and exposures, which will allow companies to carry out these operating procedures in a coordinated manner.

Building Sides (Refer to Figure 1)

- **Side Alpha** - This is normally the front or main entrance/access to the building and usually the side bearing the building address. For buildings with an unusual configuration, side Alpha will be identified by the first arriving unit, utilizing a suitable landmark (Refer to Figure 2) such as the parking lot, swimming pool, boiler room, etc.
- **Side Bravo** - This is the left side of building when facing side Alpha.
- **Side Charlie** - This is the side opposite side Alpha.
- **Side Delta** – This is the right side of the building when facing side Alpha.

Building wings (Refer to Figure 2)

Where configuration is such that sides cannot be easily identified, the building will be broken down into wings (see attachment drawings). Side Alpha will be identified utilizing landmark. The remaining sides shall be identified by clockwise rotation similar to the above.

Quadrants (Refer to Figure 1)

The building interior shall be divided into quadrants A, B, C & D starting at the left front of side Alpha and moving in a clockwise rotation.

The wings are to be broken down into quadrants when this will enhance safety and/or operations.

Floor numbers will identify building level.

Exposures

Corresponds to sides of building, i.e. building on side Bravo is exposure Bravo, etc.

2. EMS Units Responding on Assignments

Basic Life Support (BLS) Ambulance

BLS ambulances responding to “make up staffing” for suppression units shall position at a location that does not hinder other responding units. Personnel shall report to, and operate with their assigned company.



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BLS ambulances dispatched on the call or dispatched on the working fire dispatch shall:

Position at a location in close proximity to the scene that does not hinder other responding apparatus and allows a path of exit for emergency transport.

Establish a triage and treatment area on side Alpha equipped with:

- Aid bag
- Oxygen with airway management aids
- AED
- Cot with backboard

Report to the IC.

Evaluate any civilian occupant of the structure that either escaped or is removed/rescued.

Advanced Life Support (ALS) Ambulance

ALS ambulances dispatched on the call or dispatched on the working fire dispatch shall position at a location in close proximity to the scene that does not hinder other responding apparatus and allows a path of exit for emergency transport.

ALS personnel shall report to the IC, evaluate the scene, and be prepared to administer ALS care to a patient without delay.

The ALS crew should bring a minimum equipment of:

- Aid bag
- Drug box
- Monitor

3. Street Alarm

1st Due Engine

Take steps to establish continuous water supply. This will normally be accomplished by use of a forward or straight lay from the closest appropriate hydrant or water supply point.

Apparatus shall normally be positioned on side Alpha, but in a way that does not hinder the responding special services space to accomplish their responsibilities.



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Unit OIC shall complete an initial size-up and provide a brief radio return to include:

- Announce correct address
- Announce number of floors
- Announce type of construction
- Announce type of occupancy
- Announce conditions found, other pertinent information, and indicate the necessary level of response, in accordance with General Order 06-05, Emergency Vehicle Fire/Rescue Operations and Levels of Response.
- Establish or Pass Command per General Order 06-20, Incident Command System

Proceed to reported location to investigate and/or mitigate the hazardous situation.

2nd Due Engine

Ensure adequate and continuous water supply to 1st due engine. In instances where the 1st due engine has secured their own water supply the apparatus of the 2nd due engine will be placed in a position to provide an additional water supply.

OIC shall establish command, in accordance with General Order 06-20, if necessary, and assume the role of IC until relieved by a command officer who has arrived on the scene.

Unless directed otherwise by the IC, the crew should stand-by and await further direction.

1st Due Truck

Position on side Alpha to provide ladders, lights, and ventilation.

Assist 1st due engine with investigating and mitigating the hazardous situation.

Special Service

Assume RIC duties.

4. Box Alarm - Single-Family Dwellings

1st Due Engine

Take steps to establish continuous water supply. This will normally be accomplished by use of a forward or straight lay from the closest appropriate hydrant or water supply point.

Apparatus shall normally be positioned on side Alpha, but in a way that does not hinder the responding special services space to accomplish their responsibilities.



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Unit OIC shall complete an initial size-up and provide a brief radio return to include:

- Announce correct address
- Announce number of floors
- Announce type of construction
- Announce type of occupancy
- Announce conditions found and location of fire if known.
- Status of the occupants if known
- Establish or Pass Command per General Order 06-20, Incident Command System

Advance an attack hose line of sufficient GPM flow and length to the fire area capable of confining, controlling, and/or extinguishing the fire. Include the tools and equipment needed to complete this assignment.

See Special Note regarding Basement Fire as part of this Procedure

Conduct a primary search of the immediate fire area.

2nd Due Engine

Ensure adequate and continuous water supply to 1st due engine. In instances where the 1st due engine has secured their own water supply the apparatus of the 2nd due engine will be placed in a position to provide an additional water supply.

OIC shall establish Command, in accordance with General Order 06-20, if necessary and assume the role of IC until relieved by a command officer who has arrived on the scene.

Ensure that the initial attack hose line from the 1st Due Engine has been advanced to the fire area and is capable of confining, controlling, and/or extinguishing the fire. This includes but not limited to removing hose kinks, feeding more attack hose line, or making up staffing for the 1st Due Engine crew if understaffed.

Unless directed otherwise by the IC, the crew should advance an attack hose line to the area or floor above the fire. Include the tools and equipment needed to complete this assignment.

3rd Due Engine

Establish a secondary water supply from a source not being used by the 1st due engine. This should normally be accomplished by use of a forward or straight lay from an appropriate hydrant or water supply point.-This procedure shall be momentarily delayed if it will result in hindered access for the responding special services.

Advance an attack line to Side Charlie of the structure. Unit OIC to provide and communicate to IC an exterior size up to include:



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- Number of floors on side Charlie
- Conditions present and location of fire, if known.
- Any rescue problems
- Is there a basement and is it involved in fire?
- Any other information that might need tactical consideration.

The attack hose line from the 3rd Due Engine shall be deployed in coordination with the IC to the area or floor that is the most probable point of fire extension.

See Special Note regarding Basement Fire as part of this Procedure

4th Due Engine

Ensure adequate and continuous water supply to 3rd due engine. In instances where the 3rd due engine has secured their own water supply the apparatus of the 4th due engine will be placed in a position to provide an additional water supply.

If needed, assist the 3rd Due Engine in the placement or advancement of their attack line. This includes but not limited to removing hose kinks, feeding more attack hose line, or making up staffing if understaffed.

Unless directed otherwise by the IC, the crew shall advance a back-up attack line to Side Alpha of the structure,

1st Due Special Service

Position on side Alpha to provide special service duties including but not limited to ladders, lights, and ventilation.

Ladder sides Alpha and Bravo to provide for the rescue/removal of occupants and for the safety of operating personnel.

The crew and OIC shall report to the fire floor with the equipment needed for performance the following duties:

- Primary Search in coordination with the first due engine.
- Forcible entry to support searches and hose line placement
- Utility control as necessary on the interior (Driver shall take care of exterior Utilities)
- Ventilation
- Opening for extension
- Salvage and overhaul
- A secondary search shall be completed once the fire is controlled, ventilation started and lighting provided. Secondary searches should be completed by personnel not responsible for the primary search.



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Unit OIC shall assume Division supervision of the fire floor and report the following to the IC:

- Progress made
- Obstacles met
- Resources needed

2nd Due Special Service

Position apparatus in a way to enable personnel to provide special service duties including; ladders, lights, and ventilation to side Charlie.

Ladder sides Charlie and Delta to provide for the rescue/removal of occupants and for the safety of operating personnel.

The crew and OIC shall report to the floor, or area above the fire with the equipment needed for performance the following duties:

- Primary Search in coordination with the engine.
- Forcible entry to support searches and hose line placement
- Utility control as necessary on the interior (Driver shall take care of exterior Utilities)
- Ventilation
- Opening for extension
- Salvage and overhaul

Unit OIC shall assume Division supervision of the floor and report the following to the IC:

- Progress made
- Obstacles met
- Resources needed

3rd Due Special Service

Establish RIC, which includes:

- Report to the IC
- Complete size-up
- Assemble tools
- Develop rescue plan
- Monitor radio channels
- Request additional resources through IC as necessary



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5. Box Alarm - Multi-Family Dwellings

1st Due Engine

Take steps to establish continuous water supply. This will normally be accomplished by use of a forward or straight lay from the closest appropriate hydrant or water supply point.

Apparatus shall normally be positioned on side Alpha, but in a way that does not hinder the responding special services space to accomplish their responsibilities.

Unit OIC shall complete an initial size-up and provide a brief radio return to include:

- Announce correct address
- Announce number of floors
- Announce type of construction
- Announce type of occupancy
- Announce conditions found and location of fire if known.
- Status of the occupants if known
- Establish or Pass Command per General Order 06-20, Incident Command System
- Ensure that sprinkler and/or standpipe connection(s) are covered by a responding engine company

Advance an attack hose line of sufficient GPM flow and length to the fire area capable of confining, controlling, and/or extinguishing the fire. Include the tools and equipment needed to complete this assignment.

Note: The preferred advancement of the initial attack hose line in multi-family dwellings shall be via the interior stairs to protect the means of escape for building occupants.

See Special Note regarding Basement Fire as part of this Procedure

Conduct a primary search of the immediate fire area.

2nd Due Engine

Ensure adequate and continuous water supply to 1st due engine. In instances where the 1st due engine has secured their own water supply the apparatus of the 2nd due engine will be placed in a position to provide an additional water supply.

OIC shall establish Command, in accordance with General Order 06-20, if necessary and assume the role of IC until relieved by a command officer who has arrived on the scene.

Ensure that the initial attack hose line from the 1st Due Engine has been advanced to the fire area and is capable of confining, controlling, and/or extinguishing the fire. This includes but not limited



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to removing hose kinks, feeding more attack hose line, or making up staffing for the 1st Due Engine crew if understaffed.

Unless directed otherwise by the IC, the crew should advance an attack hose line to the area or floor above the fire. Include the tools and equipment needed to complete this assignment.

This attack hose line is normally advanced via the interior stairs and serves to confine, control, and/or extinguish vertical fire extension on the floor or area above the fire.

Conduct a primary search of any interior area that the crew is assigned to.

3rd Due Engine

Establish a continuous water supply to side Charlie from a source not being used by the 1st due engine. This should normally be accomplished by use of a forward or straight lay from an appropriate hydrant or water supply point. This procedure shall be momentarily delayed if it will result in hindered access for the responding special services.

Advance an attack line to Side Charlie of the structure. Unit OIC to provide and communicate to IC an exterior size up to include:

- Number of floors on side Charlie
- Conditions present and location of fire, if known
- Any rescue problems
- Is there a basement and is it involved in fire?
- Any other information that might need tactical consideration

The attack hose line from the 3rd Due Engine shall be deployed in coordination with the IC to the area or floor that is the most probable point of fire extension.

See Special Note regarding Basement Fire as part of this Procedure

Conduct a primary search of any interior area that the crew is assigned to.

4th Due Engine

Ensure adequate and continuous water supply to 3rd due engine. In instances where the 3rd due engine has secured their own water supply the apparatus of the 4th due engine will be placed in a position to provide an additional water supply.

If needed, assist the 3rd Due Engine in the placement or advancement of their attack line. This includes but not limited to removing hose kinks, feeding more attack hose line, or making up staffing if understaffed.



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Unless directed otherwise by the IC, the crew shall advance a back-up attack line to Side Alpha of the structure.

Conduct a primary search of any interior area that the crew is assigned to.

1st Due Special Service

Position on side Alpha to provide special service duties including but not limited to; ladders, lights, and ventilation.

Ladder sides Alpha and Bravo to provide for the rescue/removal of occupants and for the safety of operating personnel.

The crew and OIC shall report to the fire floor with the equipment needed for performance the following duties:

- Primary Search in coordination with the first due engine.
- Forcible entry to support searches and hose line placement
- Utility control as necessary on the interior (Driver shall take care of exterior Utilities)
- Ventilation
- Opening for extension
- Salvage and overhaul
- A secondary search shall be completed once the fire is controlled, ventilation started and lighting provided. Secondary searches should be completed by personnel not responsible for the primary search.

Unit OIC shall assume Division supervision of the fire floor and report the following to the IC:

- Progress made
- Obstacles met
- Resources needed

2nd Due-Special Service

Position on side Charlie to provide special service duties including but not limited to; ladders, lights, and ventilation.

Ladder sides Charlie and Delta to provide for the rescue/removal of occupants and for the safety of operating personnel.

The crew and OIC shall report to the floor, or area above the fire with the equipment needed for performance the following duties:



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- Primary Search in coordination with the engine.
- Forcible entry to support searches and hose line placement
- Utility control as necessary on the interior (Driver shall assist first due special service driver of taking care of exterior Utilities as needed)
- Ventilation
- Opening for extension
- Salvage and overhaul
- A secondary search shall be completed once the fire is controlled, ventilation started and lighting provided. Secondary searches should be completed by personnel not responsible for the primary search.

Unit OIC shall assume Division supervision of the floor or area above the fire and report the following to the IC:

- Progress made
- Obstacles met
- Resources needed

3rd Due Special Service

Establish RIC in accordance with General Order 06-03, which includes the following:

- Report to the IC
- Complete size-up
- Assemble tools
- Develop rescue plan
- Monitor radio channels
- Request additional resources through IC as necessary

6. Basement Fire Procedure

At the first indication of fire in a basement or below grade area, the reporting unit shall contact IC. A verbal announcement shall be made that the fire is in the basement.

The presence of lightweight floor components and truss systems shall immediately be communicated to IC. Interior firefighting shall be immediately abandoned if these floor components are burning, or at the first indication the floor is compromised.

The first due engine shall attempt to position the initial attack line at the top of the steps leading to the basement and make an assessment as to the mode of attack on the fire.

If a "direct" mode of attack on the fire is warranted the line shall be advanced to the basement area.



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- Direct attack via interior stairwell – “the attack line is taken directly down the interior stairway to confine and extinguish the main body of fire.” (Consider good visual of the stairs and/or the extent of the fire.)

If a “hold” mode of attack is warranted the line will be positioned to “hold-the-stairs”.

- Holding the steps – “the attack line is used to prevent vertical fire spread and protects crews engaged in search and rescue operations.”
 - If a door is present, keep it closed to minimize vertical travel of heat and smoke.
 - If no door is present, prevent vertical fire spread with the use of the handline. Do not direct stream down the stairwell while crews are operating in the basement.
 - Position to protect the stairs while monitoring division conditions and means of egress.

The 3rd due engine will advance the attack hose line on side Charlie to the exterior doorway or entrance to the basement. If no exterior doorway or entrance exists this must be relayed to command. NO ATTACK ON THE FIRE SHALL COMMENCE WITHOUT APPROVAL FROM THE INCIDENT COMMANDER.

- This line shall be used to attack the main body of fire in the basement if the “Hold the Steps” attack is chosen. If there is no exterior entrance, the line may be used to knock down the fire from a basement window or other opening. NO ATTACK ON THE FIRE SHALL COMMENCE WITHOUT APPROVAL FROM THE INCIDENT COMMANDER.

7. Box Alarm - Commercial Buildings

The following standard operating procedures have been established to provide a consistent and safe response and mitigation of structural fire emergencies involving commercial buildings.

1st Due Engine

Take steps to establish continuous water supply. This will normally be accomplished by use of a forward or straight lay from the closest appropriate hydrant or water supply point.

Apparatus shall normally take a position on side Alpha, but in a way that does not hinder the responding special services space to accomplish their responsibilities.

Unit OIC shall complete an initial size-up and provide a brief radio return to include:

- Announce correct address
- Announce number of floors
- Announce type of construction
- Announce type of occupancy
- Announce conditions found and location of fire if known.



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Advance an attack hose line capable of a minimum of 200 gallons per minute (GPM) and of sufficient length to the fire area capable of confining, controlling, and/or extinguishing the fire. Include the tools and equipment needed to complete this assignment.

Conduct a primary search of the immediate fire area.

Ensure that sprinkler and/or standpipe connection(s) are covered by a responding engine company and charged to appropriate psi. if there is any indication of a working fire.

2nd Due Engine

Ensure adequate and continuous water supply to 1st due engine. In instances where the 1st due engine has secured their own water supply, the 2nd due engine will supply any sprinkler/standpipe connections as needed.

OIC shall establish Command, in accordance with General Order 06-20, if necessary, and assume the role of IC until relieved by a command officer who has arrived on the scene.

Ensure that the initial attack hose line from the 1st Due Engine has been advanced to the fire area and is capable of confining, controlling, and/or extinguishing the fire. This includes but not limited to removing hose kinks, feeding more attack hose line, or making up staffing for the 1st Due Engine crew if understaffed.

Unless directed otherwise by the IC, the crew should advance a back-up line to side Alpha capable of a minimum of 200 gallons per minute (GPM) and of sufficient length to cover any location in the building. Include the tools and equipment needed to complete this assignment.

Conduct a primary search of any interior area that the crew is assigned to.

3rd Due Engine

Establish a continuous water supply to side Charlie from a source not being used by the 1st due engine. This procedure shall be momentarily delayed if it will result in hindered access for the responding special services.

Unit OIC shall complete a size-up of side Charlie and provide a brief radio report to the IC to include:

- Number of floors on side Charlie
- Conditions present and location of fire, if known
- Any rescue problems
- Is there a basement and is it involved in fire?
- Any other information that might need tactical consideration



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Unless directed otherwise by the IC, advance an attack hose line capable of a minimum of 200 gallons per minute (GPM) and of sufficient length to cover any location in the building. Include the tools and equipment needed to complete this assignment.

The attack hose line from the 3rd Due Engine shall be deployed in coordination with the IC to the area, floor or exposure that is the most probable point of fire extension.

See Special Note regarding Basement Fire as part of this Procedure

Conduct a primary search of any interior area that the crew is assigned to.

Ensure that sprinkler and/or standpipe connection(s) are covered.

4th Due Engine

Ensure adequate and continuous water supply to 3rd due engine. In instances where the 3rd due engine has secured their own water supply the apparatus of the 4th due engine will be placed in a position to provide an additional water supply or will supply any sprinkler/standpipe connections not covered.

Unless directed otherwise by the IC, advance an attack hose line capable of a minimum of 200 gallons per minute (GPM) and of sufficient length to cover any location in the fire building. Include the tools and equipment needed to complete this assignment.

If needed, assist the 3rd Due Engine in the placement or advancement of their attack line. This includes but not limited to removing hose kinks, feeding more attack hose line, or making up staffing if understaffed.

The attack hose line from the 4th Due Engine shall be deployed in coordination with the IC to the area, floor or exposure that is the most probable point of fire extension not already covered by an engine company.

Conduct a primary search of any interior area that the crew is assigned to.

1st Due Special Service

Position on side Alpha to provide special service duties including but not limited to; ladders, lights, and ventilation.

Ladder sides Alpha and Bravo to provide for the rescue/removal of occupants, for the safety of operating personnel, and for access to the roof.

The crew and OIC shall report to the fire floor, or area, with the equipment needed for performance the following duties:



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- Primary Search in coordination with the first due engine.
- Forcible entry to support searches and hose line placement
- Utility control as necessary on the interior (Driver shall take care of exterior Utilities)
- Ventilation
- Opening for Extension
- Salvage and overhaul
- A secondary search shall be completed once the fire is controlled, ventilation started and lighting provided. Secondary searches should be completed by personnel not responsible for the primary search.

Suspended or false ceilings shall be opened immediately, beginning at the entrance to any occupancy, to examine for hidden smoke or fire extension.

Unit OIC shall assume Division supervision of the fire floor or area and report the following to the IC:

- Progress made
- Obstacles met
- Resources needed

2nd Due Special Service

Position on side Charlie to provide special service duties including but not limited to; ladders, lights, and ventilation

Ladder sides Charlie and Delta to provide for the rescue/removal of occupants, for the safety of operating personnel, and for access to the roof.

The crew and OIC shall report to the floor or area above the fire floor with the equipment needed for performance the following duties:

- Primary Search in coordination with the first due engine.
- Forcible entry to support searches and hose line placement
- Utility control as necessary on the interior (Driver shall take care of exterior Utilities)
- Ventilation
- Checking for Extension
- Salvage and overhaul
- A secondary search shall be completed once the fire is controlled and ventilation is started. This shall be completed by a crew other than the one who completed the primary.

Suspended or false ceilings shall be opened immediately, beginning at the entrance to any occupancy, to examine for hidden smoke or fire extension.



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In instances when the involved structure is a single story, the second due special service shall go to the roof for ventilation and to determine the integrity of the roof. It is critical that all horizontal and vertical ventilation is coordinated with the engine companies and IC

Unit OIC shall assume Division supervision of the floor or area above the fire and report the following to the IC:

- Progress made
- Obstacles met
- Resources needed

3rd Due Special Service

Establish RIC in accordance with General Order 06-03, which includes the following:

- Report to the IC
- Complete size-up
- Assemble tools
- Develop rescue plan
- Monitor radio channels
- Request additional resources through IC as necessary

8. Box Alarm – Hi-Rise Building

1st Due Engine

Take steps to establish continuous water supply. This will normally be accomplished by use of a forward or straight lay from the closest appropriate hydrant or water supply point.

Apparatus shall normally be positioned to take full advantage of building protective systems including fire department connections and building enunciator panel.

Unit OIC shall complete an initial size-up and provide a brief radio return to include:

- Announce correct address.
- Announce number of floors.
- Announce type of construction.
- Announce type of occupancy.
- Announce conditions found, other pertinent information and indicate the necessary level of response, in accordance with General Order 06-05.
- Establish or Pass Command per General Order 06-20, Incident Command System.
- Ensure that sprinkler and/or standpipe connection(s) are covered by a responding engine company.



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Check building enunciator panel for location of fire.

Advance an attack hose line (standpipe pack) of sufficient GPM flow and at least 200 feet in length to the fire area capable of confining, controlling, and/or extinguishing the fire. Include the tools and equipment needed to complete this assignment.

Conduct a primary search of the immediate fire area.

Unit OIC shall complete an interior size up and provide a brief radio return to include:

- Interior conditions present and location of the fire, if known.
- Designations for stairwells (attack, evacuation, ventilation, etc.).

2nd Due Engine

Ensure adequate and continuous water supply to 1st due engine and/or that the sprinkler/standpipe connection(s) have been covered.

The crew should report to the fire floor with a standpipe pack made up of an attack hose line capable of flowing a minimum of 200 GPM and of at least 200 feet in length. Include the tools and equipment needed to complete this assignment.

Unless directed otherwise by the IC, assist the 1st due engine crew as needed to ensure that the initial attack hose line has been advanced from the standpipe riser to the fire area and is capable of confining, controlling, and/or extinguishing the fire.

After the initial attack hose line is in position, advance a backup line capable of flowing a minimum of 200 GPM (standpipe pack) from the same stairwell (different outlet) as the initial attack hose line. This line will be used as a backup line for the first engine or to extinguish horizontal fire spread on the fire floor.

Conduct a primary search of any interior area that the crew is assigned to.

3rd Due Engine

Establish a secondary water supply to the side opposite the 1st due engine. This procedure shall be momentarily delayed if it will result in hindered access for the responding special services.

Unit OIC shall complete a size-up and provide a brief radio report to the IC to include:

- Number of floors
- Conditions present and location of fire, if known
- Any rescue problems
- Any other information that might need tactical consideration



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Unless directed otherwise by the IC, report to the floor above the fire with an attack hose line (standpipe pack) of sufficient GPM flow and of at least 200 feet in length. Include the tools and equipment needed to complete this assignment.

Advance the attack hose line (standpipe pack) from the same stairwell and riser outlet as the initial attack line to confine, control, and/or extinguish vertical fire extension

Conduct a primary search of any interior area that the crew is assigned to.

4th Due Engine

Ensure adequate and continuous water supply to 3rd due engine and/or that the sprinkler/standpipe connection(s) have been covered.

Report to the floor above the fire with an attack hose line (standpipe pack) capable of flowing a minimum of 200 GPM and of at least 200 feet in length. Include the tools and equipment needed to complete this assignment. This line will be used as a backup line for the first engine or to extinguish horizontal fire spread on the fire floor.

Assist the 3rd due engine crew as needed to ensure that the initial attack hose line on the floor above the fire has been advanced from the standpipe riser to the fire area and is capable of confining, controlling, and/or extinguishing the vertical fire extension.

Conduct a primary search of any interior area that the crew is assigned to.

1st Due Special Service

Position on side Alpha to provide special service duties including but not limited to; ladders, lights, and ventilation.

Ladder sides Alpha and Bravo to provide for the rescue/removal of occupants and for the safety of operating personnel.

The crew and OIC shall report to the fire floor with the equipment needed for performance the following duties:

- Primary Search in coordination with the first due engine.
- Forcible entry to support searches and hose line placement
- Utility control as necessary on the interior (Driver shall take care of exterior Utilities)
- Ventilation in coordination with the IC (includes shutting down HVAC for entire building)
- Checking for Extension
- Salvage and overhaul



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- A secondary search shall be completed once the fire is controlled and ventilation is started.
This shall be completed by a crew other than the one who completed the primary.

Unit OIC shall assume Division supervision of the fire floor or area and report the following to the IC:

- Progress made
- Obstacles met
- Resources needed

2nd Due Special Service

Position on side Charlie to provide ladders, lights, and ventilation.

Ladder sides Charlie and Delta, to provide for the rescue/removal of occupants and for the safety of operating personnel.

Gain control of building elevators and search elevator cars for victims.

The crew and OIC shall report to the floor above the fire floor with the equipment needed for performance the following duties:

- Primary Search in coordination with the first due engine.
- Forcible entry to support searches and hose line placement
- Utility control as necessary on the interior (Driver shall take care of exterior Utilities)
- Ventilation in coordination with the IC (includes shutting down HVAC for entire building)
- Checking for Extension
- Salvage and overhaul
- A secondary search shall be completed once the fire is controlled and ventilation is started.
This shall be completed by a crew other than the one who completed the primary.

Unit OIC shall assume Division supervision of the floor or area above the fire and report the following to the IC:

- Progress made
- Obstacles met
- Resources needed

3rd Due Special Service

Establish RIC in accordance with General Order 06-03, which includes the following:

- Report to the IC
- Complete size-up
- Assemble tools



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- Develop rescue plan
- Monitor radio channels

For hi-rise operations, the RIC shall be staged on the floor below the fire.

9. Responsibilities

The first arriving unit OIC shall be responsible for reporting on the scene, initiating the IMS as outlined in General Order 06-20, and indicating the necessary level of response, in accordance with General Order 06-05.

Each Company/Unit Officer shall be responsible for:

- Supervision and control of personnel under his/her command.
- The safety and welfare of personnel under his/her command.
- Instituting the appropriate level of accountability in accordance with General Order 06-06, Personnel Accountability Procedures.
- Reporting conditions found and progress being made to the IC or appropriate Division/Group supervisor.
- Maintaining communications with the IC or appropriate Division/Group supervisor and providing personnel accountability at 20-minute intervals.

Each Division/Group/Branch Officer shall be responsible for:

- The safety and welfare of personnel under his/her command.
- Supervision and control of personnel under his/her command.
- Maintaining the appropriate level of accountability in accordance with General Order 06-06.
- Reporting conditions found and progress being made to the Incident Commander.
- Maintaining communications with the IC, and providing personnel accountability at 20-minute intervals.

The IC shall be responsible for:

- The safety and welfare of all personnel.
- Ensuring all orders and procedures are followed.
- Providing an update on the current conditions within ten minutes that includes:
 - Confirmation of correct address
 - Approximate size and type of occupancy
 - Severity of conditions
 - Units to be held
- Providing a progress report every 20 Minutes that includes the severity of the conditions, current strategy, and progress.



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REFERENCES

N/A

FORMS / ATTACHMENTS

Attachment #1 – Building Sides & Wings



PRINCE GEORGE'S COUNTY, MARYLAND
FIRE/EMERGENCY MEDICAL SERVICES DEPARTMENT GENERAL ORDER

General Order Number: 06-03	Effective Date: January 2010
Division: Emergency Operations	
Chapter: 2 In, 2 Out and Rapid Intervention	
By Order of the Fire Chief: Marc S. Bashoor	Revision Date: N/A

POLICY

A procedure for the deployment and operations of personnel when functioning as a member of the Rapid Intervention Crew (RIC) or 2 In, 2 Out crew. In accordance with NFPA 1500, Sec. 6-5, and OSHA 29 CFR 1910.134, the Prince George's County Fire/EMS Department shall maintain a safe practice of 2 In, 2 Out structural firefighting and operations in Immediately Dangerous to Life and Health (IDLH) atmospheres. To further support the Department's responsibility for personnel safety, a Rapid Intervention Crew (RIC) shall be established while engaged in interior structural firefighting and other IDLH or oxygen deficient atmospheres for the rescue of firefighting personnel.

DEFINITIONS

2 In, 2 Out – is a term used to describe an initial entry and standby team. The initial entry team (2 In) shall consist of two firefighters operating in a hazardous area or an IDLH atmosphere. The standby team (2 Out) shall consist of two firefighters outside of the hazardous area or IDLH atmosphere in accordance with OSHA 29 CFR 1910.134.

Initial Entry Team – is at least two personnel equipped with full protective clothing and qualified to participate in interior structural firefighting. These personnel must maintain constant visual and/or voice contact with each other while entering into the IDLH atmosphere.

Initial Stages of an Incident – includes the period of an incident where tasks are being undertaken by the first arriving company with an initial entry team assigned or operating in the hazardous area.

Rapid Intervention Crew (RIC) – is a crew specifically designated by the Incident Commander at the scene of an emergency beyond the initial stages, consisting of a minimum of four personnel, one preferably being a Company Officer. The RIC shall be available for the rescue of firefighters should the need arise. Depending on the size and complexity of the incident, the Incident Commander shall establish one or more RICs. The RIC normally replaces or enhances the standby team, which was required during the initial stages of the incident.

Interior Structural Firefighting – is the physical activity of fire suppression, rescue or both, inside of buildings or enclosed structures which are involved in a fire situation beyond the incipient stage (fire growth beyond the first material ignited).

Immediate Danger to Life and Health (IDLH) - is an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.



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Known Life Hazard – is circumstances where responding personnel hear or see a person in distress, or receive reliable information from Public Safety Communications (PSC) or a bystander that someone is in the IDLH atmosphere.

Mayday – is a radio term used to alert the Incident Commander or other persons on the emergency scene that personnel are in an imminent life-threatening situation.

Oxygen Deficient Atmosphere – is an atmosphere with an oxygen content below 19.5% by volume.

Personnel Accountability Report (PAR) – is a term used to report the location, status, and welfare of personnel assigned to a given crew.

Standby Team – is at least two personnel who observe the initial entry team entering into the IDLH atmosphere and are available, trained, and equipped (including full protective clothing and SCBA) for immediate response to rescue the initial entry team. One of these individuals must maintain contact with the initial entry team visually, verbally, by signal line, or by radio. The second individual of the standby team may be assigned to other duties (Incident Commander, wagon driver, aid station, etc.).

PROCEDURES / RESPONSIBILITIES

1. 2 In, 2 Out

The 2 In, 2 Out procedures shall be implemented during the initial stages of any operation within an IDLH atmosphere. When the first arriving unit does not have sufficient personnel to implement 2 In, 2 Out, the second due engine shall be responsible to establish and maintain the 2 Out crew until relieved or reassigned by the Incident Commander. No operations in an IDLH atmosphere shall commence until 2 In, 2 Out is implemented, unless there is a known life hazard. Officers making the initial decision of entry, which is not in compliance with 2 In, 2 Out, may be required to justify his/her initial actions.

The 2 In, 2 Out procedure is for the protection of the initial entry team(s) and shall be maintained until the RIC is in service and the standby crew is reassigned by the Incident Commander.

2. Rapid Intervention Crew

The Prince George's County Fire/EMS Department has implemented the RIC procedure as a standard practice for all emergency incidents having more than one team operating in a hazardous or IDLH atmosphere. There is a distinct difference between the 2 In, 2 Out and the RIC, and they should not be confused. Regardless of which unit is assigned at the RIC, the 2 IN, 2 Out requirement must be maintained by the standby crew on the scene until the RIC is ready to assume the RIC responsibilities unless there is a known life hazard.



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A RIC shall be established anytime one of the following conditions exist:

- Structure fire where SCBA and 1 ½" hose line (or larger) will be used.
- Personnel are operating inside of an IDLH or potentially IDLH atmosphere.
- Incidents with the possibility of collapse or entrapment of personnel.
- Incidents where personnel might become lost or disoriented.
- When deemed necessary by the Incident Commander.

It shall be the responsibility of the Incident Commander to ensure the RIC has been established and is in place. The rescue squad or 3rd due ladder truck dispatched on the alarm shall be responsible for the RIC. When the rescue squad is needed for other operations due to arrival sequence or other factors, the Incident Commander shall ensure that the RIC duties are assigned to another responding special service.

The RIC shall only be used for duties related to the safe evacuation and rescue of public safety personnel. The Incident Commander shall request additional uncommitted resources if it appears that the incident is escalating and additional personnel may be needed. The RIC shall remain in close view or radio contact at all times and shall only carry out those assignments given by the RIC officer at the direction of the Incident Commander. On certain incidents, the RIC may be placed in a forward position to provide quickest access to the personnel operating in the hazard area. Such as:

- The floor below the fire on all high-rise or mid-rise building fires.
- Near the point of entry for personnel on large buildings such as shopping centers, schools, or warehouses.
- When deemed appropriate by the Incident Commander or RIC officer.

Duties and Responsibilities

The Incident Commander/Operations Officer shall maintain an awareness of the location and function of all Division/Group/Sector Officers. Division/Group/Sector and Company Officers shall know the exact location and function being performed of each unit and all personnel under their command. All personnel within the IDLH area are to ensure that their PASS device is operational and on by using their SCBA. They shall operate in teams of at least two personnel, one of which has a portable radio.

It shall be the responsibility of all crews to monitor changes in the stability and condition of the structure throughout the operation. Any changes (i.e., missing stairways, holes in the floor, open elevators, partial structural collapses, etc.) that could cause harm to the firefighters must be reported to the Incident Commander/Operations Officer. Safety hazards shall be communicated to all personnel via radio, and shall be roped off, blocked or a firefighter should be assigned (if safe to do so) to the area to deny entry.



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Upon arrival on the scene, the RIC Officer shall meet face-to-face with the Incident Commander/Operations Officer and be briefed on:

- The current plan of action that is in place.
- The location of all companies and Division/Group/Sector Officers operating within the structure.
- The location of the fire and possible areas of extension.

A copy of the building preplan shall be provided for the RIC by a member of the first due crew and a complete exterior assessment shall be conducted by a member of the crew to ensure familiarity with the building and identification of specific hazards, conditions, and obstructions. A complete size up shall be completed by the RIC officer. This shall include:

- Size/height of building
- Type of construction
- Occupancy
- Location of fire
- Location and number of operating personnel
- Points of entry and exit

The RIC officer shall remain in close view or radio contact with the Incident Commander at all times. He/she shall be responsible for developing the rescue plan based on the information provided during the briefing and size up. He/she will be responsible for ensuring that the Incident Commander is aware of any additional resources necessary to implement the rescue plan without delay.

The RIC officer shall be prepared to brief the Incident Commander and/or provide the rescue plan in writing if directed to do so. The rescue plan must ensure that sufficient egress is provided to the interior crews as soon as possible. This shall include ensuring at least one ladder is at each floor near the fire area, window bars are removed, door gates are opened, or any other obstruction to the swift evacuation of the building is addressed. When possible, the RIC shall not be used to accomplish these tasks if it will result in fatigue and an inability to carry out strenuous rescue efforts, which may be required.

The RIC officer shall be responsible to ensure that each member of the RIC has been briefed on the rescue plan and that each member understands their individual assignments.

The following resources will be compiled by the RIC at all working structural fires:

- Sufficient personnel to implement the plan.
- Spare SCBA with facepiece
- An uncommitted hose line
- Sufficient ground ladders
- 125' life line



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- Forcible entry tools (flathead axe, haligan bar, rabbit tool, bolt cutters), lights, power saws, and other equipment deemed necessary
- One portable radio for each two-person team

After compiling the minimum resources noted above, the RIC shall work with the Incident Commander to obtain any other specialized equipment needed; stokes basket, hydraulic rescue tools, air bags, torches, collapse equipment, rappelling equipment, etc.

The RIC officer and personnel shall have a minimum of two portable radios. The RIC officer will be responsible for monitoring the radio for a mayday or other distress/safety messages, progress reports, changes in the interior and exterior conditions, urgent messages, etc.

Deployment of the Rapid Intervention Crew

When a swift rescue or recovery cannot be affected by interior crews, the Incident Commander shall notify PSC and deploy the RIC to the last known or reported location of the lost, trapped, or missing firefighter(s). The RIC officer shall obtain as much information as possible regarding the exact nature and problem and implement the rescue plan with any adjustments necessary. This includes determining how many firefighters are involved and if they are:

- Missing, lost, trapped, cut off by fire
- Injured or require immediate medical attention
- In need of immediate SCBA equipment

To assist in obtaining the above information, the acronym "LUNAR" shall be used.

- **L** Location (last known location including floor number, quadrant, etc.)
- **U** Unit (identification of the crew and their unit or sector assignment)
- **N** Name (name of the individuals that need rescue or recovery)
- **A** Assignment (the last known assignment given to the individuals)
- **R** Resources needed (what equipment is needed to implement the rescue plan)

PSC shall make a radio transmission with an alert tone on the operations channel, call for radio silence, and announce to all units that the RIC has been deployed. The transmission shall include the reason given by the Incident Commander, the last known location, unit number, name and assignment of the missing or trapped firefighter(s).

If it becomes necessary, a Rapid Intervention Task Force shall be requested by the Incident Commander upon the activation of the RIC. Resources requested shall conform to the need for establishing an additional RIC; EMS units commensurate with the number of possible victims, fire units for replaced or exhausted crew, etc.



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The Incident Commander shall establish a Rescue Group, normally this will be assumed by the RIC officer. He/she shall communicate progress being made by the RIC, any changing conditions on the interior, progress being made, and other resources needed.

The Incident Commander shall be the only one with the authority to cancel a RIC rescue operation. He/she shall contact PSC, which shall make a radio transmission that the RIC rescue operation has been canceled and that normal operations are continuing, all units are to resume normal radio operations.

REFERENCES

N/A

FORMS / ATTACHMENTS

N/A



PRINCE GEORGE'S COUNTY, MARYLAND FIRE/EMERGENCY MEDICAL SERVICES DEPARTMENT GENERAL ORDER

General Order Number: 06-04	Effective Date: October 2011
Division: Emergency Operations	
Chapter: Mayday Procedure	
By Order of the Fire Chief: Marc S. Bashoor	Revision Date: N/A

POLICY

This General Order shall establish a procedure for personnel to utilize to alert Command that an imminent life-threatening situation exists.

DEFINITIONS

Mayday - term used to alert the Incident Commander or other persons that personnel are in an imminent life-threatening situation.

Mayday Alert Tone - a distinct audible signal broadcast for 5 seconds over operational incident talkgroups by Public Safety Communications (PSC) to notify personnel that a MAYDAY has been declared.

Personnel Accountability Report (PAR) or Roll Call - a term used to track and report the location, status, and welfare of personnel

Rapid Intervention Crew (RIC) - a crew (unit) specifically designated by the Incident Commander, in accordance with General Order 06-03, whose sole responsibility is the rescue of members in distress.

PROCEDURES / RESPONSIBILITIES

1. Declaring a MAYDAY

When personnel operating on the scene of an emergency incident find themselves in a life threatening situation and require immediate assistance, they shall instantly declare a MAYDAY.

Declaration of a MAYDAY shall be limited to only those situations which demand immediate action by on scene resources to come to the aid of a distressed member. Examples would include:

- Personnel trapped or entangled
- Personnel lost
- Personnel out of air
- Serious medical emergency

Radio equipped members shall declare a MAYDAY by transmitting a verbal message over the operational incident talkgroup. The message shall begin with “MAYDAY, MAYDAY, MAYDAY” and immediately followed by:



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WHO - is calling the MAYDAY

WHAT - is the problem

WHERE - is the location

The acronym LUNAR can be used to guide members in providing important information:

L - location

U - unit

N - name

A - assignment

R - resources

Personnel calling a MAYDAY must make certain that the MAYDAY is acknowledged. If no acknowledgement is received personnel should utilize the Emergency Identifier (EI) function of the portable radio.

Depressing the EI button on the top of the portable radio will transmit an emergency alert over all radio frequencies to alert PSC an emergency situation exists. Personnel must give a verbal message as listed above and receive an acknowledgement.

When non-radio-equipped members find themselves in a MAYDAY situation they must alert their partner, officer, division/group supervisor or any other member in the vicinity of the situation. The Personal Alert Safety System (PASS) is to be activated to alert members that an emergency situation exists.

2. Public Safety Communications actions/responsibilities

The monitoring of operational incident talkgroups by the PSC dispatcher is an essential component of firefighter safety. Any time that a PSC dispatcher recognizes that an emergency situation exists they are to immediately notify the IC.

In the event that a MAYDAY is transmitted by a unit and not acknowledge by the IC, the PSC dispatcher shall attempt to contact the unit calling and alert the IC that an emergency situation exists.

In the event that an EI has been activated from a fireground unit, PSC shall immediately notify the IC and take action to identify the unit involved.

As soon as a MAYDAY has been declared, PSC shall dispatch a RIC task force in accordance with General Order 06-03 and identify an additional talkgroup for the IC.

PSC shall designate a dispatcher to the sole responsibility of monitoring the channel the MAYDAY was called on. The dispatcher shall assist the IC and ensure pertinent information is acknowledged.

At the conclusion of the MAYDAY event PSC will make an announcement on all radio channels and return to normal operational mode.



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3. Command actions/responsibilities

Upon receipt of a MAYDAY the Incident Commander (IC) shall immediately acknowledge the unit/person calling and ascertain the following information:

WHO - is calling the MAYDAY

WHAT - is the problem

WHERE - is the location

The IC will shall repeat the information back to ensure confirmation and accuracy. After acknowledging the MAYDAY Command will request that the MAYDAY alert tone be transmitted by PSC. PSC shall transmit the alert tone over the operational incident talkgroup, talkgroup 1, and talkgroup 2.

At the conclusion of the MAYDAY alert tone, the IC will announce that a MAYDAY has been declared for:

WHO - is calling the MAYDAY

WHAT - is the problem

WHERE - is the location

IC shall deploy the RIC based upon an established action plan (WHO; WHAT; WHERE) and in accordance with General-Order 06-03. Appropriate deployment is generally considered to be:

- Reported location
- Last known Location
- Most hazardous area first

If units on the incident were operating on any of the alternate talkgroups, within the specific incident group (i.e. talkgroup 4or 5), the IC must make the MAYDAY announcement on the appropriate announcement talkgroup (i.e. talkgroup 6).

- IC is to request additional resources as appropriate.
 - A RIC Task-Force is to be dispatched in accordance with General-Order 03-11.
 - Ensure appropriate level of EMS resources is available for potential number of victims.
 - Ensure sufficient resources to maintain suppression efforts.
- IC must control the fireground communications.
 - Non-essential radio traffic is to cease
 - Members in distress should not be expected to switch radio channels.
 - Assign officer to monitor the talkgroup the MAYDAY was called on.
 - Operational units are to be assigned an alternate talkgroup by PSC.
 - Face-to-face communications should be utilized with-in groups and divisions



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- Expand the Incident Management System (IMS)
 - As a minimum, the functional areas of suppression and RIC (rescue) **must** be separated.
 - Additional Branches, Divisions and Groups shall be established based upon the needs and the anticipated needs of the incident. Consideration should be given to the following:
 - EMS
 - Staging
 - PIO
 - CISD
 - Family/Survivors Support

The IC shall complete a PAR as soon as possible. The PAR should not be done over the talkgroup at a time that would be a detriment to the MAYDAY event. PAR's at the division/group level should be conducted immediately and through face-to-face communication.

Upon confirmation that the MAYDAY issue has been resolved, and after a complete PAR has been conducted, the IC will clear the MAYDAY and return units to a normal operating mode.

After the MAYDAY event has been cleared the IC will reassesses the incidents priorities and make any needed adjustments to the incident action plan. The adjustments to the incident action plan and the current operational mode shall be communicated to all branches, divisions and groups.

4. Division/Group/Unit Supervisor actions/responsibilities

Officers operating on the scene of any emergency must ensure close accountability of personnel and/or units (resources) under their command. Officer must be prepared to give an accurate accountability report at any time.

When a MAYDAY has been declared all officers must adhere to operational discipline and keep assigned personnel and/or units under control. Personnel and/or units must not freelance into the rescue effort.

- Officers must be aware, and listen for a change in talkgroup assignments and switch to the correct talkgroup.

Division/Group/Unit supervisors shall ensure that any rescue or search for distressed member(s) is a coordinated effort at the authorization of the IC.

Only crews in direct physical contact with distressed member(s) may engage in any rescue effort.

Division/Group/Unit supervisors shall immediately account for all assigned members. This should be accomplished by face-to-face contact leaving the radio frequency clear for emergency traffic.

- If personnel and/or units are unaccounted for the IC must be notified immediately.



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- If personnel and/or units have been accounted for the officer will give the report when called for.

Division/Group/Unit supervisors shall ensure that operational assignments are carried out and suppression efforts are maintained.

5. All Operating Personnel actions/responsibilities

Every member working on the scene of an emergency incident must ensure that accountability is maintained at the unit level. Personnel must keep their direct supervisor apprised of their current location and progress.

- Each member is responsible to work in pairs/groups.
- Every group and/or pair must be radio equipped.
- Every effort must be made to not become separated.

When a MAYDAY has been declared, every member must adhere to operational discipline not freelance into the rescue effort.

- Members must be aware, and listen for a change in the talkgroup assignment and switch to the correct talkgroup.

When a MAYDAY has been declared each member shall immediately report to their assigned officer for accountability. This should be accomplished by face-to-face contact when-ever possible, leaving the radio frequency clear for emergency traffic.

If the member's officer is unaccounted for, the IC must be notified immediately.

REFERENCES

N/A

FORMS / ATTACHMENTS

N/A



PRINCE GEORGE'S COUNTY, MARYLAND FIRE/EMERGENCY MEDICAL SERVICES DEPARTMENT GENERAL ORDER

General Order Number: 06-07	Effective Date: January 2010
Division: Emergency Operations	
Chapter: Searching for Victims	
By Order of the Fire Chief: Marc S. Bashoor	Revision Date: N/A

POLICY

The Department shall establish a system for conducting searches and documenting searched areas at a structure fire.

DEFINITIONS

Primary Search – is a rapid, thorough, systematic search that is performed to locate and remove occupants before the fire has been declared under control.

Secondary Search – is a systematic search that is conducted after the fire has been declared under control. Ventilation and sufficient lighting shall be introduced into the structure. A different company or companies than those involved in the primary search activities will complete the secondary searches. The secondary search will include the entire fire structure and all exposure buildings.

Search/Guide Ropes – are ropes deployed for the primary purpose of ensuring firefighters assigned to search operations will be able to return to their entrance/anchor point.

Systematic Search – is a search technique deployed to ensure that a designated area has been completely and methodically searched.

Thermal Image Camera – 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 it relies on the thermal energy emitted by all objects and not on reflected visible light. Thermal Imagers provide vision capability with zero light present.

Search Communications – is the key to ensuring and documenting that a meticulous search of a structure has been completed. Communications must take place verbally (face-to-face) or via radio, or written utilizing a marking system.

PROCEDURES / RESPONSIBILITIES

1. General

Personnel directed to perform search operations shall be properly trained in search and rescue techniques, and shall have reviewed and practiced the procedures found herein

Primary and secondary searches will be completed within all structures where an Immediately Dangerous to Life and Health (IDLH) atmosphere exists.



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Members entering an IDLH atmosphere will don all personal protective equipment, including self-contained breathing apparatus.

The officer in-charge of the search team is responsible for performing a rescue related size-up, identifying the fire's location, all means of entrance and egress, and communicating the search and rescue plan to the search team.

Companies engaging in search operations will deploy in teams of at least two (2) personnel. Each search team will be equipped with a minimum of a Department radio, hand lights, hydraulic forcible entry tool, set of irons, and a rope (personal or rope bag). Units that are equipped with a thermal imaging camera will utilize the camera while performing searches.

When a victim is encountered, the search team officer will notify the Division Supervisor, announce the route of egress, and ensure that appropriate emergency medical care is initiated.

When companies assigned to either the primary or secondary search group encounter and remove victims, the Incident Commander must assign another company to continue/complete the search.

2. Basic Search Process

Primary search of the structure shall be prioritized in the following order, unless conditions dictate otherwise:

- The fire area
- The area adjacent to the fire area
- Floor above the fire
- Other areas (stairwells, elevators, balconies, etc.)

Personnel conducting a search should be cognizant of the following:

- Occupants will normally exit through their normal means of egress when presented with an emergency situation.
- Check behind doors and underneath windows.
- Children have a tendency to hide when faced with an emergency situation.

Units performing the searches in stairwells and elevators are searched will place the appropriate markings at the lobby level entrance of the stairwell and elevators.

3. Large or Open Area Searches

When searching large open spaces, multi-family dwellings, or when a search/guide rope is being utilized, the Incident Commander will assign a search group supervisor. The search group supervisor will be responsible for ensuring that a systematic primary and secondary search has been completed in all areas of the structure. Before declaring the incident mitigated, the search group



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supervisor will be responsible for entering the structure and verifying that all areas have been marked as searched, and shall report findings to the Incident Commander.

Search/guide ropes will be deployed on all searches of large, open, or congested spaces, or when deemed necessary by the unit officer, division/group supervisor, or the Incident Commander.

Incident Commanders will ensure that when units are deployed to search large open spaces, or when a search/guide rope is being utilized, a thermal imaging camera is placed in operation by the search teams.

The search line should be secured to a fixed object at the search team's entry point. In addition to the search line, light(s)/strobe(s) may be placed at the entry point to provide the search crew a point of reference.

4. Progress Reports and Documentation

Communicating the progress of a search is vital to documenting and ensuring that all areas within a structure have been searched. Progress reports should include the name of the unit completing the search, the type of search, the division that has been searched, and search results.

Example: Division 3 to command – “Truck 1 has completed a primary search of Division 3, search is negative.” When a victim is located, the search team will include the location of the victim and the route of egress.

To reduce radio traffic, unit officers should make every effort to provide the required search information to their division/group supervisor face-to-face. The supervisor will then inform command.

A marking system will be utilized to document all searches in high occupancy dwellings and large commercial buildings, or when deemed appropriate by the division/group supervisor and/or Incident Commander. The search teams will utilize a lumber crayon to write the status of the search on the wall adjacent to the doorknob.

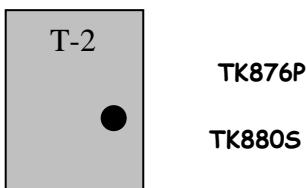
Units initiating a primary search will write their station number as they enter the unit on the wall adjacent to the doorknob to indicate that personnel are currently conducting a primary search of the area. *After completing the primary search, the officer-in-charge of the primary search team will write a “P” next to their station number to indicate that the primary search has been completed.*

Units initiating a secondary search will write their station number upon entering the unit to be searched on the wall adjacent to the doorknob to indicate that personnel are currently conducting a secondary search of the area. *After completing the secondary search, the officer-in-charge of the secondary search team will write an “S” next to their station number to indicate that the secondary search has been completed.*



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Example: When Truck 876 completes the primary search and TK880 completes the secondary search on apartment T-2, the following markings will be written adjacent to the doorknob:



Structures not qualifying for implementation of the Department's marking system should be searched following criteria established in this General Order, and shall be documented verbally and by the traditional methods (example: mattresses, furniture overturned and repositioned).

5. Responsibilities

The Incident Commander, Division Supervisor, and Unit Officer will each be responsible for:

- Supervision and control of personnel under his/her command
- The safety and welfare of personnel under his/her command

The Incident Commander will be responsible for:

- Verifying that a systematic primary and secondary search has been completed within all addresses involved in the incident.
- Ensuring that Stairwells, elevators, and balconies are searched.

The Division Supervisor will be responsible for:

- Ensuring that a systematic primary and secondary search has been completed within the division being supervised.
- Ensuring proper documenting of the progress of their search
- Providing the Incident Commander with timely search status reports

The Unit Officer will be responsible for:

- Ensuring that primary or secondary searches are conducted in a systematic manner as outlined herein
- Providing the appropriate supervisor with search progress reports

REFERENCES

N/A

FORMS / ATTACHMENTS

N/A



PRINCE GEORGE'S COUNTY, MARYLAND FIRE/EMERGENCY MEDICAL SERVICES DEPARTMENT GENERAL ORDER

General Order Number: 06-14	Effective Date: January 2010
Division: Emergency Operations	
Chapter: Emergency Response Time	
By Order of the Fire Chief: Marc S. Bashoor	Revision Date: N/A

POLICY

To establish response time goals and objectives to ensure the prompt dispatch, response, and arrival of emergency apparatus to all calls for service.

DEFINITIONS

Alert – the primary means utilized by Public Safety Communications (PSC) to notify a station of a call for service by activating the station alerting system and pagers, and announcing the call over the radio. Station alerting shall be done in accordance with General Order 3-18, Radio System Use and Alerting.

Call Intake Time – the elapsed time from when a call for service is answered (by a 911 call-taker) and the time the call is entered into the Computer Aided Dispatch (CAD) system.

Call Processing Time – the elapsed time from when a call for service is answered (by a 911 call-taker) and the time the appropriate units are dispatched, which is the cumulative time of call intake time and dispatch time.

Dispatch Time – the elapsed time from when a call is entered into the CAD system and the time the appropriate unit(s) are alerted.

On-scene – term used by unit officer to notify PSC of their arrival at the address or incident location to which they were dispatched.

Responding - term used by unit officer to notify PSC that a unit dispatched has begun their response as defined by wheels rolling.

Response Time – the elapsed time from when a call for service is answered (by 911 call-taker) and the time the first unit arrives on the scene, which is the cumulative time of call-intake time, dispatch time, turnout time, and travel time

Travel Time – the elapsed time from wheels rolling and the time the unit arrives on-scene.

Turnout Time – the elapsed time from when PSC alerts unit(s) to a call for service and the time the unit(s) begins their response and acknowledges on the radio that the unit is responding.

Wheels Rolling – vehicle in gear and wheels in motion moving the vehicle toward the incident location.



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PROCEDURES / RESPONSIBILITIES

General Provisions

PSC will ensure the call processing time is accomplished as quickly as possible and in accordance with the Emergency Medical Dispatch Protocols, Fire/Emergency Medical Services (EMS) Department General Orders, Directives, and policies.

PSC will ensure that all Fire/EMS Department radio transmissions related to response times are entered in the CAD promptly. PSC will only make CAD entries based upon a unit advising they are “responding” or “on-scene.”

The turnout time objective for all calls for service (including transfers) for all units throughout the Department shall be one (1) minute. All Fire/EMS Department personnel will ensure that all calls for service are responded to promptly, without delay.

To ensure the integrity of response time data, all Fire/EMS personnel are responsible to make radio transmissions that reflect their status, as defined in this General Order.

Emergency Operations Command (EOC) will evaluate all statistical data available to determine our current capabilities with our existing resources. After reviewing the data, EOC will make recommendations to the Fire Chief outlining our short- and long-term goals with respect to response times. The recommendations will include strategies to improve our capabilities of each component of response time. Upon acceptance, the response time goals will be distributed as an attachment to this General Order or as an Interim General Order.

REFERENCES

N/A

FORMS / ATTACHMENTS

N/A



PRINCE GEORGE'S COUNTY, MARYLAND
FIRE/EMERGENCY MEDICAL SERVICES DEPARTMENT GENERAL ORDER

General Order Number: 08-17	Effective Date: January 2010
Division: Health and Safety	
Chapter: Respiratory Protection Program	
By Order of the Fire Chief: Marc S. Bashoor	Revision Date: N/A

POLICY

This General Order shall establish a Respiratory Protection Program for all work areas of the Department that contain, or potentially contain, hazardous atmospheres to which employees/members could be exposed. To fully comply with all applicable codes, regulations, and standards pertinent to respirator use for the Department including, but not limited to, OSHA 29 CFR 1910.134 Respiratory Protection.

DEFINITIONS

Air-Purifying Respirator - a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

EMS ONLY Member - a volunteer member that participates in an operational capacity as part of an EMS crew only, either by personal choice or related to the use of respiratory protection. Without more specific information on the individual's training and/or certification, an EMS ONLY member shall not perform any operational activity within an IDLH atmosphere. However, an EMS ONLY member must be trained and qualified to use the SCBA and maintain certification to wear SCBA. Members who have not yet obtained SCBA Training will be required to do so within 18-months from the time this General Order takes effect.

Fire/EMS Department Physician - a physician employed by or under contract to the Prince George's County Fire/EMS Department. The physician shall be familiar with the operations and operational environment of the Department and with the Respiratory Protection Program.

Immediately Dangerous to Life or Health (IDLH) - an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

Interior Structural Firefighting - the physical activity of fire suppression, rescue or both, inside of buildings or enclosed structures, which are involved in a fire situation beyond the incipient stage.

Operational Activity - any duty, responsibility, or function that involves the delivery of service, training, etc. This includes drivers/operators of vehicles, command officers, and emergency medical service providers.

Member - any career employee or volunteer member of the Prince George's County Fire/EMS Department.



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Self-Contained Breathing Apparatus (SCBA) - a County-approved, atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.

Supplied-Air Respirator (SAR) or Airline Respirator - an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

PROCEDURES / RESPONSIBILITIES

1. Use of SCBA and Air-Purifying Respirators

All members who participate in operational activities and/or may be potentially exposed to respiratory hazards shall be qualified and maintain their qualification to use the Department-approved air-purifying respirator, which is the N99 respirator.

All members that are involved in operational activities as part of a crew on any fire suppression vehicle (including driver) shall obtain and maintain certification to wear SCBA.

All members who are, or could be, exposed to IDLH atmospheres during fire suppression operations and/or training exercises shall use SCBA. This includes:

- All interior structural firefighting operations.
- Interior and/ or exterior exposure to smoke or other products of combustion.

SCBA or SAR shall be used by members exposed, or potentially exposed, to IDLH atmospheres at any other type of incident or training exercise including:

- Oxygen deficient atmospheres.
- Carbon monoxide incidents.
- Confined space rescue operations.
- Hazardous materials incidents.

Members operating in the vicinity of known or potential IDLH atmospheres, who could be required to enter the IDLH area shall wear SCBA or have SCBA or SAR available for immediate donning and use.

Air-purifying respirators (filter masks) may be used to provide respiratory protection in situations where SCBA use is not required. This includes:

- Protection from asbestos particles during salvage, overhaul, and fire investigation.
- Certain hazardous materials incidents.
- Dust producing activities.

Air-purifying respirators shall not be used in areas that are, or have the potential, to become IDLH or oxygen deficient atmospheres. The particular filter media (filter or chemical canister) to be utilized must be selected for the specific application.



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The N99 respirators shall be used in accordance with General Order 08-26.

Unit officers or command officers who have “Observer/ Ride Alongs” (as defined by General Order 13-05) on board their unit shall be responsible for ensuring that these persons are not permitted to enter any potential IDLH zone that exists or may present itself during any incident. Observer/Ride-Alongs shall be left outside of all IDLH hazard zones, as required, until atmospheric conditions permit their entry.

2. Training Policy

All members who are expected to perform interior fire suppression operations, and all members who are expected to operate at emergency incidents in areas that could involve respiratory hazards, shall be qualified to use SCBA.

Members shall not be permitted to use respirators in hazardous atmospheres or at emergency incidents unless they have been trained and qualified to use the specific type and model of respirator.

The initial qualification process to use a respirator, including SCBA, requires:

- Medical evaluation that includes the OSHA Respiratory Medical Evaluation Questionnaire.
- Fit testing.
- Training.
- Demonstration of proficiency.

Members must qualify annually to use respirators. Qualification requires:

- Annual refresher training within 60 days of fit testing.
- Fit testing.
- Demonstration of proficiency.
- Annual medical clearance utilizing an OSHA Respiratory Medical Evaluation Questionnaire.

The Commander of the Fire/EMS Training Academy shall maintain the records of members who are qualified to use each type of respirator. These records shall be regularly provided to the Emergency Operations Command to identify the members who are qualified to participate in operational activities.

3. Availability

An adequate number of approved SCBAs shall be provided on each fire suppression e and AEMS vehicle for crewmembers that are expected to perform interior fire suppression operations and/or operate in an IDLH atmosphere.



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Additional SCBAs shall be provided to ensure that one is available for each member who is required to use a SCBA. This includes extra SCBAs provided for:

- Staff and command vehicles.
- Special use vehicles.
- Training.
- Replacement of units that are out-of-service for maintenance or repairs.

At least one spare air cylinder shall be carried on each fire apparatus for each SCBA assigned to that vehicle. Additional spare air cylinders and/or refilling capabilities shall be provided for long duration incidents.

SCBA carried on apparatus for the use of crewmembers shall be secured in brackets and stored in a manner that protects the SCBA from contamination by dirt, dust, or weather conditions. Additional respirators shall be in enclosed compartments and/or carrying cases.

An adequate number of approved N99 respirators shall be provided on each fire suppression and emergency medical vehicle for crewmembers that are expected to perform emergency medical duties. These respirators shall be stored in a manner that protects them from contamination by dirt, dust, and weather conditions.

4. Respirator Selection

The approved standard respirator used by the Prince George's County Fire/EMS Department for fire suppression and other IDLH emergency operations shall be Scott Air-Pak Fifty 4.5, Single EBSS, AV-3000 Face piece, 2002 NFPA and CBRN Compliant. All members exposed to IDLH, or potential IDLH atmospheres shall use this respirator. This unit may be used with 45 or 60 minute rated air cylinders.

Only approved supplied air respirators (air line breathing apparatus) may be used in IDLH or potential IDLH atmospheres. Supplied air respirators are reserved for special applications requiring long duration and/or reduced weight and bulk, including confined space rescue and hazardous material incidents. These units shall only be used by members who have been trained in their use.

The MSA Advantage 1000® system is approved as an alternative respirator for non-IDLH exposure to hazardous vapors, gases, and/or particulate matter. Air purifying respirators shall only be used in situations where the atmosphere contains at least 19.5% oxygen, the nature and concentration of the contaminant(s) are known, and the appropriate chemical or particulate air-purifying cartridge is available. All other respiratory exposure situations require the use of SCBA. All members shall wear the NIOSH approved N99 respirator when providing care to the following high risk group of patients or patients who exhibit signs and symptoms (persistent cough ≥ three weeks, bloody sputum, night sweats, weight loss, anorexia, and fever) suspicious of Tuberculosis (TB):



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- Person with HIV infection, close contacts of infectious TB cases, foreign-born persons from countries with a high prevalence of TB (e.g., Asia, Africa, Latin American and some Caribbean and European countries), or medically underserved, low-income populations, including the homeless and residents of shelters.
- Alcoholics and intravenous drug users, persons currently incarcerated/history of incarceration or residents of mental institutions, and long-term care facilities.
- Persons with medical conditions (silicosis, gastrectomy, jejunoleal bypass, chronic renal failure, diabetes mellitus, leukemia and lymphomas), conditions requiring prolonged high dose corticosteroid and other immunosuppressive therapy, and weight of 10% or more below ideal body weight.
- The use of other alternative respirators for particular situations may be authorized, in writing, by the Fire Chief or his/her designee. This shall be based on a detailed review of the specific situation and the alternatives that are available.

Additional information can be found in General Order 08-26.

5. Medical Evaluation

Initial Evaluation

The Fire/EMS Department physician shall examine each member before being authorized to use a respirator. The physician shall issue a written recommendation that the member is medically qualified to use a respirator and to engage in emergency operations before the member shall be permitted to be fit tested or to use a respirator within a hazardous environment.

A confidential medical file shall be maintained for each member under the control of the Manager of Risk Management. The physician's recommendation shall be maintained in the member's file. A copy of the physician's recommendation will be provided to the member upon written request to the Manager of Risk Management. The member will have the opportunity to discuss the recommendation with the physician.

Re-evaluation

Members shall be reevaluated for respirator use by the Fire/EMS Department physician if:

- The member reports medical signs or symptoms relating to his/her ability to use a respirator to a supervisor or to the Fire/EMS Department physician.
- Responses to items in the medical questionnaire indicate the need for reevaluation.
- The supervisor has reason to believe that the member requires further medical evaluation or requires a member to be reevaluated for any other reason.
- There is a significant change in the member's work conditions related to respirator use.



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All career employees and volunteer members who are scheduled for a full physical examination by the Fire/EMS Department physician shall also have their status for respirator use reviewed at that time using an OSHA Respiratory Medical Evaluation Questionnaire.

All career employees and volunteer members will complete an OSHA Respiratory Medical Evaluation Questionnaire annually.

6. Confidentiality of Records

The questionnaire is a confidential medical record and the responses shall only be reviewed by the Fire/EMS Department physician or a qualified medical professional working under the direction of the Fire/ EMS Department physician. If the need for a medical reevaluation is identified, the member shall be notified to contact the Fire/EMS Department physician within 30 days. If the member has not responded to the notification within 30 days, the Manager of Occupational Safety and Health will be notified and the member's authorization to use a respirator shall be suspended until the medical reevaluation has been completed.

7. Fit Testing

Test Requirements

Members shall successfully complete a quantitative fit test administered by the Prince George's County Fire/EMS Department before being authorized to use SCBA or other respirators in a hazardous or potentially hazardous atmosphere. Annual fit testing shall be required for all members to retain their qualification to use respirators and participate in operational activities.

Fit testing shall be conducted as part of the initial training program and the annual respirator training program by individuals who have been trained and are qualified to use the fit testing apparatus. The fit test records will be maintained by the Manager of the Fire/EMS Apparatus Maintenance.

Members, who have any presence of facial hair that comes between the sealing surface of the face piece and the face, or interferes with the operation of the unit, shall not be fit tested. Additional fit testing may be required if:

- The member reports changes in his/her physical condition or problems maintaining a seal during respirator use.
- Recommended by a supervisor or the Fire/EMS Department physician.
- A new or different type of face piece is to be used by the member.

Use Requirements

Members shall only use the type and size of face piece that was used when completing the fit test.

Members shall be issued a proper fitting face piece for their personal use.



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Members who have any presence of facial hair that comes between the sealing surface of the face piece and the face, or hair that could interfere with the operation of the unit, shall not be permitted to use respiratory protection at emergency incidents, IDLH, or potentially IDLH atmospheres, and shall not be authorized to participate in operational activities. These restrictions shall apply regardless of the specific fit test measurement that can be obtained under test conditions.

Nothing shall be allowed to enter or pass through the area where the respirator face piece is designed to seal with the face, regardless of any specific fit test measurement that can be obtained.

Members shall always perform a self-check of the face piece seal when donning an SCBA before entering a hazardous atmosphere.

8. Training

Initial Training

All members who perform fire suppression operations and/or any other emergency operational activities shall be trained and certified in the use of SCBA and the N99 respirator prior to being authorized to participate in emergency incidents, training exercises, or other activities that involve respiratory hazards.

Members who are expected to use other types of respirators shall be trained in the use of that specific equipment prior to use.

The initial training shall ensure that the member is thoroughly familiar with the respirator and has experience in using it in a non-hazardous environment. The initial training shall address:

- Why the respirator is necessary and how improper fit, use, or maintenance can compromise its protection.
- Capabilities and limitations of the respirator.
- Inspection, donning, doffing, seal checking, and normal use of the respirator.
- Emergency procedures, including situations that involve malfunction of the respirator, maintenance, and storage procedures.
- Recognition of medical signs and symptoms that may limit or prevent effective use of the respirator.
- The general requirements of 29 CFR 1910.134, Respiratory Protection.

Each member shall demonstrate proficiency in the proper procedures for:

- User inspection of the respirator.
- Donning the respirator, including the seal check.
- Confident use of the respirator.
- Emergency procedures.
- Doffing, cleaning, and maintenance.



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Annual Refresher Training

Each member who is authorized to participate in operational activities and required to use SCBA, the N99 respirator, or other respirators, shall be required to participate in an annual refresher training and re-qualification program. The refresher training shall ensure the member is able to meet the objectives listed for initial training and provide any new information that is required. Each member shall also demonstrate proficiency in the same skills as are required for initial training program.

Training Records

The Fire/EMS Training Academy shall maintain the training records, and the records of annual refresher training, of all members who have been initially trained and certified to use respirators.

Supervisors shall ensure that all career members maintain their qualification to use respirators. Each volunteer company shall ensure that all members participating in Fire/EMS Department operational activities have met the specific requirements.

9. Maintenance and Inspections

Inspection

Respirators shall be maintained in working order and in a clean and sanitary condition. Units that require maintenance or repairs shall be removed from apparatus and tagged to prevent inadvertent use.

Regular inspections of respirators shall be conducted in accordance with the following schedule:

- SCBA carried on in-service apparatus for the regular use of crewmembers shall be checked daily.
- SCBA and spare air cylinders carried on apparatus, including reserve apparatus, command and staff vehicles, shall be checked weekly.
- SCBA reserved for training and spare units shall be checked before each use and before being placed in regular service.
- Other types of respirators shall be checked weekly and before each use.
- All respirators shall be checked after each use, after cleaning and servicing, and before being placed back in service.

Respirator inspections shall follow the manufacturer's recommended procedures. Regular user inspections of SCBA shall include verification that:

- The air cylinder is full - cylinders shall be refilled if the pressure is found to be below 90% of the rated capacity (4050 psi for a 4500 psi SCBA).



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- The regulator, low-pressure alarm, heads up display, and integral PASS device function properly.
- All parts are in operable condition.
- The unit is clean and ready for use.

Cleaning and Sanitizing

Respirators shall be cleaned and sanitized following the manufacturer's instructions, after each use, and at any other time when the need for cleaning is identified.

Function Testing

Each SCBA unit shall be thoroughly inspected and flow tested annually by a qualified technician following the manufacturer's recommended procedures. Units shall also be flow tested after major maintenance or repairs are conducted, and before being returned to service.

Maintenance, inspection, and flow test records for each SCBA unit shall be maintained by the Manager of Apparatus Maintenance.

Maintenance and Repairs

Maintenance and repairs shall only be performed by Apparatus Maintenance Personnel who have been trained and certified to perform such operations on the specific make and model of respirator, and by using parts and procedures approved by the manufacturer. Personnel who have been trained and certified by the manufacturer shall perform repairs or adjustments to high-pressure components, regulators, or low-pressure alarms. SCBA respirators requiring maintenance shall be sent to Apparatus Maintenance.

A maintenance record for each SCBA respirator shall be maintained at Apparatus Maintenance.

Air Quality

Breathing air compressors, air storage systems, and refill stations shall be regularly inspected and maintained in compliance with the manufacturer's recommendations. The Manager of Apparatus Maintenance is responsible for ensuring that all such systems are properly inspected and maintained.

Compressed gaseous breathing air for SCBA cylinders shall meet the requirements of ANSI/CGA G-7.1, Commodity Specification for Air with a minimum air quality of Grade D, even though it will be tested to Grade E specifications.

Air produced by each of the Department's compressor and refill systems shall be tested at least quarterly by an independent laboratory to ensure that it meets the required specification. The test results shall be maintained by the Manager of the Apparatus Maintenance.



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A certificate of compliance certifying that the air has been analyzed by a reputable testing agency, and complies with the required specification, shall accompany air obtained from other sources. These certificates shall be maintained at the location where the air is stored until it is expended then forwarded to the Manager of the Risk Management Office (RMO).

Apparatus Maintenance shall maintain a record of each SCBA respirator noting the dates of acquisition and assignment, annual inspections and function tests, modifications, overhaul, and repairs.

Apparatus Maintenance shall also maintain records for each breathing air refill system, including compressors, filters, air storage cylinders, and refill stations. This record shall track all maintenance, inspection, repairs, and modifications to the system.

10. Program Evaluation

The Manager of RMO and the Infection Control Officer shall annually review the effectiveness of the Respiratory Protection/ Tuberculosis Program and develop a report to the Fire Chief. This review shall include:

- An assessment of compliance with the program requirements.
- Analysis of reports of respiratory injuries and exposures.
- Review of changes to applicable regulations and consensus standards.
- Advances in respiratory protection technology.

The Manager of Occupational Safety and Health and the Infection Control Officer shall periodically develop and issue updates to this Respiratory Protection/ Tuberculosis Program and to related procedures and practices.

11. Responsibilities

All employees who might be required to wear tight fitting respirators as a condition of employment shall be required to remove all visible facial hair (clean shaven/clipped to the skin) at the start of each tour of duty per General Order 08-11. This should prevent facial hair from coming between the face and the sealing portion of the SCBA face piece or respirator.

All members shall be required to remove all visible facial hair (clean shaven/clipped to the skin) prior to participating in an operational activity. This should prevent facial hair from coming between the face and the sealing portion of the SCBA face piece or respirator.

All members are required to comply with the specific requirements of the program that relate to their duties and activities. Authorization to participate in operational activities shall be dependent upon the member's full compliance with the specific requirements.

All career and volunteer members shall be responsible to ensure that all operational members under their supervision are in full compliance with the specific requirements.



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The Manager of RMO is responsible for the overall administration and management of the Respiratory Protection Program, and is designated as the Program Administrator.

The Infection Control Officer is responsible for all aspects of the Tuberculosis Control Program (see General Order 08-26, Tuberculosis Exposure Control Program) and management of suspected or confirmed Tuberculosis exposure incidents.

The Commander of the Fire/EMS Training Academy is responsible for the training components of the Respiratory Protection Program.

The Manager of Apparatus Maintenance is responsible for the maintenance of respirators and associated equipment, and administering the fit testing of respirators.

REFERENCES

ANSI/CGA G-7.1, Commodity Specification for Air

FORMS / ATTACHMENTS

N/A



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General Order Number: 10-03	Effective Date: January 2010
Division: Logistics and Supply	
Chapter: Cleaning, Repair, Replacement and Alterations of Personal Protective Equipment	
By Order of the Fire Chief: Marc S. Bashoor	Revision Date: N/A

POLICY

This General Order shall set forth the procedure for cleaning, repairing, replacing and altering Personal Protective Equipment (PPE).

DEFINITIONS

PPE – Personal Protective Equipment.

Compromised PPE – Any element of PPE that may have a diminished ability to fully protect personnel from burn/injury. This may be due to thermal damage, cuts/rips/tears, damaged/missing hardware, fabric integrity, or cleanliness.

Contaminated PPE – PPE that has been exposed to blood/body fluids, petroleum products, chemicals, pesticides, or any other hazardous materials.

Vendor- The verified Independent Service Provider (ISP) contracted to provide advanced inspection, cleaning, and alterations/repairs to Department issued PPE.

Verified ISP – A company that has either been 3rd party certified to perform repairs, or has been trained by the element manufacturer in Advanced Cleaning and Advanced Inspection.

Individually Owned Items – Approved PPE that was not issued by the Department, but was purchased by an individual. (Only Approved PPE may be worn for Emergency Operations).

PROCEDURES / RESPONSIBILITIES

1. General Provisions

Logistics and Supply is responsible for ensuring that PPE is properly fitted (by lengths and overlap of coat and pants) to an individual before being issued. If alterations are necessary, they must be performed by the verified ISP (vendor) prior to being issued.

Chief officers/battalion chiefs and station officers shall ensure that PPE will be routinely examined and sent for cleaning, repair, or replacement as necessary, in accordance with NFPA 1971 and NFPA 1851.

All PPE that is sent out for cleaning, repairs, or decontamination shall be evaluated by the appropriate chief officer/battalion chief or safety officer prior to being sent to Logistics & Supply for pick up by the contracted vendor. An Advance Inspection of the gear will be completed by the



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vendor. Following their evaluation, the vendor will contact Logistics & Supply and a determination will be made whether it is cost effective for the Department to have the PPE cleaned, repaired, or condemned. The criteria used to make the determination will be the age and condition of the PPE.

With the approval of the Duty Chief, a safety officer has the authority to place unsafe/ unapproved PPE out-of-service. All potentially compromised PPE of burned or seriously injured personnel shall be collected and sent to the Operational Safety Office for documentation.

2. Cleaning/Repair

The general cleaning/repair of PPE shall be handled as follows:

- The employee/member and the station officer shall inspect all PPE after each IDLH exposure to determine the need for cleaning and/or repairs.
- If cleaning or repairs are necessary, the employee/member's supervisor shall complete a PPE Cleaning/Repair Request (PGC Form #5201) and have it verified and approved by either the Chief Officer/Battalion Chief within the chain of command, or the Safety Officer.
- All cleaning and repairs of PPE must be approved by a chief officer/battalion chief, or safety officer.
- The check sheet shall indicate whether the gear needs cleaning and/or repairs. If the gear is in need of repair, the check sheet will clearly indicate the repairs needed.
- Upon approval (w/verified signature), supervisors are to arrange to get the gear to Logistics & Supply, who will arrange for the Department's vendor to pickup the PPE to clean and/or repair the gear.
- A copy of the signed PPE Cleaning/Repair Request Form (PGC Form #5201) shall be forwarded to Logistics & Supply, with the PPE.

3. Pickup/Delivery

Logistics will schedule a day for pickup, all PPE will be assigned an authorization number, which will be written on the PPE Cleaning/Repair Request and placed in the bag with the PPE for the vendor to pickup. The PPE should be in bags (trash bag, gear bag, etc.) and a vendor-furnished tag with the name, ID number, and station number of the individual to whom the PPE is issued is to be affixed to the bag. A copy of the signed PPE Cleaning/Repair Request Form must accompany the PPE to be sent to Logistics & Supply. The vendor will pickup and return the PPE to Logistics & Supply within three business days. If alterations or repairs are needed, it will be a 5-7 business day turnaround to Logistics & Supply. If a longer turnaround time is necessary, the Department's vendor will communicate that to Logistics & Supply, who will make the notifications to the appropriate command and Operational Safety Office.

4. Contaminated/Compromised PPE

PPE that has been contaminated by blood, petroleum products, chemicals, pesticides, or any other hazardous materials are to be handled in the following manner:



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- Contaminated PPE is to be bagged in a RED trash bag, or hazard bag, affixing a vendor-supplied tag with the individual's name, ID number, station number and the contaminant clearly marked on it.
- Notification to have the PPE picked up is to be made as soon as possible to the Safety Officer, followed by the station transporting the contaminated PPE to Logistics & Supply.

The PPE worn by personnel, who have received burns or serious injuries requiring treatment at a hospital, is considered compromised until it has been appropriately inspected and documented by the Operational Safety Office.

The Safety Officer is responsible to collect the gear of a burned/injured firefighter and will coordinate cleaning, repair and replacement of their gear with Logistics & Supply. Individually owned items will be returned after inspection and documentation is completed.

5. Condemned PPE

Upon notification regarding condemnation of any piece of PPE, Logistics & Supply shall notify the appropriate command and the Operational Safety Office.

Condemned PPE (red tagged) will be held at Logistics & Supply for disposal, and personnel will be advised to report to Logistics & Supply for replacement PPE. The employee/member will be issued new PPE. If alterations are necessary, the PPE will be sent to the vendor and the employee is required to report to the vendor for appropriate fitting. Once alterations are completed, the PPE will be delivered to Logistics, who will notify employee.

6. Replacement

All PPE issued to career and volunteer personnel are the property of the Prince George's County Government. PPE that is no longer usable shall be returned to Logistics & Supply. Personnel leaving the Fire/EMS Department must return all issued PPE.

Lost or stolen PPE, whether entire or portions thereof, must be reported, in writing, utilizing a Loss/Damage Report (PGC Form #556). The completed form is to be submitted to Risk Management, with a copy going to Logistics & Supply.

The career individual in need of replacement PPE shall complete Clothing Request (PGC Form #1362). The Station Officer shall verify the need for the replacement before forwarding the request to the Battalion Chief within the chain of command for approval and documentation. The original and other attached copies will be returned to the employee. The employee then presents the approved form, along with the items to be exchanged on a one-for-one basis, to Logistics & Supply.

A volunteer member must have an Issuance of PPE Request/Agreement (PGC Form #4371) signed by the Volunteer Chief or President in order to exchange PPE.



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Any request or need for PPE (running coat, pant, helmet, etc.) after 1530 hours Monday through Friday, and on weekends, should be directed via the Duty Chief to the Logistics & Supply Manager.

This is applicable only in an emergency situation, when gear is damaged after normal business hours and it is anticipated that the member might return to duty before the next business day.

All returned items shall come under the scrutiny of the Logistics & Supply Manager for final approval of the exchange.

7. Alterations

The Department will only be responsible for alterations to PPE pertaining to safety. This includes length of sleeves and pants, 2" overlap of coat and pants, and issues related to appropriate fitting and/or safety requirements of the garment. Any other alterations, including but not limited to, radio pockets, accommodations for flashlights, etc. shall be done at the employee/member's own expense, and only with an ISP, with coordination through Logistics & Supply.

8. PPE for Specialty Teams and Personnel Assigned to FETA

Cleaning, repair, replacement and alterations of specialized PPE not covered by the cleaning/repairing contract, such as technical rescue gear, CBRN protective ensembles, etc., will be coordinated through the Logistics & Supply office.

REFERENCES

NFPA 1971

NFPA 1851

FORMS / ATTACHMENTS

Attachment #1– Notice of Loss/Damage Report (PGC Form #556)

Attachment # 2– Clothing Request (PGC Form #1362)

Attachment # 3 – PPE Cleaning/Repair Request Form (PGC Form #5201)

Attachment # 4 – PPE Inspection/Tracking Form (PGC Form #4057)

Attachment #5 – Issuance of PPE Request/Agreement Form (PGC Form #4371)