Incident Management System

Seminole County and Cities

SEMINOLE COUNTY

FLORIDA'S NATURAL CHOICE

Table of Contents

Purpose / Mission Statement - 1

Command Operation - 2

2.1 Incident Management System Organization
2.2 Organization/ Command Structure
2.3 Area Command
2.4 Unified Command
2.5 Incident Commander
2.6 Safety Officer
2.7 Incident Commander Aide
2.8 Public Information Officer (PIO)
2.9 Liaison Officer
2.10 Operations Section Chief
- 2.10.1 Branch Director
- 2.10.2 Division/Group Supervisor
- 2.10.3 Special Operations Group (SOG)
- 2.10.4 Rehabilitation Officer
- 2.10.5 Staging Officer

2.11 Planning Section Chief
- 2.11.1 Operational Period Planning Cycle

2.12 Logistics Section Chief
2.13 Finance/ Administrative Section Chief
2.14 Critical Incident Stress Management
2.15 Post Incident Analysis/ Hot Wash

Operations - 3

3.1 Establishing Command
3.2 On Scene Options
3.3 Staging
3.4 Transfer of Command
3.5 Terminating Command
3.6 On Scene Report / Arrival Report
3.7 Operational Benchmarks
3.8 Structural Terminology
3.9 Multiple Radio Channels
3.10 Talk Around Communications
3.11 Residential Structure Fire – Single/Multi Story
3.12 Apartment/Townhomes
3.13 Commercial Structure Fire
3.14 High-Rise Firefighting Options
3.15 Elevator Emergencies
3.16 Mechanical Fire Alarms
3.17 Expressway Emergencies
3.18 Vehicle Extrication

3.19 Airport Responses
3.20 Brush/Wild land Emergencies
3.21 Civil Disturbance/ Scene of Violence Guidelines
3.22 Helicopter Use and Landing Zones
3.23 Mass Casualty Multi Victim
3.24 Fire Attack Considerations

Special Hazards / Operations - 4

4.1 Hazmat Incidents
4.2 Flammable Gas Emergencies
4.3 Suspicious Substances
4.4 Bomb Threats, Suspicious Packages / Devices
4.5 Radiological Response
4.6 Emergency Response to Railway Incidents
4.7 Confined Space Rescue Above & Below Ground
4.7 High Angle / Below Grade Rope Rescue Incidents
4.9 Trench / Excavation Incidents
4.10 Structural Collapse
4.11 Industrial Machinery Incidents
4.12 Water Rescue
4.13 US&R Marking System
4.14 Wide Area Search
4.15 Active Shooter
4.16 Biological/Medical Emergencies

Safety - 5

5.1 Policy Statement on Personal Safety
5.2 Accountability and Personal Tracking System
5.3 2 In – 2 Out
5.4 Rapid Intervention Team
5.5 Emergency Evacuation Procedure
5.6 P.A.S.S. Activation Procedures
5.7 Emergency Radio Alarm Activation
5.8 “Firefighter Down” Procedures
5.9 Rehab
5.10 Air Monitoring
5.11 Emergency/Non Emergency Response Procedures
5.12 Emergency Radio Procedures

Fire Cause / Investigation - 6

6.1 Fire Cause/ Investigation and Determination
6.2 Fire Scene Injury and Fatality Guideline

Appendix

Appendix 1 Post Incident Gross Decontamination

Forms / Checklist

Command Worksheet
Confined Space Rescue Incident
Industrial Machinery
Incident Management System
May-Day Emergency
PIO
Rope Rescue Incident
Safety Officer
Structural Collapse Rescue
Trench/Excavation Rescue
Water Rescue

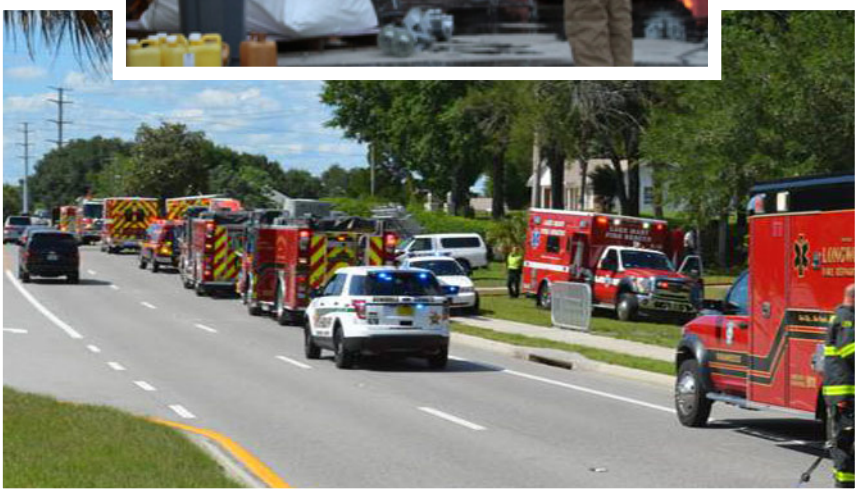
Purpose Statement

On behalf of the Executive Fire Chief's Group of Seminole County, we are appreciative to the Operations Group members and many others whom have contributed to the complete update of the Seminole County Incident Management System. This task was complex by nature and required uncountable hours dedicated to research and development of the Incident Management procedures. A common Incident Management System assures for the safety of all our fire-rescue career professionals and provides the template for making sound incident command decisions by our fire service officers mitigating a multitude of emergency scene operations.

The Incident Management System is considered a "living document" and assuredly will be subject to future additions, deletions, and revisions surrounding the ever changing technology and emergency scene operating principles. Despite the detailed development of the Seminole County Incident Management System, we recognize there will be those unusual circumstances that occur while mitigating emergency scene operations requiring flexibility for the command staff to adjust to the environment occurring to assure for the safety of our personnel.

We take great pride in the abilities of our command staff and all of our fire service professionals and recognize the importance of cooperation among all First Response agencies. The development of the Incident Management System is a reflection of the spirit of cooperation to accomplish a common goal. Thank you to all who contributed to the development of this program.

The Executive Fire Chief's Group of Seminole County
January 2017



2: COMMAND OPERATION

2.1

Title: Incident Management System Organization

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: The organizational structure outline in this plan has been derived from the **National Interagency Incident Management System (NIMS). NIMS** is utilized by the Federal Government and is recognized and recommended by the Florida Fire Chiefs' Association as the standard Incident Command System. In addition, certain portions of this manual have been adapted from Firescope, Phoenix Fireground Command System, Florida Incident Field Operations Guide and the National Fire Service Incident Management System Consortium.

General: Under the Incident Management System, (IMS), the ultimate control and direction of all emergency response resources falls under a single individual, the Incident Commander, except where a Unified Command or Area Command is established. Incident Command is responsible for the overall incident response effort and the implementation of the appropriate portions of this plan. This command system is quite flexible in that the incident commander can activate, consolidate, or delete various positions depending on the needs of the incident. Although this structure is designed for full or partial implementation, it is important that all position roles are reviewed to ensure vital functions are not overlooked.

NIMS:

- It is recommended that the person ultimately taking command at an incident be a chief officer or other qualified individual, highly trained and skilled in the Incident Management System. The Incident Management System is not rank structured, but can be filled from whatever positions are best suited for the needs of the individual department.
- The degree of plan implementation will again depend upon the nature and magnitude of the incident. The following pages outline the roles and responsibilities of the various areas of the command structure.
- The IMS organizational structure develops in a modular fashion based on the kind and size of an incident. The organization's staff builds from the top down with the responsibility and performance placed initially with the Incident Commander. As the need exists, four separate sections can be deployed, each with several units that may be established. The General Staff positions are:
    - Operations
    - Planning
    - Logistics
    - Administration (Finance)
- In addition to these four sections, Command Staff may include the following:
    - Safety Officer
    - Public Information Officer (PIO)
    - Liaison Officer
    - Incident Command Aide

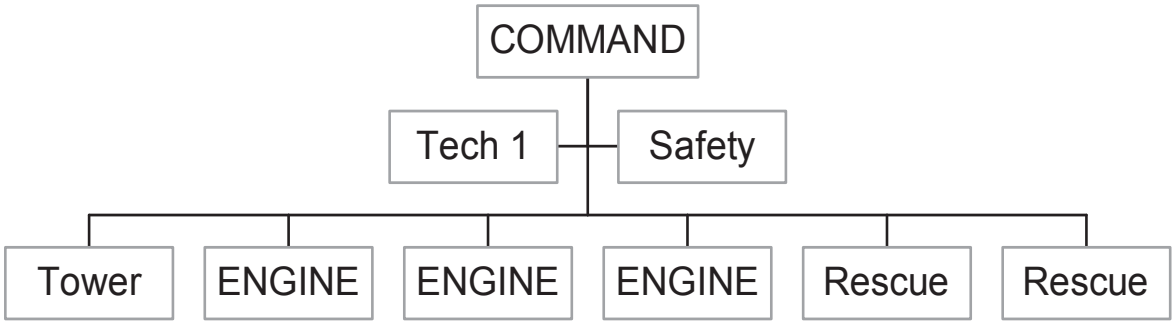
2.2

Title: Organization/ Command Structure

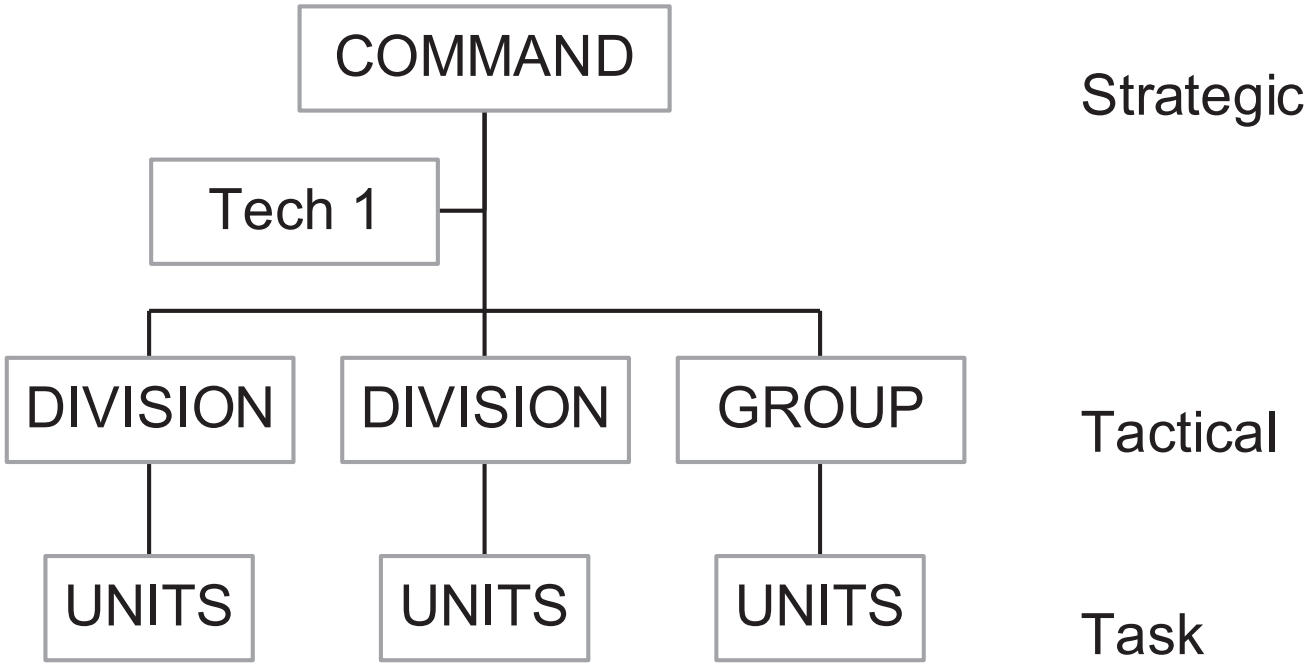
Issue Date: Jan. 1, 2017
Revision Date:

Small Structure Fire, HazMat Incident, or EMS Response

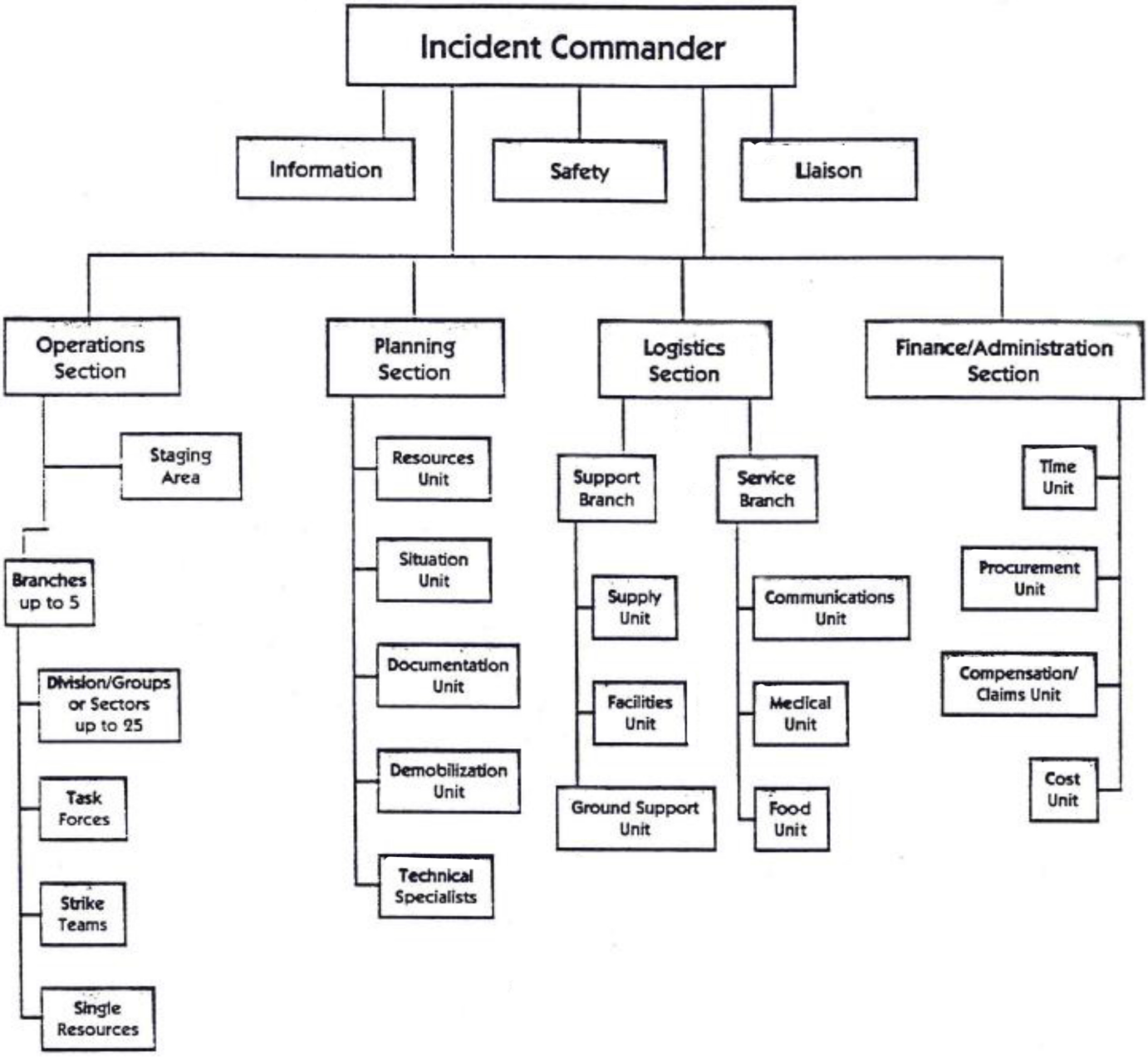
First Alarm Units



Second Alarm Units



Incident Management - Major Incident



2.3

Title: Area Command

Issue Date: Jan. 1, 2017
Revision Date:

Location: Area Command Post

Recommended Staffing: Most qualified in management of large complex incidents with respect to their functional areas.

Reports to: Agency Administration

Activation: Multiple simultaneous alarms with implementation of Incident Management System in same geographical area. The complexity and span or control of an incident warrants. Critical life saving or property values are at risk and incidents are utilizing limited resources. The incidents will continue into the next operational period.

Purpose: Oversee the management of incident(s), focusing on strategic assistance, direction, and resolving competition for resources. This position does not supersede any Incident Commanders or Unified Commands, but supports and provides strategic direction.

Responsibilities: The overall direction and setting of priorities for Incident Management Teams (IMTs) assigned to incidents in close proximity or large complex incidents. This includes ensuring that conflicts are resolved, that incident objectives are established and that strategies are selected for the use of critical resources. The Area commander has the responsibility to coordinate with local, state, federal and volunteer assisting and/or cooperating organizations.

Procedures:

- Arrive in area and establish Area Command.
- Establish appropriate location for the Area Command facilities, consider Mobile Command Center Vehicle.
- Notify the Incident Commanders covered by the Area Command.
- Activate the elements of the area command needed to manage the incident(s) via Branch Commanders. (Planning, Logistics, Aviation, Tech Specialists, etc.)
- Review objectives and strategies for each incident, including expectations of Agency Administrators, concerns, or restraints.
- Assess the incident situation; establish priorities and objectives for the overall command.
- If operating as a Unified Area Command, develop working agreement for how Area Commanders will function together.

- Determine and assign an appropriate Area Command team. A small team is more manageable.
- Identify and allocate critical resources to best meet the needs of Area Command.
- Consider establishing an Area Command Staging Area / Mobilization Center to pool resources prior to allocation to area incidents or individual staging areas.
- Obtain incident briefing and IAP's from Incident Commanders (as appropriate).
- Assess incident situations prior to strategy meeting.
- Brief the Area Command Staff and IMT, if established.
- Determine need for an assigned Technical Specialists to support Area Command.
- Participate in the preparation and authorize the implementation of the Incident Action Plan (IAP).
- Develop an operating guide for the Area Command staff.
- Prepare for additional operational cycles.
- Establish PIO or, if needed, Joint Information Center (JIC).
- Review the progress of the incident and channel organizational efforts towards highest priority tasks.
- Approve overall plan for demobilization and return to normal operating status.
- Maintain log of major actions/decisions.
- Prepare a final incident summary.

2.4

Title: Unified Command

Issue Date: Jan. 1, 2017
Revision Date:

Location: Incident Command Post

Recommended Staffing: Top management personnel from agencies having Jurisdiction (AHJ). Non-government responders and private industries when an incident affects their facilities.

Reports to: Authority having Jurisdiction (AHJ).

Activation: When an incident affects the jurisdictional or statutory responsibility of more than one agency. The incident is multijurisdictional and without a common system or organizational framework.

Purpose: A Unified Command links the responding organizations to the incident and provides a forum for these agencies to make consensus decisions. The Unified Command establishes a common set of incident objectives and strategies while Incident Commanders continue to carry out their respective agency's jurisdictional responsibilities.

Responsibilities: The overall management of an incident. The Unified Command will develop overall objectives and strategies. The Unified Command will have ultimate approval of all resources. Unified Command is intended to be a "decision by committee". If a decision cannot be agreed on by the Unified Command, the Unified Command member with the most jurisdictional responsibility will be deferred to for the final decision.

Unified commands with routine agencies such as law enforcement, other fire departments and management teams from private entities shall be established using a streamline process to prevent delays in operations activities with the goal of hazard mitigation.

Procedure:

- Agreement by Authority having Jurisdiction for a Unified Command to be established.
- Selection of members to the command determined by specifics of the incident.
- Establish a Unified Command and obtain an incident briefing from the previous Incident Commander.
- Establish a Unified Command Post that is Co-Located with all Unified Command Personnel; consider use of Mobile Command Vehicles.
- If needed, fill the Command staff positions. There should be

ONE Operations Section Chief to oversee Branch directors from each discipline.

- Assess the incident situation and conduct a strategy meeting with members of the Unified Command.
- Prepare one set of Incident Objectives based off of all unified discipline strategies.
- Brief the Command Staff and primary Section Chiefs.
- Prepare and approve an Incident Action Plan.
- Determine needs to make informed command decisions and relate these needs to the command staff.
- Manage overall incident operations.
- Consider a joint staging area for incident resources
- Coordinate primary staff activities.
- Approve requests for and utilization of extended resources.
- Authorize release of information to the media. Establish a Joint Information Center (JIC) for PIOs and Media if size of incident warrants.
- Ensure the incident status form (worksheet) or command board is utilized and completed. Ensure that proper forms are available and utilized by section group leaders.
- Obtain briefing from Section Chiefs, Command Staff and agency representatives on management concerns.
- Obtain information on environmental concerns.
- Review the progress of the incident and channel organizational efforts towards highest priority tasks.
- Ensure that safety procedures and disciplines are practiced and maintained by all personnel.
- Approve plan for demobilization and return to normal operating status.
- Prepare final incident summary for media briefing, reports, etc.

2.5

Title: Incident Commander

Issue Date: Jan. 1, 2017
Revision Date:

Location: On Scene at Command Post

Recommended Staffing: First arriving Fire Department officer until relieved by higher authority

Reports To: Final Authority

Activation: Any situation requiring four or more units where, in the judgment of the on-scene ranking officer, the Incident Management System (IMS) should be implemented for concerns of safety for personnel, management of resources and scene control.

Purpose: The Incident Commander (IC) provides comprehensive leadership and management to the response effort. The position is the focal point of all facets of the operation consistent with the Incident Management System.

Responsibilities: The IC is ultimately responsible for all incident response activities including development and implementation of a Incdent Action Plan (IAP) plan to stabilize the incident, decisions and orders for efficient and effective utilization of resources. The IC must process information and cues obtained through radio transmissions, face to face reports and observations from a variety of sources and relay and receive same from Section Chiefs and Command Staff operating within their span of control. **It is recognized that the IC may not have knowledge of unique or specialized operations (i.e. confined space, hazmat, etc.), and thus may utilize group or division leaders who are technical specialists to aid in command and control of the incident. It is therefore imperative that his role be confined to managing the alarm and resources required.**

Procedure:

- Arrive on the scene and establish or assume command; obtain incident briefing previous IC.
- If not previously established, identify command name ("4th Avenue Command"), report command post location and establish A (Alpha) side.
- Assess the incident situation and conduct an initial strategy briefing with the current operation command personnel.
- Activate the elements of the IMS appropriate for management of the incident.
- Brief Command Staff and primary Section Chiefs.
- Participate in the preparation and authorize the

implementation of a (the) Incident Action Plan (IAP).

- Determine conditions and needs to make informed command decisions and transmit incident objectives to command staff.
- Coordinate primary IC Staff activities.
- Manage overall incident operations and resource utilization.
- Approve requests for and utilization of additional resources.
- Authorize release of information to the media.
- Ensure the incident status form (worksheet) or command board is utilized and completed. Ensure that proper forms are available and utilized by section and group leaders.
- Obtain briefings from Section Chiefs, Command Staff and agency representatives on incident management issues and/or concerns.
- Obtain information on environmental issues and/or concerns.
- Review the progress of the incident and direct organizational efforts towards higher priority tasks.
- Ensure that safety procedures are utilized and followed by all personnel.
- Approve plan for demobilization of resources and return to normal operating status.
- Prepare a final incident summary for media briefing, reports, etc.

2.6

Title: Safety Officer

Issue Date: Jan. 1, 2017
Revision Date:

Location: On Scene

Recommended Staffing: Any trained individual appointed by Command.

Reports To: Incident Commander

Activation: Any time personnel will be operating in any type of hazardous atmosphere, or high-risk operation, or potentially dangerous situation.

Purpose: To ensure that all personnel at the scene are operating in as safe a manner as possible, consistent with all standards and practices.

Responsibilities: Is a member of the Command Staff with the foremost responsibility of this position being the safety of all emergency personnel operating at the scene. Continuously monitors and assesses situations for unsafe or hazardous conditions and developing countermeasures for assuring personnel safety. **It is imperative that the safety officer be established early for all special hazards. This may be in addition to the overall scene safety officer and may be responsible for the specific safety of a group operation, i.e., hazmat safety officer.**

Procedure:

- Obtain briefing on IAP from the Incident Commander.
- Comply with prudent safety standards.
- Recommended level of training and certification. May include: NFPA Safety Officer Qualifications, Florida Fire Officer Certification, IMS training, Firefighter Safety and Survival.
- Don appropriate PPE and conduct safety size-up for IC with reference to current IAP objectives
- Identify hazardous situations associated with the incident and ensure compliance with current safe operational procedures, including: accountability, flashover conditions, building stability, escape routes for interior crews, line placement as it relates to scene safety and appropriate PPE
- Participate in planning meetings to advise the Incident Commander.
- Exercise emergency authority to halt and or prevent unsafe acts.

- Do initial investigation of accidents that have occurred within incident areas.
- Establish safety assistants or specialized input, building construction, hazardous materials, water rescue, high angle rescue, confined space, etc., as warranted.
- Ensure that a Rapid Intervention Team has been established for rescue, if needed.
- Ensure that the Safety Officer worksheet is completed.

2.7

Title: Incident Commander Aide

Issue Date: Jan. 1, 2017
Revision Date:

Location: Command Post

Recommended Staffing: Any Qualified Individual Appointed by Command

Reports To: Incident Commander

Activation: When deemed necessary by the Incident Commander to assist with command functions and responsibilities at the Command Post.

Purpose: The role of the Aide is to provide administrative and operational assistance to the Incident Commander, manage the command area and process information that does not require the attention of the Incident Commander. This highly responsible position requires a thorough knowledge of department operating procedures, applicable tactics and strategy, and general command terminology. This position may also formulate decisions and issue directives to a level that has been designated by the Incident Commander.

Responsibilities: The Incident Commander Aide is responsible for personnel accountability, site control and security of the command post, providing resource information, tracking command and company activities, assisting with liaison and media activities, and providing technical support and advice to the Incident Commander.

Procedure:

- Set up the incident command area. If necessary, obtain law enforcement assistance to maintain command post security.
- Obtain incident briefing from Incident Commander.
- Start and or maintain IMS worksheet and/or command board. Log all pertinent command information.
- Provide for the accountability of all personnel on scene.
- Track all task level assignments given by the Incident Commander.
- Evaluate incident organization and span of control
- Collaborate with the Staging Officer to ensure an adequate level of resources is maintained
- Assist with the research and interpretation of various resource and reference material as needed.
- Operate various communications equipment as needed.

Relay command directives to the command staff and operation sectors as needed.

- Disseminate and assist in the processing of the upward and downward flow of information.
- Anticipate the needs of the Incident Commander and be prepared to react accordingly.
- Assist the PIO by relating current incident information.
- Assist the Liaison Officer with the management of agency representatives.
- Observe operations and make strategic and tactical suggestions to the Incident Commander.

2.8

Title: Public Information Officer (PIO)

Issue Date: Jan. 1, 2017
Revision Date:

Location: On-Scene

Recommended Staffing: Any individual appointed by command (trained PIO).

Reports To: Incident Commander

Activation: Any incident involving significant operations or in which the media responds and requires assistance.

Purpose: Is the focal point for the official release of information to the media. This is the contact person for media representatives and all information should be released by this person or by the Incident Commander through the Public Information Officer.

Responsibilities: Is a member of Command Staff and establishes and maintains a media gathering area, scheduling regular media releases and interviews, and providing post incident media briefing. To ensure the release of accurate information shall remain abreast of current incident information, operations and status.

Procedure:

- Obtain briefing from the Incident Commander.
- Begin logging and tracking incident information.
- Set up a physical media area and maintain Law Enforcement Agency (LEA) assistance if necessary. Should be a safe area with a visual access to the incident, if possible.
- Meet with media; provide them with information cleared by Incident Commander, interview and photo opportunities as soon as practical, upon the approval of the Incident Commander.
- Provide escort service into areas for media and VIP's
- Arrange meetings between media and incident personnel.
- Respond to special requests for background information and updated information.
- Update the Incident Commander on information released to the media and requests from the media.
- File all media releases with the alarm reports.
- Ensure that the PIO worksheet is completed.

2.9

Title: Liaison Officer

Issue Date: Jan. 1, 2017
Revision Date:

Location: On-scene at Command Post

Recommended Staffing: Any qualified individual appointed by Command.

Reports To: Incident Commander

Activation: When a separate point of contact is needed due to the number of agencies represented on an incident.

Purpose: Is a member of the command staff and is to be a point of contact for agency representatives from other fire agencies, private sector agencies, law enforcement, public works, State and Federal agencies.

Responsibilities: Should be from the agency with jurisdictional authority and will coordinate and maintain interagency communication and cooperation.

Procedure:

- Obtain a briefing from the Incident Commander.
- Provide a point of contact for assisting/cooperating agency representatives.
- Identify agency representatives from each agency including method of communication and location.
- Attempt to limit, when possible, communications/contact to one representative per agency.
- Respond to any special agency needs or requirements.
- Respond to requests from incident personnel for inter-organizational needs or problems.
- Maintain a current list of status and degree of involvement of cooperating and assisting agencies assigned.
- Upon agency request, provide specific information about the incident relative to:
    - Operational activities
    - Anticipated duration of activities or incident
    - Status of agency personnel involved in operations
    - Expected demobilization schedule
- Participate in planning meetings by providing current status limitations, and capabilities of other agency resources.

2.10

Title: Operations Section Chief

Issue Date: Jan. 1, 2017
Revision Date:

Location: On-Scene in forward area or at the Command Post

Reports To: Ranking Officer available by Command

Activation: On large incidents with evolved operations that are too large for the Incident Commander to effectively manage.

Purpose: Encompasses the majority of incident mitigation activities. This includes all tasks oriented sectors participating at the incident scene.

Responsibilities: Is a member of the General Staff, organizes initial incident control activities and subsequent implementation of the incident action plan.

Procedure:

- Obtains incident briefing from the Incident Commander.
- Establishes branches, divisions and groups needed to initiate operational control measures.
- Begins development work on the Incident Action Plan needed for initial and immediate control of the incident.
- Supervises operational aspect of the incident and the branches, divisions and groups associated with that function.
- Determine need for and request additional resources.
- Advise the Incident Commander of special concerns or requirements that may impact the development of an extended Incident Action Plan.
- Make tactical decisions and changes to the operation on an immediate basis if needed.
- Assemble and disassemble strike teams.
- Assign a Rehabilitation Officer and ensure that a remote area is established for this activity.
- Prepare a final summary of activity and demobilization report to be submitted to the Incident Commander. Debrief and critique with all divisions and groups.

2.10.1

Title: Branch Director

Issue Date: Jan. 1, 2017
Revision Date:

Location: On-scene or close to incident task activities.

Recommended Staffing: Ranking Officer available Appointed by Command or Operations.

Reports To: Incident Commander or Operations Section Chief (if established).

Activation: Shall be filled when the number of sectors exceeds the span of effective control for the Operations Section Chief.

Purpose: Members of the operational staff who control like sectors assigned to specific geographical areas or tactical assignments.

Responsibilities: Directs and maintains the continuity of most functions occurring within the immediate area, whether designated by the geographical size of the incident or the function of the task being performed. He/she maintains information flow to the Operations Section Chief concerning specific needs and mitigation progress.

Procedure:

- Obtains briefing from the Operations Section Chief.
- Coordinates the activities of assigned sectors.
- Review assignments with Division/Group Supervisors.
- Updates Operations Section Chief and/or Incident Commander on changes in conditions that will affect the plan of action.
- Coordinate activities with other branch directors.
- Determine the need for and request additional resources to complete the assigned mission.
- Make recommendations to the Incident Commander and/or Operations Section Chief on changes to the action plan and initiate critical decisions relating to immediate action as needed.
- Maintain use of the accountability system when crews are working in IDLH environments.

2.10.2

Title: Division/Group Supervisor

Issue Date: Jan. 1, 2017
Revision Date:

Location: On-scene or close to incident task activities.

Recommended Staffing: Ranking Officer available Appointed by Command pr Operations.

Reports To: Incident Commander or Operations Section Chief (if established).

Activation: Shall be filled when multiple units are operating together in a geographical area or to complete a similar assignment on an incident.

Purpose: Member of the operational staff who controls units assigned to specific geographical areas or tactical assignments.

Responsibilities: Directs and maintains the continuity of most functions occurring within the immediate area, whether designated by the geographical size of the incident or the function of the task being performed. Maintains information flow to the Incident Commander or Operations Section Chief concerning needs and mitigation progress.

Procedure:

- Obtains briefing from the Incident Commander or Operations Section Chief, if established.
- Coordinates the activities of most personnel carrying out the incident control activities.
- Reviews assignments with field personnel as necessary.
- Updates Operations Section Chief, or Incident Commander, on changes in conditions that will affect the plan of action.
- Coordinates activities with other operational divisions and groups.
- Determines the need for and request additional personnel and/or resources needed to complete the assigned mission.
- Makes recommendations to the Incident Commander or Operations Section Chief on changes to the action plan and initiate critical decisions relating to immediate action as needed.
- Maintains use of the accountability system when crews are working in IDLH environments.

Examples of Divisions/Groups:

GEOGRAPHICAL DESIGNATION (Divisions):

- **BUILDING SIDES (Alpha , Bravo, Charlie, Delta FLOOR NUMBERS IN MULTI-STORY OPERATIONS**
- **LOBBY IN HIGH-RISE OPERATIONS**
- **DIRECTIONAL ASSIGNMENTS, NORTH, SOUTH, ETC….**
- **ROOF**

FUNCTIONAL DESIGNATIONS (Groups):

- **SEARCH AND RESCUE**
- **EVACUATION**
- **STAGING**
- **REHABILITATION**
- **EXTRICATION, TREATMENT, TRIAGE & TRANSPORT ON EMS ALARMS**
- **DECONTAMINATION FOR HAZMAT INCIDENTS**
- **CRITICAL INCIDENT STRESS MANAGEMENT**
- **SPECIAL OPERATIONS GROUP (SOG)**

2.10.3

Title: Special Operations Group (SOG)

Issue Date: Jan. 1, 2017
Revision Date:

Location: Near the Operations Section Chief.

Recommended Staffing: Special team members having response specialized training and skill in relative response disciplines necessary to provide advice and mitigation of all hazard type incidents.

- Examples:
  - Active Shooter
  - Hazardous Materials Unit
  - Emergency Medical services
  - Technical Rescue Unit
  - Special Weapons and Tactics Team
  - Arson and Bomb Squad
  - CBRNE (Chemical, Biological, Radiological, Nuclear and Explosive) Squad.
  - Intelligence / Investigations

Reports To: Operations Section Chief

Activation: When an emergency incident occurs causing more than one specialized team to deploy. An Incident Commander needing rapid and organized access to the subject matter expert within the specialized response teams and functions.

Purpose: An integrated public safety response mechanism that provides the Incident Commander with the ability to save lives and protect through effective, efficient and coordinated mitigation of emergent life-safety situations involving direct assaults, improvised explosive devices, or the release of hazardous substances.

Responsibilities: The development of tactical deployment options, contingency options, and other recommendations as appropriate. Present all prepared options and recommendations to the Operations Section Chief for approval. Once approved, implement and maintain supervisory control of assigned teams.

Procedures:

- Incident or planned event needing response of interdisciplinary special/tactical teams.
- SOG Supervisor designated by the Operations Section Chief.

- Analyze incident technical information.
- Develop tactical development options for Operations Section Chief for approval.
- Brief specialty teams about tactical deployment decisions.
- Submit request for specialty items or materials needed.
- Implement mitigation plan approved by Operations Section Chief.
- Review progress of specialty teams' activities and modify as needed.
- Maintain supervisory control of specialty teams.

2.10.4

Title: Rehabilitation Officer

Issue Date: Jan. 1, 2017
Revision Date:

Location: On-Scene.

Recommended Staffing: Any Advanced Life Support trained individual appointed by Command.

Reports To: Operations Section Chief

Activation: Shall be initiated for large scale or complex incidents where the change for extreme fatigue exists, such as:
• Incidents exceeding 40 minutes in duration with an intense work load.
• Level A or Level B Chemical Protective PPE is worn. Potential for responders utilizing more than one SCBA cylinder.
• Adverse environmental conditions (heat or cold related)
• Climatic conditions where stress index >90
• Climatic conditions where wind chill index < 30 F
Or at the discretion of the Incident Commander.

Purpose: Provides for the rehabilitation and medical observation of personnel working at the scene of an emergency.

Responsibilities: Obtains fluids, ice, food and other material which may assist fire/rescue or other personnel in the performance of their duties. Monitors medical conditions of personnel utilizing the rehabilitation area and ensures medical care is provided if necessary.

Procedure:

- Obtain briefing from Incident Commander or Operations Section Chief.
- Establishes rehabilitation area, remote from the incident for the purpose of isolating personnel from the acute emotional stress of the incident and clear of the smoke, haze, or other hazardous by-products of the incident.
- Suggested equipment: Rehab unit(s), salvage covers, water, ice, drinking cups, electrolyte and caloric replenishment, oxygen administration equipment, EKG monitor/defibrillation units, basic bandaging equipment,

trained medical support personnel, and ALS transport unit, if possible.

- Personnel will be sent to Rehab by Division group and/or Command. The Rehabilitation Officer, or his/her designee will document in/out times. Personnel shall be rotated in and out of Rehab, but shall be released only when additional personnel are requested by a Section Chief or Command. The Rehab Officer will keep Command advised of units that are available in Rehab for assignment.
- Personnel arriving at Rehab shall remove protective clothing to expedite the cooling process of the body. In situations involving hazardous materials, personnel must complete the decontamination procedure prior to reporting to Rehab.
- Initial assessments of physical condition of each person shall be made to include pupils, skin color, skin temperature and the ability to speak clearly. All personnel who have been sent to Rehab shall have their vital signs evaluated. This includes pulse, blood pressure, respirations and lung sounds (prior to leaving the Rehab area).
- All inappropriate conditions shall be noted and the person shall not be allowed to return to activity until their condition has improved to within normal limits.
- Personnel who suffer shortness of breath, chest pains, or other medical conditions which in the opinion of the Rehab Officer may imply underlying medical problems shall be monitored and not allowed to return to action until after consultation with the Incident Commander or designee.
- Personnel shall be encouraged to drink one quart of water for every single air bottle used. Dehydration shall be of concern especially during periods of high temperature.
- The Rehab Group will work closely with the Community Emergency Response Team (C.E.R.T.) to ensure personnel needs are met.
- Rehab shall coordinate the distribution of food during long-term incidents.
- Rehab shall be deactivated during the demobilization process when so determined by Command.
- Initiate Rehab Worksheet.

2.10.5

Title: Staging Officer

Issue Date: Jan. 1, 2017
Revision Date:

Location: Staging

Recommended Staffing: Any trained individual appointed by Command.

Reports To: Incident Commander or Operations Section Chief (if established).

Activation: When command determines the need for Level 2 staging. In the event of an incident in which there is a request for a second alarm or greater, the first arriving officer in staging will assume "Staging Officer" and report to Command that a Staging Officer is established.

Purpose: Manages the apparatus and personnel in a manner that will help prevent congestion at the incident scene and create a resource pool for the Operations Section.

Responsibilities: Locating and maintaining an area that allows for an effective utilization of personnel and equipment. Fills personnel/apparatus requests from the Incident Commander or Operations Section Chief, maintains a sufficient pool of these resources to support developing operations.

Procedure:

- Obtain a briefing from the Incident Commander or Operations Section Chief.
- Functions as a member of the Operations Staff advising Incident Commander or Operations Section Chief of potential personnel/apparatus requirements.
- Fill requests for personnel/apparatus. He/she advises units of where to report, who to report to, and their assignment.
- Ensure that apparatus and personnel are positioned in such a way as to expedite their response to the incident scene.
- Coordinate with LEA to ensure ease of access from the staging area to the incident scene.
- Shall notify Incident Commander or Operations Section Chief when resources in Staging may need to be replenished.

2.11

Title: Planning Section Chief

Issue Date: December 31, 2011
Revision Date: Jan. 1, 2017

Location: On-scene, Command Post or EOC

Recommended Staffing: Any trained individual appointed by Command.

Reports To: When the incident has reached a point where the Incident Commander cannot effectively forecast the future plan due to incident size, time constraints on the Incident Commander, or incident complexity.

Purpose: Coordinates the preparation of the Incident Action Plan, apprises command of potential operational impacts, and develops alternative strategies for potential and possible incident needs. The Planning Section serves as the "clearing house" for information.

Responsibilities: Develops and maintains the Incident Action Plan. Collects and obtains information relative to the incident, identifying special resources as indicated by need, and providing vital information such as maps, any pre-incident planning reports, weather data, environmental data, special equipment needs, available water supply, etc, to the Incident Commander.

Procedure:

- Obtain briefing from the Incident Commander to determine:
  - Current resource status (ICS form 201)
  - Current situation status/intel (ICS form 201)
  - Current incident objectives / strategy
  - Needed resources
  - Whether written IAP is required
  - Time and location of first planning meeting
  - Desired contingency plans
- Identify additional staffing needs (resources, documentation, environmental concerns, PIO, etc.)
- Establish and maintain resource tracking system (Resource Unit or officer)
- Complete ICS form 201 if not already completed. Provide copies to Command and General Staff
- Coordinate command staff meeting to outline an Incident Action Plan.
- Prepare a written action plan and forward it to the Incident Commander.
- Provide command with other vital information such as maps,

pre-incident plans, weather, environmental data, special equipment needs or hazards, water supply data, etc.

- Monitor incident progress and modify the Incident Action Plan as needed. Advise Command Post of any changes.
- Identify specific needs to logistics for procurement or to attain information on available resources to acquire from.
- Assist with evacuation/sheltering planning as needed or assume this responsibility in the absence of a civilian relocation officer.
- Establish information requirements and reporting schedules for ICP and field staff.
- Meet with Ops Chief or Command prior to Planning meetings to discuss proposed strategies and tactics, diagram incident organization, and resource location.
- Communicate with Incident Command to provide for a demobilization and incident termination plan, if appropriate.

2.11.1

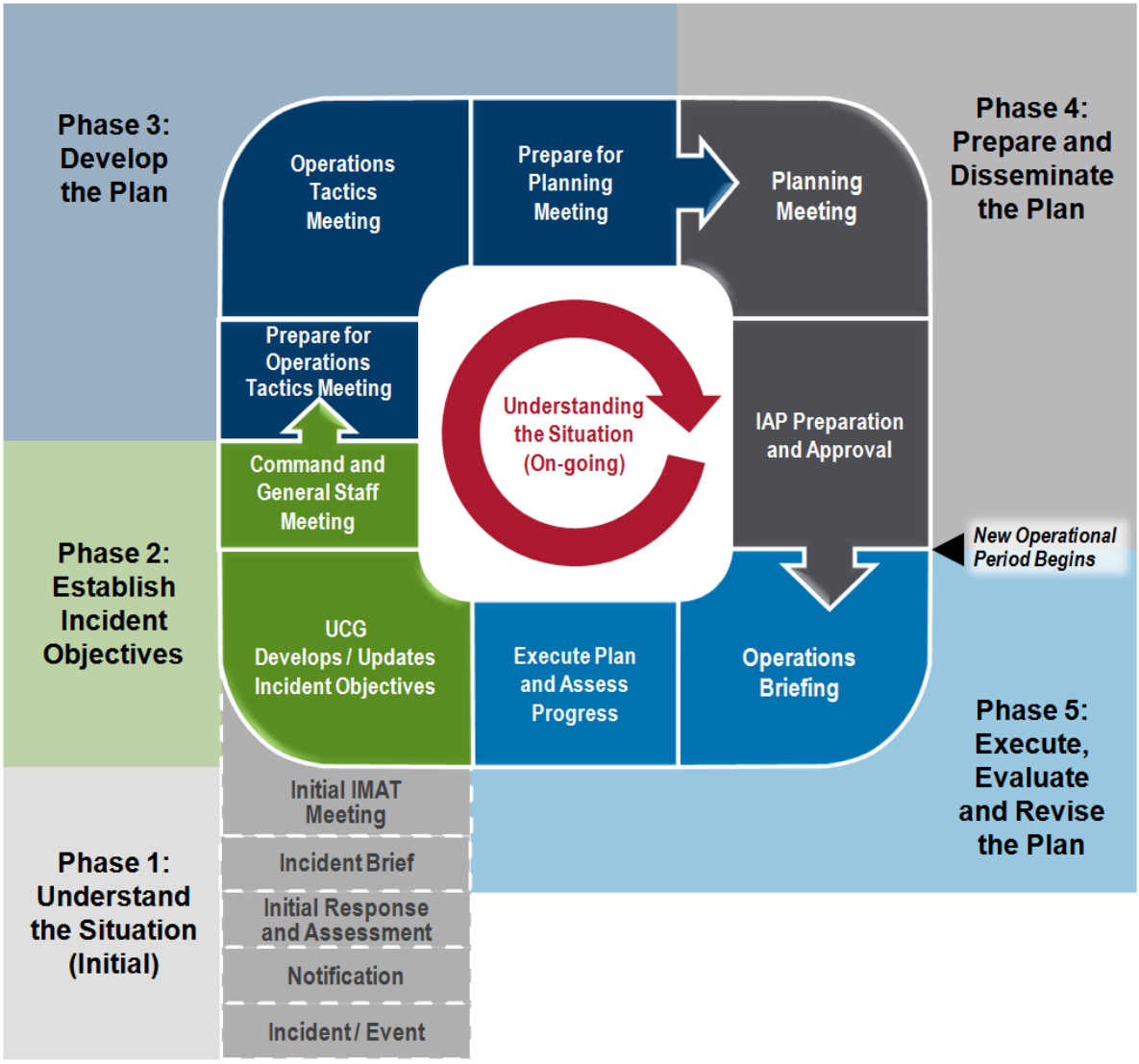
Title: Planning and Operational Cycle
The Planning "P" and Operational "O"

Issue Date: Jan. 1, 2017
Revision Date:

Planning "P"

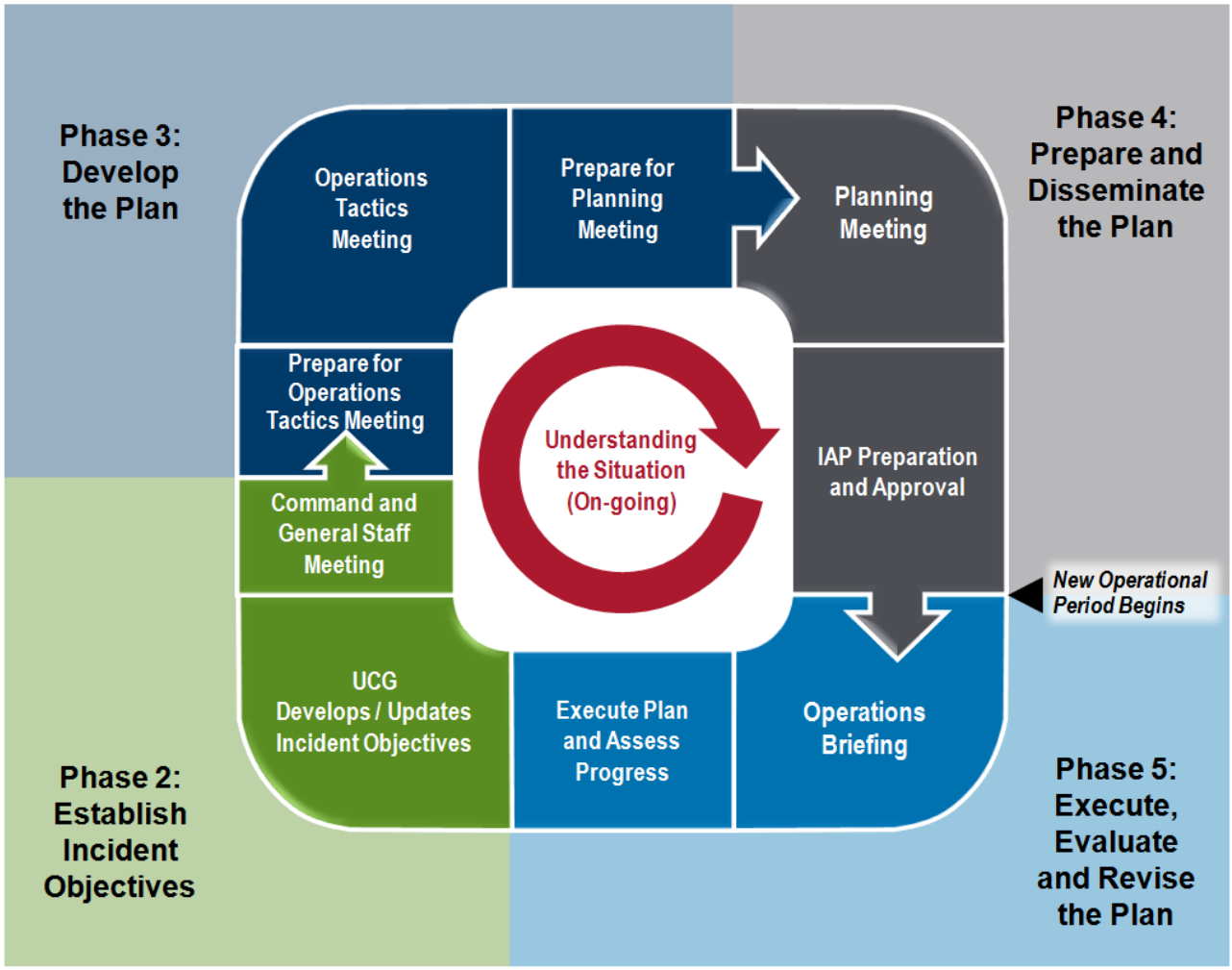
The incident action planning process is built on the following phases:

1. Understand the situation
2. Establish incident objectives
3. Develop the plan
4. Prepare and disseminate the plan
5. Execute, evaluate, and revise the plan



Operational "O"

The leg of the "P" includes the initial steps to gain awareness of the situation and establish the organization for incident management. Although maintaining situational awareness is essential throughout the life cycle of the incident, the steps in Phase 1 are done only one time. Once they are accomplished, incident management shifts into a cycle that of planning and operations, informed by ongoing situational awareness, that continues and is repeated each operational period. This cycle, which is depicted in the barrel of the "P", becomes the Operations "O."



2.12

Title: Logistics Section Chief

Issue Date: Jan. 1, 2017
Revision Date:

Location: On-scene or EOC

Recommended Staffing: Any trained individual appointed by Command.

Reports To: Incident Commander

Activation: Any incident requiring more than basic logistical support.

Purpose: Provides for the facilities, services, equipment and supplies.

Responsibilities:

- Manages all aspects of the Logistics Section
- Manages the logistical needs across the five core mission areas of protection, prevention, mitigation, response, and recovery for planned events or incidents
- Advises the Incident Commander on all matters relating to logistics
- Manages and supervises assigned Branches or Units based on the complexity and magnitude of the incident or planned event
- Is responsible for development of a logistics section transition plan based on the planned event or incident escalating in complexity

Procedure:

- Obtain briefing from the Incident Commander.
- Plan organization of Section and determine the need for additional personnel and resources.
- Assign tasks and work location to Section personnel.
- Participate in the preparation of the Incident Action Plan.
- Identify current and anticipate future services/support requirements for the planned and expected operations.
- Review and provide input for the Communications Plan, Traffic Plan, and Medical Plan.
- Identify and provide support requirements of the personnel operating at the incident.
- Coordinate and process request for additional resources.

2.13

Title: Finance/Administrative Section Chief

Issue Date: Jan. 1, 2017
Revision Date:

Location: As designated by Command.

Recommended Staffing: Any trained individual appointed by Command.

Reports To: Incident Commander

Purpose: The Finance/Administration Section must fiscally manage the incident, including claims processing, contracting, and administrative functions. They must work closely with all sections to ensure that all costs are documented. So the FSC must possess good financial and procurement knowledge.

Responsibilities: The Finance/Administration Section is set up for any incident that requires incident-specific financial management. The Finance/Administration Section is responsible for:

- Contract negotiation and monitoring
- Timekeeping
- Cost Analysis
- Compensation for injury or damage to property
- Depending on the size of the event , the Section Chief may need to staff four units

Procedure:

- Obtain briefing from the Incident Commander.
- Plan organization of the section and determine the need for additional section personnel.
- Assign work locations and preliminary work tasks to section personnel.
- Participate in the preparation of the Incident Action Plan.
- Identify any special financial needs for the incident.
- Coordinate personnel hours, tracking and recall of off duty personnel.
- Ensure prompt financial payments and insurance claims

2.14

Title: Critical Incident Stress Management

Issue Date: Jan. 1, 2017
Revision Date:

Location: On-scene or after the incident at a quiet, comfortable location.

Recommended Staffing: Personnel trained in Peer Support.

Reports To: Incident Commander

Activation: Shall be called out when, in the opinion of the Incident Commander and or/staff, the intensity of the incident requires debriefing. This shall take place either at the incident site when practical or after the incident at a designated location. The Fire Chief of the incident jurisdiction shall be promptly notified of any Peer Support activations including a courtesy follow-up report.

Purpose: To defuse and debrief all personnel who were subject to a stressful situation.

Responsibilities: The Peer Support team shall debrief all members that were involved in the incident, including follow-up consultations as needed.

Procedure:

- The team leader for the Peer Support team shall obtain a briefing from the Incident Commander.
- The Peer Support Team leader shall determine the number of team members needed for response.
- The Peer Support Team leader shall contact the rest of the team for their response to assist in the debriefing process.
- A quiet, comfortable site shall be chosen to conduct the debriefings, preferably away from the immediate incident.
- All standard procedures in place for conducting Peer Support for the area in which the incident occurred shall be adhered to.
- The Peer Support team shall demobilize in accordance with the demobilization plan.

2.15

Title: Post Incident Analysis / Hot Wash

Issue Date: Jan. 1, 2017
Revision Date:

Location: On-scene after the incident (weather, safety, and alarm load permitting) or at the station depending on the size of the incident. Consider during Rehab to facilitate getting units back in service.

Recommended Staffing: All personnel involved in the incident. Consider a "mini" Hot Wash with priority being given to first in units and /or units with significant assignments, specific knowledge and/or information to inform others.
Performed by: Incident Commander (IC) if Command established or Company Officer (CO)

Activation: Recommended after significant fires, EMS calls, vehicle accidents, or any type of incident where a review of the actions taken would be beneficial for training purposes, and for overall improvement of fire department operations.

Purpose: The Hot Wash is a verbal review of the incident to assess operational compliance, acknowledge the actions that aided in the outcome of the incident, and discuss any potential issues that could have improved incident operations. Consider the questions listed below as a basic format to follow:

- **What was planned?**
- **What really happened?**
- **Why did it happen?**
- **What can be done better next time?**

Responsibilities: The IC or CO serves as the moderator to ensure the discussion stays on track. Review the assigned objectives during the incident to ensure the entire crew understands the impact of their actions, and what could have been done better to improve the outcome.

Procedure:

- The IC or CO gathers personnel on-scene in a location close to the incident while all hoselines and apparatus are still in place. This allows for the crews to retrace their actions for analyzing any tactical or operational issues that may have been encountered during the incident. Also ensures the hazard is mitigated.
- The IC or CO reminds all involved this is a learning exercise and not a format to publicly embarrass those responsible for making mistakes. The IC or CO can advise the rest of the

crews that any and all issues encountered will be addressed through training, education and best practices.

- The IC or CO should begin by explaining their responsibilities and actions during the incident, such as tactical errors or successes.
- The IC or CO then allows each crew member an opportunity to explain his/her assigned tasks, any problems encountered, and actions taken during the incident. This allows crewmembers to validate training and improve individual skills.
- Large/complex incidents will be conducted through post incident analysis review.

3: OPERATIONS

Seminole County & Cities
Incident Management System

3.1

Title: Establishing Command

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To establish a systematic approach to implementation of ICS, and development of the necessary command components to facilitate fast, efficient and safe emergency operations.

General: Where a fast interior attack is critical, the first arriving Officer he/she can take advantage of their involvement in the attack without neglecting command responsibilities. This procedure is not intended to limit the decision-making ability of the first arriving officer, but to provide consistency and direction when a formal command is established.

Advantages of Establishing Command:

- On minor alarms involving two or three units it may not be advantageous to establish command. On larger incidents establishing command assists by:
  - Places one person in charge of all scene activities.
  - Reduces excessive radio traffic by funneling most transmission to a single point of contact.
  - Clears the channel of all other alarm traffic.

When to Establish Command:

- Command shall be established on incidents involving four or more units, including a BC, or joint agency operations where radio traffic need to be kept to only essential units such as:
  - Motor vehicle accidents with multiple patients or entrapment.
  - Working Structure Fires or Brush Fires.
  - Requests for Air Transport requiring LZ.
  - Any multi-unit response on a command channel.
- Any officer may establish Command on any incident where they deem is warranted to facilitate safe and efficient operations regardless of resources committed to the incident/scene.

How to Establish Command:

- When the first arriving Officer arrives on-scene and determines the need for command exists, the following actions shall be taken:
  - Notification to communications that command is being established.
  - Provide name of command (normally using geographic location or business name.. Red Bug Command, or Sun Shadow Command).
  - Announce the Command Post Location as warranted.
  - Request additional resources as needed.

- Example: “Battalion 31 Seminole, establishing Beardall Command, at Battalion 31’s vehicle south of the scene, requesting second alarm”.
- When any unit or Officer establishes Command, they will assume the identifier of “Command”, and shall refrain from using their apparatus or unit identifier.

Responsibilities after Command is Established:

- Once Command has been established the following shall occur:
  - Incident Commander or AIDE
    - Provide a command presence both on scene and via radio by coordinating resources to achieve objectives.
    - Utilize the command board and tactical benchmarks to maintain effective accountability and directing of resources.
    - Develop the command structure as needed as incident expands.
    - Re-evaluate actions as needed.
  - Responding Officers
    - Upon arrival, the Battalion Chief shall assume Command from the company officer.
    - Report to Command, ensure proper staffing and adequate resources are on hand.
    - Support operations as directed by the IC.
  - Communications
    - Once Command is established, verify units.
    - Switch to appropriate command channel.
    - Funnel all unit, and agency request to the established Command Officer.
    - Provided timely notification of time clock.
    - Capture operational benchmarks and verify PAR’s.

3.2

Title: On-Scene Operations

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: To establish common tactical levels of operations at incidents in order to provide standard terminology to successfully mitigate a situation.

General: It is the responsibility of the first arriving unit or member to determine whether or not they shall assume command of the incident. At most incidents the initial incident commander will be a company or chief officer. The following options define the company officer's direct involvement in tactical activities and the modes that may be utilized depending on the situation.

Investigative Mode – These situations generally require investigation by the initial arriving company while other units remain in a staged location. The officer should go with the company to investigate while utilizing a portable radio, thermal imaging camera, and appropriate tools to investigate the incident.

Fast Attack Mode – Situations that require the company officer's direct involvement in the tactical operation, while providing the appropriate level of supervision.

Some examples of these situations include:

- Offensive fire attacks
- Critical life safety (e.g., rescue, which must be achieved in a compressed time)
- Any incident where the safety and welfare of fire fighters is a major concern.
- Obvious working incidents that require further investigation by the company officer.

Where fast intervention is critical, utilization of the portable radio will permit the company officer's involvement in the attack without neglecting command responsibilities. Fast attack crews shall verbalize to the Communications Center accountability of attack when entering IDLH environment. The fast attack mode will end with one of the following:

- The situation is stabilized
- The situation is not stabilized and the company officer must withdraw to the exterior and establish a command post. At some point in time, the company officer must decide whether or not to withdraw the remainder of the crew, based on the crew's capabilities and experience, safety issues, and the ability to communicate with the crew. No crew should remain in IDLH environment without radio communications capability.
- Command is assumed by a Chief Officer

Command Mode – Certain incidents, by virtue of their size, complexity, or potential for rapid expansion, require immediate strong, direct overall command. In such cases, the company officer will initially assume an exterior, safe and effective command position and maintain that position

until relieved by a higher-ranking officer. If the company officer selects the command mode, the following options are available regarding the assignment of the remaining crew members. Personnel accountability must be maintained.

- The officer may place the company into action with two or more members. One of the crew members will serve as the acting company officer and should be provided with a portable radio. The collective and individual capabilities and experience of the crew will regulate this action.
- The officer may assign the crew members to work under supervision of another company officer.
- The officer may elect to assign the crew members to perform staff functions to assist command.

3.3

Title: Staging Procedure

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: To provide a standard system of initial placement for responding apparatus, personnel and equipment prior to assignment at incidents.

General: This procedure will enhance unit placement and effectively assist officers with alarms requiring multiple unit response.

Staging:

- Effective utilization of these procedures will:
  - Prevent excessive apparatus congestion at the scene.
  - Allow time for Command to evaluate conditions prior to assigning companies.
  - Place apparatus in an uncommitted location close to the immediate scene to facilitate more effective assignment by Command.
  - Reduces radio traffic during the critical initial stages of the incident.
  - Provides a resource pool from which Command may assign units and resources at their leisure.

Level One Staging:

- This level staging shall be automatically instituted for all incidents involving more than three companies. Multiple company responses units shall commit themselves in the following manner:
  - First arriving Engine Company: Respond to scene. Park to allow tower truck placement.
  - Second arriving Engine Company: Stage at the nearest water source.
  - First arriving Rescue Company: Respond to scene. Park where the rescue may be utilized for transport if a civilian of firefighter injury occurs.
  - First arriving Tower or Truck Company: Respond to scene. Position apparatus for exterior operations and victim removal.
- In congested areas such as apartment complexes, condos and office complexes, Command may elect to have units stage outside the complex while first arriving units conduct investigation.
  - Units will announce their arrival and report their company designation and their staged location. Communications will acknowledge their report to staging; otherwise, staged units will stay off the radio to limit traffic during the incident.

Level Two Staging:

- This level of staging is utilized when command desires to maintain a reserve of resources at destination and when the need to centralize resources is required. Level two staging automatically places all staged resources in a central location, and requires the implementation of a Staging Officer.
- Level two staging should be considered for greater alarm incidents, hazardous materials incidents and medical incidents involving more than 5 patients.
- Command will instruct units to go to level two staging and give a location for the staging area. **The first arriving company officer shall assume the role of Staging Officer**, until a Staging Officer is otherwise assigned by the Command.
- The staging area should be some distance from the incident and the command post to reduce on site congestion, but close enough for prompt response to the incident site. The site must be large enough to accommodate anticipated resources.
- All responding companies will report to the Staging Officer, standby their unit with their crew, turn their warning lights off, and remain prepared to respond to the scene when directed to do so by the Staging Officer.
- The Staging Officer shall notify Incident Commander or Operations Section Chief when resources in staging need to be replenished.
- Responding Chief Officer shall respond to Command post for assignmenrt.

3.4

Title: Transfer of Command

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: To facilitate continued safe and effective on scene operations, a systematic approach to transfer of command is necessary when circumstances warrant.

General: The transfer of Command should occur when necessary to address the progression of the incident, or a more appropriate or qualified Command Officer has arrived. The arrival of a high-ranking officer does not automatically indicate that the transfer of Command has been made.

Reasons to Transfer Command:

- Although the initial responding officer established Incident Command, it is more imperative that the most qualified person be in command regardless of rank, agency affiliation or jurisdictional boundary. Situations that may indicate transfer of Command are:
  - Arrival of more qualified or the dispatched Command Officer.
  - Change of operational period.
  - Incident has escalated and the command structure is expanding.
  - Incident has stabilized and Command is being transferred to another officer.
  - Transfer of Command due to jurisdictional reasons should only take place at a time and in a way that does not jeopardize firefighter safety or effectiveness of scene operations.

How to Transfer Command:

- Unless an immediate need exists, the transfer of Command should only occur when doing so will not jeopardize firefighter safety or effective scene operations.
  - Every effort should be made to transfer command in person, face to face when possible.
  - A complete briefing shall be made including:
    - Current situation status.
    - Current unit placement and assignments.
    - Current action plan.
    - Progress towards incident objectives.
    - Any safety considerations/pertinent information.
    - Review of Command Board (when applicable).

Responsibilities during Transfer of Command:

- For continued safe operations all personnel need to assure all information is passed on during the face-to-face briefing.

- Current Incident Commander
  - Utilize the command board to facilitate a smooth transition, and to facilitate a thorough briefing.
  - Assure that command is being transferred to a qualified officer for the incident type.
  - Effectively communicate all incident related information.
  - Once briefing is complete, advise communications of transfer of command, and any re-assignment of previous officer.
  - Example: “Airport Command Seminole, Division 51 will have Airport Command, Battalion 51 will be Safety”.
- Incoming Incident Commander
  - Reevaluate current operations, reallocate resources, move Command Post, etc., as necessary.
  - Reassign previous Command Officer to assist in incident mitigation as needed.
  - Accountability and resource allocation.
- Communications
  - Upon transfer of Command, Communications will echo the transfer of Command as given by the new IC to ensure all on scene and monitoring personnel will be aware of the Command transition.

3.5

Title: Terminating Command

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: To establish a systematic approach to downsizing and eventually terminating command.

General: Once incident stabilization has occurred, the Incident Commander should begin the process of releasing units, downsizing the command structure, and ultimately terminating Command.

Considerations for Terminating Command:

- Command should be terminated when the incident has been stabilized to a point where the remaining company officers can safely and effectively supervise the remaining units.
  - The following actions should be taken prior to formally terminating command.
    - Confirm that the incident has de-escalated to a point where command can safely and effectively be terminated.
    - On multi agency or Jurisdictional incidents, confer with agency representatives for any unknown situations or policies that may warrant command.

Procedure for Termination Command:

- When the determination has been made that Command is no longer needed, the following actions shall be taken respectively:
  - Incident Commander
    - Provide necessary information to Communications that command is terminated and what unit has control of the scene.
    - Example: “Battalion 31 Seminole, Park Ave Command is terminated; E31 has control of the scene continuing overhaul”.
  - Communications
    - Rebroadcast the “Command Termination” transmission and necessary information.
    - Seminole County Emergency Communications Center will direct incident assigned crews the appropriate radio channel.

3.6

Title: On Scene Report

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: To ensure an incident flows smoothly, it is imperative to have proper communications. The On Scene report is the first major piece in the communication process and sets the stage for the entire incident.

General: The first arriving unit will briefly size up the situation and give a complete and thorough On Scene Report. The On Scene Report should be brief and paint a picture for all units responding. The Company Officer should also complete an initial walk around (360) and issue an update with any additional information obtained. Due to the type of situation the first arriving Company Officer may not be able to do the initial walk around. In that case, a walk around will be completed as soon as possible by one of the next incoming units, i.e. Two Out, RIT, Tech1, Safety, etc. Incoming units will use radio discipline.

Specifications: A thorough yet brief On Scene Report will have the following observations in order to give the responding units a good picture of what is taking place:

- What have I got?
  - Number of floors
  - Type of occupancy
  - Type of construction
  - Conditions
  - Nothing Showing
    Smoke Showing –Amount and location
    Fire Showing – Amount and location
    Working Fire
    Fully Involved
  - Any exposures
- What am I doing?
  - Which mode the unit is working under, Fast Attack, Investigating, or Command
  - Action taken – Extending a handline (size and location), entering the structure, etc.
- What do I need?
  - Request additional resources as needed
  - Example: “Engine 11 on scene of a two story block construction single family residence, with nothing showing. Engine 11 in with two will be in Investigation mode.”

3.7

Title: Operational Benchmarks

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To prioritize unit assignments and standardize common terminology regarding the completion and/or progress of key operational objectives while performing life safety and property conservation efforts.

General: Operational Benchmarks shall be reported utilizing standard terminology to ensure all personnel have a clear understanding of the assignment and status of tasks. A report of the completion of a specific Operational Benchmark shall be time stamped in the CAD. Incident Commanders should prompt units assigned to an Operational Benchmark when a report is not made in a reasonable amount of time.

Fire Alarms:

- Water on the Fire – indicates that the attack line or lines are in operation and have begun extinguishment (applies to all fires, i.e., brush, structural, and vehicle).
- Primary All Clear – indicates the completion of the primary search and that no victims were located.
- Water Supply Established – indicates a continuous water supply is established (hydrant, water tanker/shuttle).
- Safety Established – indicates the establishment of a dedicated Safety Officer.
- Victims(s) Located – this indicates victim(s) have been located and if they are being removed. This report should be followed with a location where the victim(s) are being brought out of the structure. Command should assign a medical team to assist with the victims(s) once they are removed.
- 2 Out Established- indicates and designates a unit assigned as the 2 out team.
- RIT established – indicates a rapid intervention team has been established.
- Utilities Controlled – indicates all utilities, i.e., gas, electric, etc., have been shut off. This can be performed by the initial company officer during walk around, units moving towards assignment location or 2 Out/RIT Teams. Controlling of utilities should be accomplished as early as possible.
- Ventilation Established – indicates ventilation of the structure has been established. Positive pressure ventilation shall be reported as “Positive Pressure Ventilation Established” as directed.
- Fire Under Control – indicates the present resources in place can handle the fire and fire spread has been stopped.
- Fire Extension – indicates to command that the fire has extended to another floor or to the attic space. NOTE: Terminology should be fire extension found or no fire extension; all clear should be reserved for searches only.

- Fire Out – indicates all visible fire is out.
- Secondary Search All Clear – indicates that a thorough and complete secondary search of the hazard area has been completed and no victims were found (should be performed when hazardous conditions are stabilized).
- IDLH – Air Monitoring – indicates air monitoring checks have been conducted and findings are within normal respiratory protective limits.
- Rehab – Indicates formal rehab has been established and its location.

EMS Alarms:

- With Patient – indicates first contact with patient has been made.
- Patient Extricated – indicates patient has been removed from hazardous condition and/or entanglement.
- Patient Transported – indicates patient is enroute to hospital via emergency medical transport (ground, air).
- Arrival at Hospital – indicates unit/patient has arrived at the destination facility.
- Patient Transfer – indicates patient has been transferred to receiving facility.

Special Hazard Alarms:

- Leak Stopped – indicates active leak has been stopped.
- Patient Extricated – indicates patient has been removed from hazardous condition and/or entanglement.
- Safety Established – indicates personnel trained and skilled in the specified hazard has been assigned to Safety (Hazmat Safety Established, High Angle Safety Established). This position may be in addition to the overall Safety Officer and may require more than one individual to adequately perform duties.
- Decon Established – indicates decontamination equipment and personnel are in place for effectively decontaminating rescuers and victims.
- Note: All applicable benchmarks should be met.

3.8

Title: Structural Terminology

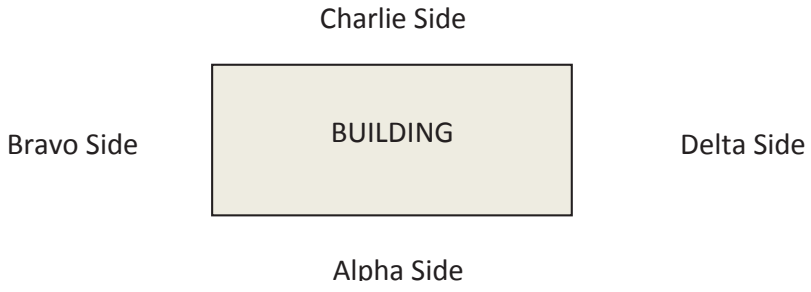
Issue Date: Jan. 1, 2017
Revision Date:

Purpose: A standard and consistent division of the fire building and any exposures is needed to ensure personnel have an understanding of and be provided with clear directions to the exact location they are needed.

General: Division designations are used to orient the incident geographically and to organize assigned areas of responsibility within the command structure. These divisions shall include Side of Structure, Floor of the Structure, Interior Quadrant, and Exposure. For unusual or odd shaped buildings, the Incident Commander shall announce and designate the sides of the building.

Side of Structure:

- Alphabetical designations identify and orient responders with a building's exterior. Designations start at the front or address side of a building progressing clockwise around the building as illustrated below. ALPHA SIDE indicates the front (address) side of the building; CHARLIE SIDE refers to the back of the building. A division supervisor assigned to the back of the building would be designated CHARLIE DIVISION.
- Exterior corners are referred to by using the two adjoining sides (i.e., ALPHA/BRAVO CORNER).
- For clarity of purposes, the International Phonetic Alphabet designations of ALPHA, BRAVO, CHARLIE, DELTA, ECHO, and FOXTROT shall be used for radio communications.
- The address side or front of the structure will always be ALPHA SIDE. It will continue clockwise for the remaining 3 sides.



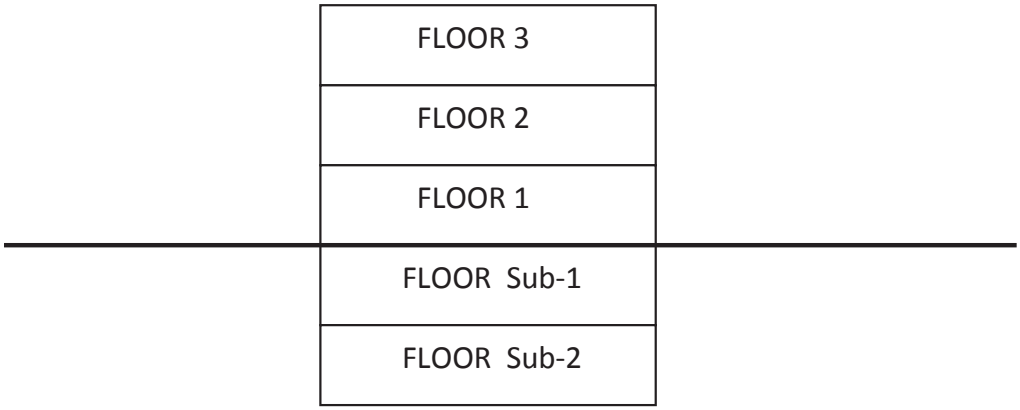
FRONT OF STRUCTURE
(ADDRESS SIDE)

- ALPHA SIDE: Always the front of a structure (the address side).
- BRAVO SIDE: Clockwise from ALPHA side (left outside wall).
- CHARLIE SIDE: Always the rear outside wall of a structure.
- DELTA SIDE: Clockwise from CHARLIE side (right outside wall).

Floor of the Structure:

- The floor numbers as indicated by the building occupant will be used.

Traditionally, the first floor that has a full door above grade level has been considered the ground or first floor. Any floor below this level is considered a basement or sub-floo When Divisions are established, they are to be assigned by floor number (i.e., Floor 1 Division, Floor 2 Division, etc.)



Interior Quadrants:

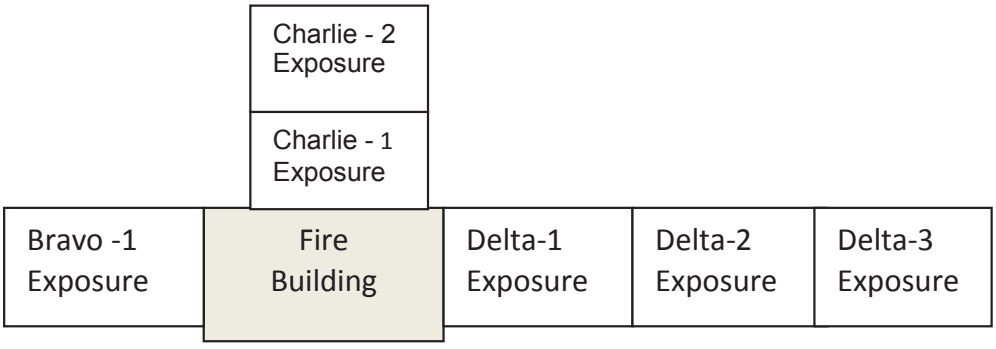
- The interior of the structure is broken into four quadrants. Looking at Alpha Side, the left, front of the structure is Alpha/Bravo Quadrant. As indicated below, the quadrants are lettered in a clockwise manner. Due to the similar sound over the radio of A,B,C and D quadrants will be referred to as Alpha, Bravo, Charlie and Delta.

Bravo/Charlie Quadrant	Charlie/Delta Quadrant
Alpha/Bravo Quadrant	Alpha/Delta Quadrant

FRONT OF STRUCTURE – Alpha Side
(ADDRESS SIDE)

Exposures:

- Exposures will be listed by the side of the fire building they are on and their proximity to the fire building.



Examples of Structural Terminology:

- Ladder the Bravo Side of the structure
- Ventilate the Charlie Side of the structure
- Assist with rescue, Floor 2 “Bravo/Charlie Quadrant”
- Take a backup line to the Floor 3 “Charlie/Delta Quadrant”
- The stairway to the Floor 2 is located in “Alpha/Bravo Quadrant”

3.9

Title: Multiple Radio Channels

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: To establish the procedure for utilizing multiple radio channels on alarms.

General: On various types of alarms it is essential to use more than one radio channel to effectively manage the incident. The Incident Commander has multiple channels at their disposal. When utilizing multiple radio channels on an incident, it is desirable to have an aide at the command post to assist in monitoring the additional channels. Special operations may require a separate channel to ensure safety of the operating teams.

A single channel would be utilized by:

- First alarm units.
- Operational divisions/groups.
- Communications from command to dispatch (may be on either channel at the discretion of the I/C and the complexity of the situation).
- Operational units that have been activated from staging and given assignments.

Multiple channels would be utilized by:

- Second alarm units or greater that are responding to staging.
- Staging Officer.
- Communications from command to dispatch (may be either channel at the discretion of the I/C and the complexity of the situation).
- Support sections (Logistics, Planning, Administration, PIO, Investigators).
- These procedures will allow optimum airtime for critical communications. This will not eliminate the use of face-to-face communications, runners or allow for non-essential dialogue.
- Special Operations
- ARFF/Airport Operations

3.10

Title: Talk Around Communications

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: To provide a means of communicating with crews while operating in areas of limited radio coverage.

General: The 800 MHz radio system has areas of poor coverage and an inability to provide quality communications in some of the "large" buildings throughout Seminole County. In some large buildings, internal repeaters have been installed to help correct/alleviate this problem. To assist in keeping on-scene communications capabilities Telecommunications has programmed a non-repeater "Talk Around" channel into our public safety radio template. This provides units on scene with direct fire ground communications. Therefore, the following procedures will be followed when units experience on-scene communications problems. (These procedures are for when a mobile repeater is not being used.)

Talk Around Procedures:

- When formal command is established and the IC determines communication deficiencies exist, on-scene units should be directed to select the talk-around channel. The IC will communicate with on-scene units on talk-around channel, and dispatch and other responding units on the command channel.
- The IC should conduct a radio check to ensure all on-scene units have switched to the appropriate channel.
- The IC should consider requesting an additional command person. This will allow the IC to focus more on operational issues instead of radio communications on two radios.
- Command shall "echo" benchmarks and other important information on the command channel.
- The Emergency evacuation tones as well as other tones from communications do not come over the air on the talk around channel. Command vehicles shall carry some type of portable boat air horns to notify crews of an emergency evacuation. This will be accomplished by the IC "keying" the radio mic and sounding the portable tone generator for ten (10) seconds on the talk around channel.
- Crews also need to remember that the emergency radio button feature does not work on the talk around channel.
- Note: Some operations may warrant units on scene to use "Talk Around" prior to the arrival of a command officer (i.e., Medical calls). In situations where first arriving units find it necessary to switch to "Talk around", Communications or the responding BC must be notified of the change and the original assigned channel must be monitored by someone outside of the building.

3.11

Title: Residential Structure Fire Single/Multi – Story

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: Provides a standard operating guideline for response to and operations at one and two story residential structural fires. Personnel must be thoroughly familiar with basic fire ground procedures since the SOG only covers occupancy-specific information and shall serve as a guideline.

General: Residential fires in one and two story dwellings comprise the vast majority of structural fires within Seminole County and the Cities. These structures can vary from mobile homes to detached single family residences. The guideline will provide the basic benchmarks for field operations during live fire situations. It should be considered the standard for all personnel to follow in situations that require the active fighting of fire.

Significant Construction Features:

- Residential units primarily constructed of concrete block, wood frame, composite materials or combination. It is not always possible to determine the construction type on visual inspection since exteriors are commonly covered with stucco or other outer finish. Two story homes are commonly constructed of concrete block on the first floor and wood frame construction on upper floors.
- Residential roof structures located within Seminole County and the Cities, with few exceptions, are constructed of lightweight wood trusses with plywood or composite decking covered by a finish of ceramic/clay/concrete tile, roll form metal, fiberglass shingles, or built up tar and gravel.
- Trusses are generally constructed of 2” x 4” lumber joined by gusset plates which have multiple nails penetrating the wood. Due to these construction features, early structural failure must be anticipated.
- Residential upper floors are generally supported by lightweight wood truss systems that have the same limitations and weaknesses of all truss systems.
- On most modern residential structures within Seminole County the electrical main breaker will be located in a box near the electrical meter. The main allows the power to be disconnected safely by fire personnel. In the absence of an exterior electrical main breaker, interior crews can usually control the electrical utility from the interior circuit breaker panel.
- Room and content fire often extend into upper spaces and void areas and turn into attic fires. Crews should open ceilings as warranted.
- Any residential structure greater than 5,000 square feet will be treated as a commercial fire.

Personnel Hazards:

- Hazards at these incidents generally involve:

- Downed power lines and potentially electrified fences.
- Boiling liquid expanding vapor explosion (BLEVE) of containers in a garage, storage room, or other unconventional area and Liquefied Petroleum Gas (LPG) cylinder hazards.
- Partial collapse of structure in well involved fires.
- Fall-through hazards created by weakened floors.
- Dogs and other dangerous animals.
- Drowning from swimming pools.
- Clandestine drug labs.
- Intentionally set hazards to prevent unwanted entry.
- Vacant or abandoned structures.
- Identification of hazards to personnel must be transmitted over the radio and action taken to mitigate them.
- Toxic smoke and gasses from modern building materials.
- Built up roofs, modification, and interior remodels for hidden fires.

Firefighting Priorities:

- Typical tasks to be completed at a residential structure fire:
  - Forcible entry.
  - Victim removal.
  - Treatment of injured.
  - Ventilation – smoke, heat removal. Horizontal ventilation is the preferred method. Vertical ventilation on residential structures shall be approved by command.
  - Pulling, extending hose lines.
  - Fire control and fire extinguishment.
  - Primary, secondary – victims and fire.
  - Sustaining water supply.
  - Controlling utility hazards, gas, electrical.
  - Salvage – property conservation.
  - Laddering.
  - Fire extension check, overhaul.

  - Secondary means of egress for two story residences.

Tactical Operations:

- **First Arriving Engine Company:**
  - Conduct a thorough size-up and make an accurate arrival report and request additional resources as needed.
  - Announce hydrant location for incoming apparatus.
  - Determine mode of operation.
    - Investigative
    - Offensive Fast Attack
    - Defensive
  - Evaluate immediate search/rescue need per risk benefit analysis.
  - Officer should attempt to get 360-degree view of

building.
- Force entry as needed.

- **Place inspection hole in ceiling upon entry, as warranted.**
- Stretch initial attack line of the appropriate size off booster tank and attack fire from unburned side of structure.
- Search en route to seat of fire.
- If no other companies are on scene, remove victims if found. (Must maintain focus on fire attack as indicated above.)
- Extinguish all visible fire.
- Vent fire room as needed in coordination with other companies.

First Arriving Rescue Company:
- Position vehicle to allow other units to approach the scene and for easy exit for possible transports.
- Evaluate immediate search/rescue need per risk benefit analysis.
- When need for search is elevated, conduct primary search.
- When need for search is minimal, assume two out and complete 2 out approved tasks.
- Remain together as a team.
- Secure utilities – electric, gas.
- Vent fire area from the exterior.
- Check and report conditions at rear of structure.
- Gain secondary point of entry.
- Rapid patient treatment transport if necessary.

Second Arriving Engine:
- Establish a water supply.
- Establish command if not already established.
- Secure utilities – electric, gas, if not already completed.
- Advance charged back-up hose line. Back up line should be stretched in position to protect initial attack line as first priority. Second priority is protection of interior stairwell of multiple story dwelling.
- Communicate/confirm all assignments with Command.
- Assist with occupant removal.
- Provide additional manpower to complete specific task requested by Command.

Second Arriving Rescue:
- Position vehicle to allow other units to approach the scene and for easy exit for possible transports.
- Assume two out responsibilities if first arriving rescue is committed to search.
- Ladder structure for second means of egress if greater than single story.
- Patient care and transport if necessary.
- Primary search if necessary.
- Provide secondary search if primary is completed.

Third Arriving Engine/Tower/Squad:

- Ladder structure for multiple means of egress.
- Initiate search primary or secondary.
- Vent fire room or structure if not already initiated.
- Provide auxiliary lighting.
- Provide mechanical ventilation.
- Perform salvage and overhaul.
- If all tasks above are under way, stand fast near command post for assignment by IC. Perform assignments as directed by Incident Commander.
- Assume truck company functions as directed.
- May be assigned as initial rapid intervention crew at discretion of IC.

Fourth Arriving Engine:

- Assume RIT.
- Assemble equipment.
- Perform 360 of structure.
- Prepare structure in accordance with the RIT guidelines.
- RIT shall at all times maintain an awareness of structural fire conditions.
- May be assigned task(s) at the discretion of the IC.

First Arriving Battalion Chief:

- Establish or assume command after conferring with initial arriving officer if possible (via face to face or over the radio).
- Maintain accountability for all fire/ rescue personnel on scene.
- Evaluate attack plan and its effect on fire.
- Evaluate building construction and occupancy hazard.
- Cover means of fire extension.
- Provide continuing supervision and control to effect extinguishment, removal and treatment of occupants and safety to operating forces.
- Request additional resources as needed.
- Assign divisions or groups as needed for effective span of control.
- Evaluate need for rescue of occupants, fire control, and property conservation.

Second Arriving Battalion Chief:

- Assumes role of Scene Safety Officer.
- Conducts 360 of fire building, if possible and reports pertinent information to command.
- May be assigned Operations depending upon building and fire conditions as determined by IC.
- Assumes role of RIT OIC in event of a RIT deployment.

Tec 1/Command Staff

- Report to the command post.
- Maintain the incident command board and assist with accountability of personnel and units.
- Maintain the command worksheets.
- Monitor additional radio tacs for greater alarm units.
- Other duties assigned by the Incident Commander.

Title: Firefighting Practices Garden Apartments and Townhomes

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: Provides a standard operating guideline for response to and operations at multi family dwelling fires (garden apartment). Personnel must be thoroughly familiar with basic fire ground procedures since this SOG only covers occupancy-specific information and shall serve as a guideline.

General: The term "garden apartment" includes all multi-family low-rise combustible dwellings of 1 to 4 stories, usually containing 4 to 12 or more units per building. Garden apartments generally have poor access for incoming units along with high-density construction. This allows rapid building-to-building fire spread. The common feature of all garden apartments is lightweight construction. A good generality is "the newer the building, the lighter the construction". In addition, fire stopping in the attic spaces of most garden apartments is inadequate to stop the spread of fire throughout. Note: In areas of the SOG, it references the long/short end of the building. The short end of the building can be defined as smallest area from the fire to the end of the building. The long end of the building can be defined as the largest remaining area from the fire to the opposite end of the building.

Significant Construction Features:

- Garden apartments are primarily constructed of concrete block, wood frame, composite materials or combination. It is not always possible to determine the construction type on visual inspection since exteriors are commonly covered with stucco or other outer finish.
- Garden apartment roof structures are generally lightweight wood or metal trusses and can be conventional frame rafters in older structures. Roof decking may be tongue and groove, plywood or other wood laminate materials, metal decks and lightweight gypsum concrete. Roof coverings can be of the same variety found in single-family homes, ceramic/clay/concrete tile, roll form metal, fiberglass shingles or built up tar and gravel.
- Overhanging roof facades may be added to the front of apartment buildings, or part of the attic space, to give a flat roof the look of a mansard or other more decorative roof style and provide overhang protection from the weather. These facades may be either cantilevered on to existing trusses and compromise part of the attic, or simply bolted onto the building face. Overhangs provide a path for fire to travel on the outside of the building and can fail under fire conditions causing a collapse hazard, often just outside the front entry of the fire apartment. Extreme care must be exercised in operating under and checking for fire extension in such overhangs.
- A major consideration of fire attack in apartment fires is whether the apartments open to an enclosed or open hallway. The hallway type will affect the fire attack, ventilation, and evacuation of occupants.

- Many garden apartments have common attics. These attics may run the entire length of the building with no fire stops.
- Many garden apartment buildings are now built with tile roof on light weight truss and pose significant roof collapse danger when the attic is involved in fire on some apartments.
- Consideration of Private Fire Protection.
- Floor support systems will usually be constructed of reinforced poured concrete, wood joists, wood or metal I beams and wood or metal parallel cord trusses. The first floor itself may be plywood or any type of manufactured laminate wood product, tongue and grove, metal deck with lightweight concrete, or poured reinforced concrete.
- Kitchens and bathrooms are typically arranged so that plumbing pipes are in a straight column from floor to floor. Although the plumbing chases are supposed to be sealed, this arrangement allows for easy vertical fire and smoke spread.
- Each apartment typically has its own electrical meter and, depending upon age of the structure, an electrical shut-off that turns off power to each unit. Meters are usually located on the exterior of the structure, or in an electrical room located on the ground floor.

Personnel Hazards:

- Downed power lines and potentially electrified fences.
- Operating in enclosed hallways with high heat and dense smoke.
- Boiling liquid expanding vapor explosion (BLEVE) of containers in a garage, storage room, or other unconventional areas. Liquefied petroleum gas (LPG) cylinder hazards.
- Partial collapse of structure in well-involved fires.
- Fall through hazards created by weakened floors.
- Clandestine drug labs.
- Intentionally set hazards to prevent unwanted entry.
- Vacant or abandoned structures.
- Heavy dead loads on roof, tile roofs, heating, ventilation, and air conditioning (HVAC).
- Wind driven fire on upper floors.
- Alterations to structures leading to increased fire spread.
- Identification of hazards to personnel must be transmitted over the radio and action taken to mitigate them.
- Utilizing master streams during defensive operations.
- Collapse hazards due to weakened structural conditions from fire/heat damage and from the weight associated with large amounts of water being used during defensive fire operations.

Firefighting Priorities:

- Typical tasks to be completed at a residential structure fire:
    - Forcible entry.
    - Victim removal.
    - Evacuation.
    - Treatment of Injured.
    - Ventilation – smoke, heat removal. (Note: no vertical ventilation unless approved by Command)

- Pulling, extending hose lines.
- Primary, secondary search- victims.
- Fire control and fire extinguishment.
- Controlling utility hazards, gas and electrical.
- Sustaining water supply.
- Salvage – property conservation.
- Laddering.
- Fire extension check, overhaul.
- Exposure protection.

Life Hazards:

- The life hazards are great in these types of structures due to the large number of occupants and the type of construction that leads to rapid fire spread. Loss of life may occur within the building as a result of the occupant's inability to escape. Products of combustion will spread to remote areas of the structure far beyond the immediate fire area. Primary search patterns may need to be adjusted to reflect the need to search areas near the fire. Units beside and above the unit of origin should be given priority. Secondary searches should include all units in the building or origin.

Tactical Operations:

- **First Arriving Engine Company**
  - Conduct a thorough size-up and make an accurate arrival report.
  - Announce hydrant location for incoming apparatus.
  - Determine mode of operation.
    - Investigative
    - Offensive Fast Attack
    - Defensive
  - Do not block positions that may be needed for the effective placement of aerial apparatus.
  - Evaluate immediate search/rescue need per risk benefit analysis.
  - Force entry as needed.
  - Place inspection hole in ceiling upon entry, as warranted.
  - Stretch initial attack line of the appropriate size off booster tank and initiate fire attack. Consideration should be given to utilizing a larger line and a gated "Y" appliance to enable incoming units to extend additional attack lines.
  - Initiate aggressive interior attack, normally at the main entrance of the apartment (this also protects the means of egress for other occupants).
  - Once the fire is controlled, attention must be placed on conducting a primary search if not underway or complete. Due to the limited size of most apartments, the hose crew can often conduct the primary search of the fire department.
  - If no other companies are on scene, remove victims if found. (Must maintain focus on fire attack as indicated above).

- Extinguish all visible fire.
- Vent fire room as needed in coordination with other companies.
- Pull local alarm for evacuation of occupants.

First Arriving Rescue Company

- Conduct primary search of most endangered apartment(s) above fire first then uppermost apartment(s) on third floor. If fire apartment is the uppermost apartment, the adjacent apartments will be searched first and the Rescue Company will work down to the first floor for primary search and evacuation.
- Maintain crew integrity.
- Secure utilities – electric, gas, when applicable.
- Ventilate (open windows) as the crew searches.
- Pull local alarm for evacuation of occupants.
- Do not block positions that may be needed for the effective placement of aerial apparatus.

Second Arriving Engine

- Establish water supply line from hydrant to attack pumper.
- Establish command if not already done.
- Stretch back-up attack line between fire and long end of building, usually next apartment over to prevent extension in hidden voids (attic, floor spaces or walls). The attic space on the long end of the building is normally the most severe exposure and should be covered first by the 2nd attack line.
- Assist with occupant removal.
- Open ceilings to check for extension and fire control.
- Do not block positions that may be needed for the effective placement of aerial apparatus.

Second Arriving Rescue

- Position apparatus where it will not interfere with other arriving apparatus while maintaining ability to depart the scene for rapid transport if needed.
- Assume two out responsibilities if first arriving rescue is committed to search.
- Control utilities, if not already completed.
- Provide medical assistance for any victim in need, upon arrival.
- If no immediate medical treatment or transport exists and the first arriving rescue is committed to two out, Command should be contacted for orders. Preparations should be made for providing fire assistance.

Third Arriving Engine

- Pull third 1-3/4'' or greater attack line between fire and short end of the building, usually next apartment over, to prevent extension in hidden voids (attic, floor spaces, or walls). The attic space on the short end of the building should be covered first by this third attack line.

- Open ceiling and voids to check for fire extension and fire control.
- May be assigned to RIT by Incident Command.
- Do not block positions that may be needed for the effective placement of aerial apparatus.

- **First Arriving Truck Company**
  - Spot truck to cut off long end of the building or most serious exposure.
  - The Truck Company shall ladder front and rear of the second and third floors for secondary means of escape.
  - It is essential that the Truck Company check and report conditions at the rear of the structure.
  - Assist in remaining search and rescue “all clear” on the fire apartment and the most exposed apartments first.
  - Provide support for interior engine company operations.
  - Check attic for fire extension.

- **First Arriving Squad**
  - Rapid Intervention Team/or otherwise assigned by the Incident Commander.
  - Stage equipment and personnel near the Command Post or at strategic locations around the perimeter of the fire building; and remain a resource to Command while acting as a RIT.
  - Provide necessary lighting.
  - When there is a need for the Squad to engage in firefighting responsibilities, one additional engine company will be requested by Command for RIT.
  - Do not block positions that may be needed for the effective placement of aerial apparatus.

- **First Arriving Battalion Chief**
  - Assume or establish command after conferring with initial arriving officer.
  - Maintain accountability for all life/rescue personnel and units on scene.
  - Evaluate attack plan and its effect on fire.
  - Evaluate building construction and occupancy hazard.
  - Cover means of fire extension.
  - Provide continuing supervision and control to effect extinguishment, removal and treatment of occupants and safety to operating forces.
  - Evaluate need for rescue of occupants, fire control and property conservation.

- **Second Arriving Battalion Chief**
  - Assumes role of Scene Safety Officer.
  - Conducts 360 of fire building, if possible, and reports pertinent information to Command.
  - May be assigned interior safety/operations depending upon building and fire conditions as determined by IC.
  - Assume role of RIT OIC in event of a RIT deployment.

- **Tec 1**
  - Report to Command Post.
  - Maintain the incident command board and assist with accountability of personnel and units.
  - Maintain the command worksheet.
  - Monitor additional radio tacs for greater alarm units.

Defensive Fire Operations

At garden apartment fires when the decision is made to either go from offensive to defensive fire attack mode or when starting out in defensive mode, the following items need to be considered.

- Allow room for the proper placement of multiple aerial apparatus.
- Utilize the “big water” concept for fire extinguishment through the use of deck guns and aerial apparatus.
- Evaluate early the available water supply and what will be needed to extinguish the fire.
- Establish adequate water supply for defensive operations and assign a water supply officer to coordinate if needed.
- Assign apparatus to pump hydrants as needed to meet the high GPM demands.
- Assign resources to provide proper exposure protection.

3.13

Title: Commercial Structure Fire

Issue Date: December 31, 2011
Revision Date: May 1, 2016 January 1, 2017

Purpose: To establish a high level of awareness of the difficulties presented by the layout and construction of facilities called “Commercial and Industrial”. For the purpose of this manual commercial facilities include: warehouse, strip malls enclosed shopping malls and lumberyards.

General: This procedure shall be followed by all members responding to commercial structures within Seminole County. It is the responsibility of **ALL** firefighters to educate themselves on the size-up factors and strategic considerations that need to be taken into account when confronted with fires in these occupancies. This guideline is not meant to be all-inclusive. Other factors can and will exist that also must be considered. The documented success of fighting fire in these structures revolves around some common tactical consideration: company familiarization with building type and construction, rapid fire spread, built-in fire protection systems, advanced water supply needs, unique manufacturing process, hazardous materials, occupancy load, accountability, large resources needs and exposure protection.

3.13

Objectives:

- Establish an early unified command
- Provide accountability for personnel entering and leaving the hazard zone
- Provide life safety to those immediately threatened
- Determine offensive/defensive or combination attack
- Establish water supply to building fire protection systems and apparatus
- Determine construction type (Truss ID)
- Identify special hazards
- Provide for firefighter life safety (RIT)
- Determine proper aerial placement and operation
- Ensure safe and effective roof operations
- Provide utilization of proper hose lines or master stream applications
- Ensure proper utilization of natural and horizontal ventilation
- Provide proper control of commercial utilities
- Determine specific unit assignments

Priorities:

- Priorities fall into two categories that are integrated
  - Incident Priorities
    - Life Safety
    - Incident Stabilization
    - Property Conservation
  - Tactical priorities (RECEO –V/S)
    - Rescue
    - Exposures

    - Confinement
    - Extinguishment
    - Overhaul
    - Ventilation
    - Salvage
- Strategic and tactical priorities should be addressed in the order listed
- Risk analysis and firefighter safety have to be incorporated into these priorities
    - Lives of firefighters should not be jeopardized when there is little or no chance of saving a civilian
    - A defensive or exterior attack should be considered when there are safety concerns about the integrity of a structure.
    - Consideration must be given to the amount of time that has elapsed in the burning process prior to the initiation of fire attack, especially where truss type roof construction is involved.(If the fire has been burning unhindered for at least 20 minutes, serious consideration should be given to operating in the defensive mode and out of the collapse zone).
    - Due to inherent dangers involved in conducting roof operation, it is imperative that crews avoid performing vertical ventilation on structures that utilize light weight wood/ open web steel bar joist construction that is prone to early failure under fire conditions, (i.e., bow string truss, light weight wood, light weight steel truss). Horizontal ventilation and opening of bay/garage doors is the preferred method of ventilation.

Commercial Structure:
The term “Commercial Structure” is descriptive of small manufacturing plants to large industrial factories and warehouses. Other references within this manual may be applicable when dealing with commercial facilities. Building size can range from 25 feet wide to structures that spread over hundreds of feet, to a city block. Commercial and industrial buildings are often grouped together in a cluster forming a commercial district. These buildings can be L-shaped, fronting on two streets and they can be deep with limited access on the sides, preventing firefighters from reaching a fire burning in the middle of the building.

When confronted with these irregular-shaped buildings, confusion can occur when attempting to identify specific areas. Command must clearly identify and mark the building layout. This includes Alpha through Delta sides, exposures, horizontal and vertical opening.

Construction:
Most commercial structures fall into a fire resistive (Type 1) or

on NFPA 220 and the Uniform Building Code. The “Fire Resistive Classification” is further broken down into sub-classifications that reflect the hour rating for each of the primary structural members. Generally, this hour rating for load bearing members is 3-4 hours (including roof trusses and beams) and 1 ½ - 2 hours for actual roof material itself. Steel and reinforced concrete are the most common materials used. The main difference between type 1 and type 2 is unprotected steel.

Utility Distribution, Meters and Shut-Off Locations:

- Each unit will usually have its own electrical meter and depending upon the age of the structure, and electrical shut-off that turns power off to each unit. Meters are located on the rear and side exterior of the building, service corridor, or in electrical meter rooms located at the rear or sides. Meters may or may not be adequately labeled with the occupancy address or unit number.
- These occupancies often have electrical vaults with transformers that supply electric power to the entire building internally. If an electrical vault is present, the meters are usually in the same room.
- Natural gas or Liquefied Petroleum Gas (LPG) will be supplied to restaurants, laundromats, or any other occupancy that currently has, or used to have, cooking or heating equipment within them. Gas meters, shut-offs and LPG tanks will generally be located at the rear of the structure.

Fire Protection Systems:

- Several commercial occupancies will be sprinkled throughout. Depending on size, an overhang may also contain sprinkler heads located outside the front wall. Initial actions should include locating and supplying the sprinkler system. **Water supply to the attack pumper is always first priority.** The third in pumper when available should supply themselves and then supply the system, or otherwise directed by Command.
- Some commercial occupancy’s will be completely un-sprinkled or be partially sprinkled. Partial sprinkler protection usually covers the larger units or anchor stores only.
- Fire Department Connection (FDC) may be located away from the structure near a fire hydrant; they may also be located on the rear of the building. Multiple FDC’s may be present, each serving a specific large occupancy or section of the building.
- Cooking equipment will usually be protected with dry or wet chemical suppression systems located in the ventilation hood.

Commercial Building Safety Considerations:

Fighting fires in commercial structures is at best complicated and requires a strong early established incident command structure. The safe mitigation of such complicated fires requires each individual and company to have strict discipline at the tactical and strategic level. Commercial occupancies generally require a more cautious approach than a standard residential occupancy. Based upon current and anticipated fire conditions; strong considerations should be given to ensuring that adequate personnel and resources are on scene, sufficient water supply to support large diameter attack lines has been established, and aggressive horizontal and or vertical ventilation are in

progress prior to committing companies to interior operations at a commercial occupancy.

Searches should generally be conducted utilizing team search rope equipment or by maintaining contact and orientation to hose line. All personnel must carefully monitor status of air supply and should plan sufficient egress time to allow exit from the building prior to low air status.

Commercial Building Structural Stability and Integrity:
When dealing with Type 2 unprotected steel, *think collapse*. Unprotected steel beams have been known to fail after 5 minutes of fire exposure. Most collapses are partial collapses involving floors, ceilings, roofs, walls or cornices. **Once a collapse has occurred, expect a second collapse.**

You must know the buildings in your area and the type of construction so that you are aware of possible collapse during fire conditions. During the investigation of these buildings use a thermal imaging camera to scan the area for hidden heat signature. If there appears to be a small fire in the attic or cockloft of any commercial building and it can't be quickly knocked down with the initial attack line; back out. When a fire seriously involves the attic of a commercial building, do not go under or on the roof of a lightweight wood/open web steel bar joist construction.

The twenty-minute rule does not apply in these situations and signs of collapse are not always obvious. Although construction type plays an important role in burn time, other factors must be considered by the Incident Commander, such as fire load, length of burn to dispatch, alterations to building design and reports crews are giving.

The general rule for collapse indicators involving fire conditions include: two or more floors fully involved, continued or heavy fire and high heat, and heavy smoke conditions coupled with inadequate ventilation.

Other collapse indicators may be water load, old or new wall cracks, roof load and fire or smoke showing through cracks. If you are the Incident Commander and notice one or more of these indicators, you should immediately take action. The proper action will depend on whether any civilian life is in jeopardy. If all civilians are safe, then firefighter safety is your number one consideration.

Waiting for a variety of warnings and not acting immediately could result in your final warning or indicator being a collapsing building.

Key Tactical Considerations for Commercial Structures:

- Early second alarm, consider second aerial truck.
- Consider Air Boats for large volume ventilation of heavy smoke. Call early as this resource takes time to arrive.
- Bldg Engineer/ Maintenance Personnel respond for Intel/Ops of smoke evacuation systems for the building. Have them respond to disable any electronic security locking systems for commercial structures with limited access areas. Experience has shown that the fire alarm system does not always do this

as it should. Obtain assistance from management in controlling utilities. This may require contacting a central office to isolate power.

- Assign divisions and/or groups early in the incident for the sake of accountability and span of control.
- Initiate large caliber (2.5") hand lines with solid bore nozzles to ensure adequate flow rates and reach.
- Determine if Hazardous materials isle or bulk pallet storage is involved.
- Use extreme caution around vertical steel storage racks, as failure may occur when under fire load. Avoid collapse zones in and around "high rack" storage.
- In cases of low visibility during searches, utilize search rope and avoid excessive penetration from entry points. Do not exceed 150' into structure from entry point. If necessary, find a different entry point to ensure a safe exit path.
- Early establishment of water supply group officer and multiple water supply sources. Pump hydrants where longer lays are present for maximum water flow. Contact municipality for water system to boost water pressure if possible.
- Consider fork lift use for separation of fire loads.
- Early consideration/establishment of multiple elevated streams if needed.
- Consider the possibility of propane tank B.L.E.V.E. from forklift involvement and forklift fuel storage
- In nursing homes and hospitals, consider the need to "protect in place." In many cases, consider the need for multiple electric fans for carbon monoxide free ventilation.
- Have interior personnel ensure fire and smoke doors have closed properly and are not propped open. This will greatly reduce smoke spread and aid in "protecting in place."
- Ensure active evacuation is initiated, focusing on most threatening first.
- Coordinate attack routes and evacuation/rescue route so as not to impede each other.
- Later arriving units should take control of fire service equipped elevators, once deemed safe by initial crews.
- Frontal attacks through the storefront glass in many cases are beneficial for a quick knock down, even if the fire is in the front of the store. Commercial doors in the rear of these structures are difficult to force and can put a significant delay on the initial attack line, allowing lateral fire spread.
- In strip malls, rapid placement of exposure lines in Bravo1 and Delta1 exposures with aggressive hook work will minimize or cut off lateral fire spread.
- Identify Cantilevered Overhangs quickly when there is interior attic/truss involvement. If construction is not identified early, crews working on the outside of a strip plaza will have a false sense of security, and may be injured by ceiling collapse outside of the structure.
- Consider the quick failure of light weight bar joist truss in heavy fire load conditions.
- Identify masonry fire walls by placing a ladder at each one

- If fire is in occupancy of origin, first line in to the fire, second line to the “big” end (most significant exposure), third line to the “little” end (least significant exposure).
- When determining the significance of the exposures, consider size, occupancy type and value.
- Limit fire extension via common attics and/or sign fronts (Mansards)
- Use caution when gaining entry from “Charlie” side as back storage/cooking areas are frequently cluttered with numerous obstacles.
- Stage units outside complex and methodically position as needed, due to narrow alleyway type driveways limiting safe operating space.
- Use extreme caution as to what may be inside commercial storage structures. Prior incidents have shown hazardous materials ranging from propane tanks to automobiles have been stored in these units, whether allowed or not.
- Consider possibility of persons living in storage units.
- Buildings with “Cathedral” ceilings pose a challenge when checking for hidden ceiling/roof fires. Consider two aerial trucks for significant fires in roof systems.Buildings with steeples may pose a collapse hazard. Collapse zone should be established when structural instability of this type of building feature is possible.

Aerial Apparatus Placement:

- Aerial apparatus placement at a commercial building fire is a critical factor that can affect the final outcome of the fire.
    - Upon arrival at the scene, aerial apparatus must slow down and calculate deliberate apparatus movement in order to achieve the all-important spot. It is extremely important for the initial arriving Companies to leave room for the Truck Company to maneuver and spot for maximum effectiveness.
    - The effective placement of aerial apparatus at commercial building fires depends upon a set of important objectives.
        - **Rescue** – When victims are present, life safety must take precedence over tactical placement. Place Tower apparatus to rescue most severely threatened victims first. Second, the largest number groups, then the remaining victims in their fire area.
        - **Most severe exposure** – Major fires that have become defensive with no chance of saving the building or rescuing victims may be fought by concentrating aerial streams on the most severe exposures; especially when water is in short supply.
        - **Fire attack** – Aerial apparatus should spot where the scrub area of the bucket and master streams can reach the fire area and the unburned areas for fire cutoff, even at ground level. Aerial streams are most effective when

the seat of the fire can be reached with a large GPM flow.

- **Ventilation** – Upper floor windows, gable ends, cocklofts and dormers, along with other construction features, can be reached by the well spotted aerial when ground ladders are out of reach. Aerial crews and Command will be taken into consideration as well as which roof quadrant that needs to be reached first, when determining the placement of the apparatus.
- **Overhaul** – Aerial overhaul of soffits, cornices and fascia board should be overhauled from a safer vantage point utilizing aerial apparatus. Buildings where floors and structural features are compromised may be inspected and addressed by aerial apparatus after the initial fire is out.

- Aerial and all apparatus placement at any commercial building fire should consider the potential of a wall collapse on the apparatus before their placement on the scene.
- A general minimum distance of 30' from the building should be considered unless specific placement and tactics are warranted. Aerial apparatus should try and spot with the apparatus' front end swung out away from the building at an approximate angle of 15 degrees. This swing-out, when it can be accomplished, will give the aerial boom better access to ground level windows and doors by enabling the bucket master streams to be placed directly in these and other openings for fire knockdown.
    - Placing aerial apparatus at the corner of a commercial building provides view of two sides of the building and increases the effectiveness of the aerial ladder's scrub area. Building corners are generally stronger areas of a building that are not as susceptible to collapse. However, this tactical advantage can be nullified if the aerial cannot reach victims or cannot cut off the fire. Building corners should be a consideration, but not become the main objective when spotting aerial apparatus. Many obstacles such as trees, civilian, and fire department parking (among many other factors) can often limit or dictate apparatus placement.
- All aerial setups shall require that the aerial crew check and look for electrical wires before spotting their apparatus, WITHOUT EXCEPTION. All aerial setups shall require a minimum distance of 10' away from all electrical and other utility lines prior to any operation. The aerial apparatus can be thought of as one big, grounded lightning rod that can cause death and serious injury if the aerial boom were to come in

contact with any electrical or utility system that are common to all commercial buildings. The single most hazardous obstacle to the aerial is the overhead electrical wire system. Lightening also poses potentially fatal risks associated with aerial setup.

Commercial Roof Operations:
Commercial roof operations should only occur after the incident commander determines the need ventilation after a careful risk/benefit analysis gain incident action plan for determining no lightweight wood or bar joist construction exists. Proper pre-planning and firsthand knowledge of building construction by company officers can determine if standard or ordinary construction exists.

- Approaching the roof area
  - Check roof area for obvious signs of fire and structural damage from the fire.
  - Determine quadrant location of the fire.
  - Look for the building's natural openings and similar features.
  - NEVER place only one rail of Aerial on parapet or roofline, which may result in ladder failure
  - Spot bucket perpendicular to parapet or roofline when possible.
- Roof Top Operations
  - Sound roof prior to exiting bucket and assure stability.
  - NEVER walk over open roof area weakened by fire.
  - Follow edge or roof or parapet to reach quadrant to be ventilated.
  - Approach vent slowly, utilizing inspection cuts to determine fire location.
  - Upon locating seat of fire, move away approximately 10'and vent over stable area.
  - Coordinate roof ventilation with interior units and Command
  - After ventilation opening is made **GET OFF THE ROOF!!!!**

Fire Streams (Defensive vs. Offensive)

- Offensive Fire Stream Operations and what type of hose lines should be selected will dictate the outcome of the situation.
  - If the Company Officer believes the fire is going to progress to the point of becoming a defensive operation, pull a 2 ½ inch line. A simple rule to follow would be: "big fire" use "big water". While a 1 ¾ inch attack line offers mobility, it is ineffective in commercial fires with large load. The 2 ½ inch line offers the appropriate gallons per minute and penetration to successfully attack a commercial fire utilizing proper offensive fire stream operation.
  - The decision to pull a 2 ½ inch hose line requires the Company Officer to evaluate possible water supply options, depending on hydrant location (i.e., bring in their own supply line). Units must proceed cautiously with interior operations until a water supply line is in

place, due to the obvious concern involving the quick depletion of tank water when utilizing the 2 ½ inch line.

- Defensive Fire Stream Operations' first priority is to protect exposures. The second priority is to knock down the main body of fire. When an exposure is severely damaged and water is limited, the most effective tactic is to put water on the exposure. Write-off property that is already lost and move on. Protect the exposed property based on the most dangerous direction of fire spread.
    - DO NOT continue to operate in positions that are essentially lost. Company Officers and Command must decide what application of fire stream in defensive operations will have the best outcome.
    - Command must accurately project set-up time, write-off lost property and get ahead of the fire and stop its forward progress. It takes a certain amount of time and water while the fire continues to burn. If Command misjudges the fire, it may burn past the attack/cutoff position.

Natural and Horizontal Ventilation:

- Natural and horizontal ventilation is thought of in many cases as second only to direction on the spread and tenability of the fire. Significant commercial building fires should be vented at the roof first and horizontal ventilation simultaneously at the fire floor through windows and doors that lead to the outside.
- Horizontal ventilation done prior to a natural vent or a good roof cut can cause rapid spread and extreme intensification of the fire throughout the structure.
- However, with a coordinated effort between natural and horizontal ventilation mushrooming will be reduced, visibility and tenability improved, along with the fire remaining in the quadrant of origin.
- Under no circumstances should forced ventilation with power fans or other mechanical devices be introduced until the fire has been knocked down and under control. Often times, such tactics are disastrous in effect.
- The term "natural opening" refers to built in building features such as skylights, ventilators, stairwell shafts and the like. They should be utilized first provided they are in the correct area to be ventilated.
    - Truck Company crews should learn which natural openings vent what. For instance, skylights vent the building's main interior spaces, while turbine type ventilators generally vent the attic space and cockloft area where large void spaces can be found. Dome type ventilators, many times, vent only the heat producing areas of a building such as kitchen and laundry areas. Stairwell skylight shafts should be ventilated quickly to control an interior means of egress for both victims and advancing firefighters.
    - It is usually easier to open the building's natural features made of wood and flashing rather than

making a cut through heavy roof decking, whereby speed is gained. Generally, the size of the natural opening should lend itself to the volume of smoke and heat needing to be released to have a positive effect.

- Horizontal ventilation generally offers the most air movement throughout a building. It should begin at the main body of the fire so as not to draw it to the unburned side and in coordination with charged hose lines in place. Timing of horizontal ventilation is critical to the overall success of the operation and should be done in conjunction with natural/vertical ventilation with the proper stage of operation.

Forcible Entry:

- Forcible entry at commercial building fires begins at the pre-plan stage. It is imperative that all companies, in particular the Truck Company, identify and recon those buildings that present a major forcible entry problem. Obstacles faced will vary from occupancy, construction and levels of security protecting the structure. These observations made prior to arrival should be added to all existing and future pre-fire plans. Forcible entry may sometimes be avoided altogether when a building master key system is set up ahead of time and properly utilized from a secured knox box. This can translate into speed and energy reserved for where it may be needed later.
- Initial entry is most often made through a doorway, yet a window is generally easier to force than a door. Quick thinking, good judgment (along with practiced skill) can many times overcome an obstacle rather than brute force. For instance, when a window is forced and a Firefighter enters unlocking a door that may be heavily re-enforced such as a steel door (commonly found in the rear of commercial stores). This will enable the initial attack line to enter the building through the doorway faster using less energy.
    - Understanding what type of door is present and how it is locked and hung are basic principles of forcible entry that can be applied at all fires.
    - Identifying commonalities are associated with certain types of occupancies can aid in the decisions of what tools and tactics need to be employed.
- Actions done should be related to conditions found. The age-old axiom, “try before you pry” still applies. Victim rescue cannot be totally dismissed at a commercial fire. Cleaning crews, employees working late and security guards can account for victims in what may seem like an unoccupied building. Quick entry by the most expeditious means is justified at a working fire and will depend on many variables. Forcible entry at a commercial building fire will affect possible victims, firefighter safety, hose line advancement and the overall outcome of the fire.

Utility Control:

- Utilities in commercial properties pose several difficulties, such as, location, different meters for each business, and the danger when attempting to shut off

- New buildings now have shunts for controlling power to the entire building.
- Older commercial properties in the County have no shunts and require that fire department personnel secure utilities by manual shutoff.
    - When attempting to shut off commercial power via pull down levers or breakers, always shield face.
    - Personnel should utilize manual pull arms or breaker for securing the power sources. NEVER REMOVE ANY COMMERCIAL METER.
    - Utilize electrical shunts as a last priority.
    - Shunted electrical power is sometimes not easily restored.
- If you are unable to secure power, notify Command immediately for proper utility company response.

Engine Company Goals:

- Refer to on-scene report.
- Spot apparatus in strategic location to reach and cut off fire:
    - Leave room for Truck Company to spot.
    - Determine possible collapse zone, when applicable.
- Determine the Mode of Attack:
    - Investigative Mode
    - Fast Attack Mode
    - Defensive Mode
- Determine proper hose line size and placement with regard to:
    - Amount of building involved in fire (big fire-big water)
    - Need for master streams
    - Manpower available
    - Access to fire building
    - Control of stairwell for egress
- Evaluate water supply:
    - Establish LDH supply line/ Pump Humat valves when requested by Command
    - Additional engine companies seek secondary hydrants for additional water supply
    - Identify (FDC) sprinkler/standpipe connection and utilize when available
    - Attack Fire
    - Protect exposures

Truck Company Goals:

- Size up building and determine:
    - Type of construction and occupancy
    - Fire and smoke conditions found
    - Direction of fire spread and extent
    - Life Safety hazards
    - Special Hazards
- Position apparatus for aerial operation:
    - Spot for maximum effectiveness
    - Determine obstructions and hazards present
    - Evaluate terrain and elevation prior to setup

- Determine mode of operation for aerial:
  - Rescue, exposures, fire attack, ventilation, and overhaul
  - Provide master streams
  - Perform aerial recon of roof and give report to Command
  - Provide ventilation and roof operations
  - Utilize halogen lights for scene lighting
- Provide means of egress to and from the fire building:
  - Utilize forcible entry tools
  - Provide primary and secondary means of egress
  - Place ground ladders to upper areas of building at strategic locations
- Perform search of fire building:
  - Provide systematic primary search of fire area and report to Command
  - Perform primary search of adjacent areas
  - Perform secondary search of all affected areas
- Coordinate all Truck Company functions with interior crews and Command (i.e. roof operations/ventilation).

Unit Assignments:

First Arriving Engine Company:

- Give an initial arrival report and accurate type of commercial structure and size-up of conditions found.
- Determine the need for additional resources and call for as needed.
- Spot apparatus to best advantage for fire attack in relation to fire building.
- Determine proper hose line size and placement to control fire presented (consider need for master streams and additional attack line support.) Pull initial attack line and/or initiate master stream operations at main body of fire.
- Establish continuous water supply from second Engine Company.

Second Arriving Engine Company:

- Lay supply line to initial arriving Engine Company from primary hydrant.
- Pull secondary attack line off first Engine Company to back up initial attack line and/or fire cutoff.

Third Arriving Engine Company (unless assigned by Command):

- Secure a secondary hydrant and lay supply line into itself. The apparatus shall spot in a strategic location near the fire department connection that supplies the buildings sprinkler and standpipe system if the building is so equipped. Two 2 ½ -inch lines shall be connected to the system and Command advised who will then make the decision to charge the system.
- Establish a supply line to the first arriving Truck Company for an offensive/defensive operation unless otherwise directed by Command.
- Coordinate further assignments with Command.

- Ensure aerial water supply has been established.

First Arriving Truck Company:

- View the fire building and determine appropriate area to spot the apparatus in the front of the building or to its best advantage.
- Spot the apparatus strategically in the best position for rescue, roof operations, and/or offensive/defensive modes of attack.
- Set up aerial and precede to the roof area with members who will give a report on roof conditions to Command. Members of the truck company shall conduct roof operations as necessary providing roof area is stable and coordinate roof ventilation with Command and interior units.
- Be responsible for primary search. Locate and remove victims from structure.
- Establish a primary means of egress and initiate forcible entry. Remove obstructions, and ladder upper areas as needed to provide egress.
- Coordinate efforts with the interior crews. Report to Command the results of the primary search along with conditions found and progress made.
- Supervise and utilize second Rescue Company for Truck Company operations as needed.

Second Arriving Truck Company:

- View the fire building and determine appropriate area to spot the apparatus in the rear of the building or opposite side of fire attack.
- Spot the apparatus strategically in the best position for rescue, roof operations, and/or offensive/defensive modes of attack.
- Give a backside report to Command upon arrival of conditions found and actions being taken. A secondary means of egress shall be established in the primary fire building and adjacent occupancies.
- Proceed to roof area with approval after advising Command and augment first arriving Truck Company with roof operations.
- Utilize forcible entry, remove obstructions and ladder upper areas as needed to provide a means of egress.
- Establish entry and investigation in all secondary areas of fire building and adjacent occupancies.
- Coordinate ventilation and Truck Company operations with Command and interior units.

First Arriving Rescue Company:

- Position rescue where it will not interfere with other arriving apparatus while maintaining ability to depart the scene for rapid transport if needed.
- Perform forcible entry for Engine Company if Truck or Squad Company is not on scene.
- Conduct evacuation and/or primary search of areas known to have possible victim or trapped occupants of commercial occupancy. The incident commander must quickly decide if a search in a large commercial building is feasible.

- May be assigned task(s) such as ventilation, utility control or to assist fast attack Engine Company with large hose deployment and fire attack.
- If it is determined that there is not a life safety issue and an all clear can be determined by the owner/occupants then you shall assume a “two out” position/assignment.
- May be assigned other duties or task(s) by the IC as deemed necessary.

Second Arriving Rescue Company:

- Position rescue where it will not interfere with other arriving apparatus while maintaining ability to depart the scene for rapid transport if needed.
- Assume two out responsibilities if first arriving rescue committed to search or evacuation.
- Control utilities if not already completed.
- Determine the need for second means of egress for fire attack crews.
- May be assigned other duties or task(s) by the IC as deemed necessary.

First Arriving Squad:

- Initial assignment will be determined by command.
- Perform truck company functions such as forcible entry, assist in fire attack and recon for command.
- Squad should be ready to assume RIT, function as a truck company, deploy additional attack lines and conduct search and rescue operations.

First Arriving Battalion Chief :

- Assume or establish command after conferring with initial arriving officer.
- Maintain accountability for all life/rescue personnel and units on scene.
- Evaluate attack plan and its effect on fire.
- Evaluate building construction and occupancy hazard.
- Cover means of fire extension.
- Provide continuing supervision and control to effect extinguishment, removal and treatment of occupants and safety to operating forces.
- Evaluate need for rescue of occupants, fire control and property conservation.

Second Arriving Battalion Chief:

- Assumes role of Scene Safety Officer.
- Conducts 360 of fire building, if possible, and reports pertinent information to Command.
- May be assigned interior safety/operations depending upon building and fire conditions as determined by IC. Assume role of RIT OIC in event of a RIT deployment

- **Tec 1**
  - Report to Command Post.
  - Maintain the incident command board and assist with accountability of personnel and units.
  - Maintain the command worksheet.
  - Monitor additional radio tacs for greater alarm units.

First Assigned "Rapid Intervention Team":

- Spot apparatus in a strategic location and view fire building.
- Determine location of fire, extent, and type of occupancy involved.
- Unless otherwise directed by Command, initiate RIT duties and recon the exterior of fire building and adjacent occupancies. Obtain all RIT equipment.
- Determine any special hazards associated with fire buildings and adjacent properties.
- Determine alternate and additional means of egress.
- Stage personnel and equipment in positions around fire building to facilitate RIT duties as directed by Command.
- Provide resource as a primary rescue team for injured or incapacitated firefighters in the event of a mayday or other emergency situation.

3.14

Title: High Rise Firefighting Options

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To standardize Command and Control operations at high rise fire incidents which for our operations a high rise will be defined as a building four floors or higher (no matter what floor the fire is on).

General: Nearly all high rise incidents will requires multiple alarms and responses from other agencies. The only ways for fire departments in Seminole County to be successful in fighting a high rise fire that has overwhelmed its internal protection system are:

- Building familiarizations and pre-fire plans.
- Training by all levels on large scale incidents.
- Using an Incident Management System Guide that directs both Command and Operations Level components.

Significant Construction Features:

- Core construction where stairs and elevators are grouped together.
- Traditional construction where stairs and elevators are separate.
- Concrete walls and roof.
- Open and enclosed hallways.
- Plenum or horizontal space between ceilings and floors for utilities.
- Reinforced concrete floors.
- Stacked kitchens and bathrooms.
- Electrical distribution, meters, and shut-off locations.
- HVAC Systems.
- Basements, lower floors or sub floors.
- Internal parking garages.
- Stairwells – scissor, return, wrap around and access.
- Fire Protection systems – Fire alarm panel, Fire pumps, Pressure reducing devices, Standpipe system, and Sprinkler systems.
    - Standpipe Systems:
        - Class I systems are designed for Fire Department (FD) use and large hose streams. They contain 2 1/2 " outlets and no occupants use hose cabinets. The standpipe outlets will be located in the stairwells.
        - Class II systems are designed for occupant use. They provide 1 ½ " outlets with occupant use hose cabinets. These cabinets and their outlets are in the hallways. These outlets are not designed for FD use.
        - Class III systems are designed for both occupant and FD use. Two basic designs require providing the 2 ½"outlets in the stairs in addition to the

hose cabinets in the hallways or providing only the hallway hose cabinets.

Considerations for High Rise Incidents:

- Consideration for use of elevators, refer to elevator emergencies in IMS manual.
- Start evacuation immediately.
- Due to debris in the standpipe system and possible low pressure situations, a low pressure/high GPM high rise attack system should be used.
- Beware of falling glass and debris, personnel should wear helmets at all times and expect that falling glass/debris may damage or burst a charged exterior line.
- Searches need to be based on priorities, most threatened, largest group, and so on.
- Electrical/Mechanical rooms may collect significant water runoff from sprinkler or attack lines. Building maintenance may be needed to isolate power to these areas.
- There are large open areas (such as chases and shafts) that may create problems for ventilating or hazards to firefighters that transcend many or all floors.
- At the first report of smoke or fire by on-scene personnel (with IC approval), begin supplying the standpipe/sprinkler system. Always supply the standpipe first.
- The evacuation stairwell should be open at the roof. The attack stairwell should be open at the fire floor only.
- Prior to initial attack, teams opening the door from the stairwell to the fire floor, ensure that the stairwell above the fire floor is clear of civilians.
- Consider shelter in place for non-threatening occupants.

Wide Rise Standpipe Buildings:

- Every effort should be made to initiate the fire attack from an area that is remote from the fire and clear of heat and smoke.
- If standpipe is used (usually in the middle of a building or mall) fire companies should use some sort of method to identify an escape route for members operating an attack line (a rope leading to the outside attached to the hose connected to the FDC).
- Class II standpipes that are found in warehouses and DIY buildings should NOT be used by fire departments.
- The main entrance may not be the best access to the fire area. Size up and moving the attack pumper may have to take place before fire attack.
- Mercury Nozzles can be used as interior attack offensive weapons. Utilization may allow crews to set up these nozzles and back out for short periods while flowing from a set position.

Command Considerations:

- A working fire in a high-rise building presents many problems for the Incident Commander (IC). The IC must consider the magnitude of the situation and act accordingly. Evacuation, water supply and function of fire protection systems will require the most resources and time. The IC must have adequate

resources at the Command Post (Command Aide, maintenance personnel from the building, property manager, etc.) in order to effectively manage and control a high rise incident. An early strong incident command addressing these key issues will result in a favorable incident outcome.
- Additional alarms must be ordered early in the incident.

Command Pre-Incident Planning:
- Command personnel should become familiar with buildings that are four or more stories in height, specifically, that include the sprinkler system, stand pipe system, elevator system, HVAC system, access to upper floors, egress for occupants, compartmentation of each floor, and any other fire safety features that may assist command operations.

Incident Discipline/Accountability
- While freelancing, an independent action can have a detrimental effect during any incident.

Command Communications:
- During an extended incident, a communications plan should be established to reduce the volume of traffic on any one frequency. Examples include: fire operations operating on one frequency and the rescue group on another frequency. The use of cell phones should also be considered during high-rise operations. Some high-rise buildings have built in communication systems.

Lobby Control:
- Lobby is responsible for controlling vertical access of personnel to known safe routes, operating the elevators, controlling the air handling system, acquiring building keys, and coordinating with the building engineers. Lobby control may be used for the incident accountability.

Base/Stairwell Support:
- A base and stairwell support may be assigned to one company. Base operations should include marshalling area for apparatus and equipment. The equipment is delivered to the lobby area for the stairwell support to move up to a designated staging area. Stairwell support crews must be ready to pressurize stairwell upon command.

Staging:
- The staging area should be away from the main incident but easily accessible for personnel. The staging area should have reserve personnel, supplies and equipment, rehab personnel, and a dedicated EMS unit. The staging group leader is responsible for managing all staging activities and reports to the Incident Commander. Interior staging is located one or two floors below the fire floor.

RIT Team:
- High-rise incidents may require the combining of two or more companies to form a RIT team. RIT teams should set up one

floor below the fire near the stairwell used for attack. If more than one stairwell is being used by attack, then more than one RIT crew may be needed. All incoming Command Officers should bring their additional RIT bags to the command post.

Occupant Life Safety and Evacuation:

- Command must consider if they will protect in place or evacuate, If you protect in place, continually reassess your situation. Evacuations may be required in specific portions of the building. Move occupants down below the fire using a separate stairwell from the attack stairwell. Law enforcement and building management may assist you in the evacuation process. When fire crews are searching a high-rise building, it is important that search crews work with hose crews in clearing the fire floor first, then floors above the fire, and subsequent floors below the fire.

Ventilation:

- Complete vertical ventilation of a high-rise building is extremely difficult. Command's first consideration is to evaluate the ability to make a stairwell safe through pressurization and then work on ventilation of the affected floors. On complex incidents, a ventilation group should be established early. The ventilation group would work with lobby control to see if the HVAC system is affecting your operation. Multiple ventilation fans may be needed for smoke removal. If horizontal ventilation is needed and glass is broken, Command must control this operation as not to affect crews operating outside the building.

Initial Operations:

- Operations of the First Arriving Units: The information gathered by the first arriving unit and transmitted via radio will help determine to a large extent the success of the overall fire operation. It is highly recommended that Attack Teams be formed and assembled in the Lobby prior to moving to their assigned areas. All companies shall bring with them their high-rise bags, rope, extra air cylinders, hand tools, and any other equipment needed with respect to their assignment.

First Arriving Engine:

- Identify Fire Command Room; give fire panel report to Command with regard to:
  - Fire floor location and quadrant.
  - Status of elevators.
  - Evacuation procedures implemented.
  - Extent of fire.
  - Shut down HVAC (if readily available to Lobby area).
  - Utilize annunciator panel if Fire Command Room is remotely located.
- Identify stairwells (evacuation/attack): Give geographic/quadrant location of stairwells and report to Command.
- Report to Lobby Control and obtain building master and elevator keys.

- Determine status of elevators. Check elevator shaft for fire impingement.
- Form initial attack team with first Truck Company and first Rescue Company.
    - Proceed to two floors below the fire floor utilizing designated elevator in firefighter feature mode or stairwell. Note: Do not crowd or overload elevators.
    - Establish a Resource Area and place extra air cylinders there.
    - Proceed to fire floor via the attack stairwell.
- Report to Command prior to leaving Lobby Area
    - Designate elevator, initial attack team is using.
    - Floor number initial attack team is proceeding to.
- Upon arrival at the fire floor:
    - Report correct fire floor location and quadrant to Command.
    - Report heat and smoke conditions on fire floor.
    - Report any life hazard on fire floor and initiate primary search. Implement evacuation procedure where required.
    - Select the best standpipe outlet for fire attack and stretch/operate attack line to best advantage until secondary backup line arrives.
    - Note: Due to HVAC and STACK EFFECT, smoke can permeate the entire building and cause confusion as to the specific fire floor.

Second Arriving Engine:

- Report to Lobby and obtain building master and elevator keys if first arriving Engine did not obtain.
- The second arriving Engine Company Officer shall determine as much information as possible with regard to:
    - Fire floor – quadrant location and extent of fire.
    - Evacuation procedures implemented.
    - Identify attack/evacuation stairwells.
    - Status of elevators – check elevator shaft-way for the impingement.
- Proceed to two floors below the fire floor utilizing designated elevator in the Fireman Feature mode or stairwell. Note: return elevator to lobby area if only two or less elevator cars are present. Do not crowd or overload the elevators.
- Place extra cylinders in Resource Area.
- Proceed to fire floor via the attack stairwell.
- Report to Command prior to leaving Lobby Area:
    - Designated elevator 2nd Engine Company is using.
    - Floor 2nd Engine Company is proceeding to.
- Upon arrival at the fire floor:
    - Report arrival and floor number to Command.
    - Provide communication between the standpipe outlet and 1st Engine Company nozzle utilizing 2nd Engine Company's Engineer at standpipe outlet.
    - Provide secondary attack line to back up primary attack line.

adjacent areas of fire.
- Assist 1st Engine and 1st Truck Company with forcible entry, ventilation, removal of obstructions and evacuation.

Second Arriving Rescue (if established):
- Report to Command prior to leaving lobby area:
  - Designate elevator 2nd Rescue Company is using
  - Floor 2nd Rescue is proceeding to.
- Proceed to two floors below the fire floor utilizing designated elevator in Firefighter Feature mode or stairwell. Drop off extra air cylinders in Resource Area.
- Proceed to floor above the fire floor via the attack stairwell.
- Upon arrival at the floor above the fire floor the 2nd Rescue Company shall:
  - Recon the floor above the fire floor, and report correct floor number, fire and smoke conditions along with fire spread.
  - Conduct primary search of floor above the fire floor and determine the need for evacuation and report to Command.
  - Evacuate occupants as needed to three floors below the fire floor.
  - Coordinate with 3rd Engine Company and 2nd Truck Company.

First Arriving Truck Company:
- Position apparatus for defensive operations should the need arise.
- Report to Command prior to leaving Lobby Area:
  - Designate elevator 1st Truck Company is using.
  - Floor 1st Truck Company is proceeding to.
- The first arriving Truck Company Officer shall determine as much information as possible with regard to:
  - Fire floor, quadrant location and extent of fire.
  - Evacuation procedures implemented.
  - Identify attack/evacuation stairwells.
  - Identify stairwell with roof access and ensure stairwells are pressurized.
- Determine status of elevators: check elevator shaft for fire impingement and smoke.
- Assist attack team by forcing doors, ventilation, evacuation and primary searches.
- Proceed to two floors below the fire floor utilizing designated elevator in the Fireman Feature mode or stairwell. Note: Do not crowd or overload elevators. Establish a Resource Area near the attack stairwell and drop off extra air cylinders. Proceed to fire floor via the attack stairwell..
- Upon arrival at the fire floor the 1st Truck Company shall report to Command:
  - The correct fire floor and quadrant location of fire.
  - Fire and smoke conditions along with fire spread.
  - Need for evacuation, additional manpower and equipment.

- The 1st Truck Company on the fire floor shall conduct a primary search of fire area along with adjacent spaces and report findings to Command.
- The 1st Truck Company on the fire floor shall assist the 1st Engine Company with forcible entry, ventilation, opening ceiling and walls, removal of obstructions, and evacuation.

Second Arriving Truck Company:

- Position apparatus for exterior operations should the need arise.
- Report to Command prior to leaving Lobby Area:
  - Designate elevator 2nd Truck Company is using.
  - Floor number 2nd Truck Company is proceeding to. Note: All secondary units should consider returning their elevator back to the Lobby area, as only two or less elevator cars are present to facilitate incoming companies to reach the upper floors.
- The 2nd arriving Truck Company Officer shall determine as much information as possible with regard to:
  - Fire floor, quadrant location and extent of fire.
  - Identify attack/evacuation stairwells, roof access stairwell and which stairwells are pressurized.
- Status of elevators: Check elevator shaft for fire impingement and smoke.
- Any evacuation procedure implemented.
  - Designate one elevator for 2nd Truck Company and utilize Firefighter Feature.
  - Proceed to two floors below the fire floor utilizing designated elevator in the Firefighter Feature mode.
  - Proceed to floor above the fire, upper most floors and roof area via the attack stairwell.
- Second Truck Company shall take their air cylinders to the upper most floors.
- Upon arrival at the floor above the fire the 2nd arriving Truck Company Officer shall perform a quick recon of floor and report to Command:
  - Correct floor and quadrant location.
  - Fire and smoke conditions along with fire spread.
  - Need for evacuation.
- Upon completion of the quick recon, the 2nd Truck Company shall proceed to the roof area/upper most floors and assume the duties of the Roof Team.
- Proceed to the roof area and upper most floors via the attack stairwell and stage extra air cylinders in an area to their best advantage.
- Ventilate stairwells at roof area, elevator penthouse and other natural openings afforded by the building to help reduce mushrooming of smoke on upper floors.
- Determine need for evacuation of roof area and upper floors and report to Command.
- Report correct location of Roof Team and fire/smoke conditions to Command.
  - Upon completion of roof/upper floor assignments the Roof Team shall work down towards the floor above

the Fire Team (3rd Engine and 2nd rescue.)

- Perform primary/secondary. Determine the need for evacuation and report to Command after each floor is searched.
    - Determine fire/smoke conditions and fire spread on each floor and report to Command.
    - Give correct floor location to Command at each report.
    - Upon reuniting on the floor above the Fire Attack Team the Roof Teams' officer (2nd Truck Company Officer) shall report to Command their status.
- Command shall acknowledge the transmission of the roof team and floor above fire team and give directives to best advantage.

First Arriving Squad:

- Report to Lobby Control.
- Determine fire floor location and quadrant.
- Determine evacuation procedures implemented.
- Identify attack/evacuation stairwell.
- Identify Special Hazards or Special Rescue situations.
- Determine status of elevators: Check elevator shaft-way for fire impingement and smoke.
- Designated elevator Squad is using.
- Floor Squad is proceeding to:
    - Proceed to two floors below the fire floor utilizing designated elevator in Firefighter Feature mode or stairwell.
    - Place extra air cylinders two floors below fire to best advantage.
    - Proceed to one floor below the fire floor via the attack stairwell.
- Upon arrival at the floor below the fire floor:
    - Report correct floor number and location to Command.
    - Place extra air cylinders on floor below fire to best advantage.
- Ascertain building floor plan layout.
- Stage equipment and tools to best advantage.
- Report to the fire floor and/or assist as directed.

Second Alarm and Greater Company Units:

- Unless otherwise directed by Command, units will establish LEVEL II Staging.

First Arriving Battalion Chief- Command Responsibilities:

- Position: to best immediate advantage.
- Objectives:
    - Report "on scene" status and assume Command.
    - Confirm if Lobby Control is established.
    - Determine location and extent of fire.
    - Evaluate potential life hazards.
    - Need for additional alarms.
    - Assess initial operations.
    - Evaluate building systems: i.e., fire pump, sprinkler

the Fire Team (3rd Engine and 2nd rescue.)

- Perform primary/secondary. Determine the need for evacuation and report to Command after each floor is searched.
    - Determine fire/smoke conditions and fire spread on each floor and report to Command.
    - Give correct floor location to Command at each report.
    - Upon reuniting on the floor above the Fire Attack Team the Roof Teams' officer (2nd Truck Company Officer) shall report to Command their status.
- Command shall acknowledge the transmission of the roof team and floor above fire team and give directives to best advantage.

First Arriving Squad:

- Report to Lobby Control.
- Determine fire floor location and quadrant.
- Determine evacuation procedures implemented.
- Identify attack/evacuation stairwell.
- Identify Special Hazards or Special Rescue situations.
- Determine status of elevators: Check elevator shaft-way for fire impingement and smoke.
- Designated elevator Squad is using.
- Floor Squad is proceeding to:
    - Proceed to two floors below the fire floor utilizing designated elevator in Firefighter Feature mode or stairwell.
    - Place extra air cylinders two floors below fire to best advantage.
    - Proceed to one floor below the fire floor via the attack stairwell.
- Upon arrival at the floor below the fire floor:
    - Report correct floor number and location to Command.
    - Place extra air cylinders on floor below fire to best advantage.
- Ascertain building floor plan layout.
- Stage equipment and tools to best advantage.
- Report to the fire floor and/or assist as directed.

Second Alarm and Greater Company Units:

- Unless otherwise directed by Command, units will establish LEVEL II Staging.

First Arriving Battalion Chief- Command Responsibilities:

- Position: to best immediate advantage.
- Objectives:
    - Report "on scene" status and assume Command.
    - Confirm if Lobby Control is established.
    - Determine location and extent of fire.
    - Evaluate potential life hazards.
    - Need for additional alarms.
    - Assess initial operations.
    - Evaluate building systems: i.e., fire pump, sprinkler

system, elevators, HVAC.

- Actions:
  - Via radio, assume Command.
  - Via radio, contact all operating units and obtain intelligence, reference to objectives.
  - Confirm water supply established.
  - Establish 200-foot safety perimeter when needed.
  - Order building engineer to report to Lobby Sector.
  - Obtain building blueprints from building engineer.
  - Establish Divisions/Groups: fire floor, resource, treatment, rehab, support, staging, building control, etc.
- When relieved by the Division Chief, the Battalion Chief will operate to the best advantage as directed by Command.

Second Arriving Battalion Chief – Command Responsibilities:

- The second arriving Battalion Chief to arrive will assume the designated fire floor operations or operate to the best advantage as directed by Command.
  - **Division/Group Supervisor**
    - Position: floor below the fire floor or fire floor stairwell.
    - Objectives:
      - Assess fire condition and evacuation needs.
      - Supervise units at work.
    - Actions:
      - Make his presence known to units operating on the fire floor.
      - Via radio, advise Command of his arrival on the fire floor.
      - Visit the fire floor, evaluate the conditions, and progress.
      - Via radio, report to Command: conditions, progress, and needs for equipment and manpower.
      - Note: Communications between units within the Division/Group shall be face-to-face to avoid excessive radio traffic.

Division/Deputy Chief – Command Responsibilities:

- Position: Outside building at Command Post (200 feet from building if possible).
- Objectives:
  - Shall assume command; assign 1st Battalion Chief to lobby for logistics, or support.
  - Identify and control the fire problem.
  - Identify and control the evacuation or defend in place problem.
  - Determine if progress is satisfactory.
  - Request necessary resources.
  - If necessary, revise existing strategy and develop contingency plans.

- Actions:
  - Via radio, assume Command.
  - Via radio, contact and identify each group's location and condition.
  - Via radio, contact each Company's operating alone (not assigned to a sector) and establish such unit's condition and location.
  - Assign arriving Units and Chiefs to deal with the developing situation.
  - Identify the need for additional resource and manpower to the Resource Group; i.e., spare air cylinders.
  - Establish fire floor support to route equipment to Resource Group, if not already done.
  - Establish a Treatment Group and location, if not already done.
  - Establish Rehabilitation Group (normally two floors below the fire floor) if not already done.
  - Establish a Support Division at the Command Post to deal with non-suppression activities.

Tec 1

- Report to Command Post.
- Maintain the incident command board and assist with accountability of personnel and units.
- Maintain the command worksheet.
- Monitor additional radio tacs for greater alarm units.

Quick Reference Guide

UNIT	ASSIGNMENT
1st in Engine	Initial Report. Locate alarm panel and determine location of fire. Determine means of ascent. Form Attack Team. Proceed to floor below the fire and and make connections. Advance to fire.
2nd in Engine	Assist 1st in Engine with fire attack. Proceed to two floors below fire floor. Place extra equipment in Resource Area. Provide secondary/back up attack line. Assist in evacuation and provide support as needed.
3rd in Engine	Establish water supply. Connect to sprinkler/standpipe system. Perform recon of exterior to look for people in distress. Assume control of building at entry level.
4th in Engine	Proceed to two floors below fire floor. Upon arrival at two floors below fire floor establish RIT.
1st in Truck	Position apparatus for exterior operations. Enter lobby with equipment and make ascent. Assist Attack Team by forcing doors, ventilation, and evacuation.
2nd in Truck	Position for exterior operations. Proceed to floor above fire for recon and then to uppermost floors. Assume duties of Roof Team and Provide PPV for stairwells.

	On completion of upper floor assignments, work downwards to fire floor.
1st in Rescue	Attach to initial attack team. Proceed to two floors below fire floor and drop extra cylinders. Begin primary search/rescue and evacuation of fire floor. Assist 1st Engine/Truck with forcible entry/ventilation/evacuation.
2nd in Rescue	Proceed to two floors below fire floor and drop EMS equipment. Proceed to floor above fire floor and perform a primary search. Coordinate with 2nd arriving Truck Company.
1st in Squad	Identify Special Hazards or Rescue situations. Report to fire floor and assist as directed.
1st in BC	Assume Command. Consider Conditions, Actions, Needs (CAN). Ensure Accountability. Request additional resources as needed.
2nd in BC	Proceed to Fire Floor or Floor Below. Establish a Division.
ICT	Assist Command as Directed.
Division Chief/Deputy Chief	Assist Command. Request additional resources as needed. Establish additional Branches/ Divisions/Groups.

3.15

Title: Elevator Operations & Emergencies

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To establish procedures for the safe use of elevators during fire conditions and for the safe removal of people trapped in elevators.

General: Elevators are present throughout Seminole County and are found in both commercial and residential structures. This document addresses both elevator usages during firefighting operations and removing persons trapped in elevators due to malfunction. All of these elevator guidelines mirror both OSHA and NFPA standards for firefighter usage and elevator rescues.

Fireground Use of Elevators:

- Use of elevators during a fire may be a "Fatal Mistake" if the proper procedures are not followed. Elevators may be very beneficial to fire operations on the upper floors by reducing crew fatigue. Most elevator cars in Seminole County are equipped with a Firefighter Service Feature.
- Per Florida Administrative Code, all elevators in buildings six stories or higher will have a Uniform Elevator Key. Seminole County uses the **Region 5 Key.** The key is utilized for controlling all public access and service elevators within buildings six or more stories in height and has a designated number stamped on it similar to most standard registered keys.

Elevator Use During Initial Fire Attack:

- No Elevator Use Condition: An elevator *cannot* be used to aid an "Initial Fire Attack" if the following conditions exist:
  - Elevator does not have Phase II Firefighter Service Feature.
  - "Do Not Use" sign is lit at the Lobby Landing (may indicate fire in Mechanical Room).
  - Smoke, Fire and/or Water noted in hoist-way (Evaluation by all crews prior to use).
  - Fire below the 4th floor (unless approved by the Incident Commander).
  - Erratic elevator operation noted upon testing the Firefighter Service Feature.
- Elevator Use Condition: An elevator *can* be used to aid in an "Initial Fire Attack" **if ALL the following conditions exist**:
  - Fire above the 4th floor.
  - Firefighter Service Feature provided, activated and working properly.
  - Hoist-way clear of smoke, fire and/or water.
  - Elevator mechanical room not involved.
  - Fire determined to be confined, out, or not threatening elevator operation.

Elevator Use Procedure:

- When conditions permit the use of the elevator, the following procedures shall be followed in sequential order to safely operate an elevator during “Initial Fire Attack”.
  - Obtain fire service elevator key and activate the Firefighter Service Phase I, recalling elevator to the first floor.
  - Remove key and take with you in the elevator car.
  - Ensure minimum equipment to ride in elevator is present: Irons, radio, Search Line, Full Bunker Gear, Full SCBS w/mask donned, Two Portable Radios, and Hand Lights.
  - Check hoist-way for smoke, fire and/or water.
  - Enter elevator and activate Firefighter Service Phase II with key.
  - Test Firefighter Service Feature operation by stopping at the next floor prior to continuing, and work all door controls.
  - Recheck hoist-way and proceed to two floors below the fire floor.
  - Place car on “Hold” with key at desired floor.
  - Locate safe stairwell for attack and egress.
  - **Turn car key to “Off” to send back to lobby for additional crews (leave key in car).**
  - Notify crews of elevator availability.

Evacuation of Occupants from Stalled Elevator Cars:

- The stalled car is the most common of all elevator calls. Safety problems can arise if the proper precautions are not taken. When possible, an elevator mechanic should respond to assist with the evacuation, and make repairs to the car. If there is a true emergency, fire or other urgency in or around the car, and it is deemed necessary to evacuate the car, personnel shall follow these procedures to safely remove occupants from the elevator (Risk/Benefit Analysis shall be conducted).
  - There are 3 general positions of stalled cars that will determine the method of evacuation.
    - At or near the landing.
    - Within 3 feet of the landing (above or below).
    - Greater than 3 feet from the landing.
  - You will not know the position of the car in relation to the hoist-way opening until the hoist-way door is opened. Therefore, all procedures will start the same way until the hoist-way door is opened and the position of the car is determined.

Safety Mandates:

- All open hoist-ways will have a firefighter stationed at the opening. A three foot distance from the opening will be maintained. A barrier of materials at hand or scene tape should be placed in front of the opening. Anyone within three feet of the opening will have a safety harness and be

tied off to a secure point.

- **Disconnect mainline power and lock-out/tag-out the main elevator disconnect switch prior to opening any hoist-way door.**

General Procedures:

- Determine location and position of the stalled car and make contact with the occupants.
- Request the appropriate elevator service mechanic for that facility.
- Make sure the emergency stop switch is not pulled inside the car.
- Locate mechanical room and turn the mainline power Off/On and attempt a re-boot of elevator controller.
- Use Phase I key and attempt to recall car to the lobby.
- If Phase I is not functioning, disconnect mainline power and lockout/tag out the main elevator disconnect switch.
- Do not turn off interior light or fan breaker (usually 110 volt and separate from the main 480 volt).
- Conduct a risk benefit analysis to see if an urgent condition exists and the following procedure should be initiated.
    - Use interlock Door (Drop) Key to unlatch hoist-way door.
    - Push hoist-way door open by hand and determine the position of the car.

At the Landing Procedure (continue from General Procedure):

- Push or hand wheel the car door open (if needed) using the motor. This may need to be accomplished at an open hoist-way above the stalled car.
- Allow occupants out of car.
- Treat or medically clear any patient with medical emergencies.

Within Three Feet of Landing Procedure (continue from General Procedure):

- Push or hand wheel the car door open (if needed) using the motor. This may need to be accomplished at an open hoist-way above the stalled car.
- Place an attic ladder in the car and send a firefighter into the car.
- Assist occupants out of the car.
- Treat or medically clear any patients with medical emergencies.

Greater Than Three Feet from Landing Procedure (continue from General Procedure):

- Hydraulically Operated Elevators:
    - Advise the occupants that you are going to manually lower the car to the lowest floor.
    - Send a firefighter with radio to the elevator mechanical room.
    - Send a firefighter with an interlock key, radio and

flashlight to the bottom floor.
- Open the hoist-way door on the bottom floor.
- Establish radio contact (talk around may be required).
- The firefighter in the elevator mechanical room shall locate the “T” Bleeder (emergency lowering valve) in the hydraulic tank to lower the car to the firefighter located at the open hoist-way.
- Push or hand wheel the car door open (if needed) using the door motor. This may be accomplished at an open hoist-way above the car.
- Allow occupants out of car.
- Treat or medically clear any patients with medical emergencies.

Mechanically Operated Elevators:

- During elevator rescues involving mechanically operated cars that are stalled greater than three feet from the landing, the Incident Commander may wish to consider the use of technical rescues and require personnel trained to the technician level in rope and confined space, and the associated equipment necessary to perform this type of rescue.
  - Open the hoist-way door above the roof of the stalled car.
  - Place an attic ladder from the open hoist-way door to the car roof and secure.
  - Deploy a firefighter wearing proper safety equipment and harness to the roof of the stalled car.
  - Open the rescue hatch and place a second attic ladder from the roof opening to the floor of the installed car.
  - Deploy a firefighter into the stalled elevator to do an assessment of the occupant conditions.
  - Place a safety harness with a tag line on the occupants and assist them, one at a time, up the ladder to the landing.
  - Treat or medically clear any patients with medical emergencies.

Region 5 Uniform Key:

- Through the Department of Emergency Management, Emergency Response Regions are established with each region issued a common, uniform elevator key. Besides Seminole County, the other counties in our region are: Lake, Sumter, Orange, Marion, Osceola, Brevard, and Volusia. The key is designed to replace the Phase I/Phase II key with one common master elevator key per region.
- Buildings required to comply with the uniform key requirements are:
  - Buildings six or more stories in height when a building permit was issued after September 30,2006.
  - Buildings that have undergone substantial improvements after September 30, 2006.
  - All existing buildings six or more stories in height by October 1, 2009.

3.16

Title: Mechanical Fire Alarm

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: To establish standardized guidelines for units operating within the Seminole County and Cities first response system in regards to buildings with automatic fire alarms systems. Mechanical Fire Alarms (MFA) are defined as activations of alarm systems in commercial or multi-family residential buildings and exclude one and two family dwellings. Guidelines shall be followed by responders within the First Response System of Seminole County. It shall be the responsibility of each jurisdictional Battalion Chief, Shift Commander, or their designee to ensure each agency's individual procedures are followed for the protection of life and property and the safety of all emergency responders.

General: Activation of a MFA with no verification or indication of a fire emergency is reported through a monitoring company or an individual to the Seminole County Communication Center. All personnel shall consider a MFA as an indication of fire until their investigation proves otherwise. All personnel responding to MFA shall be dressed in full firefighting personal protective equipment. First unit will respond emergency status, while the remaining units respond non-emergency unless otherwise advised by the Communications Center or responding Battalion Chief. MFA response may be reduced to a one-unit response at the Communication Center's discretion under severe weather conditions or at the jurisdictional Battalion Chief's discretion for multiple false alarms. All prudent safety considerations shall be taken.

Operations for First Unit On Scene

- Upon arrival of the first unit, the Officer In Charge (OIC)shall give an arrival report per ICS Manual consisting of the following:
  - Number of floors
  - Type of occupancy
  - Type of construction
  - Smoke or fire showing (light, moderate, heavy)
  - Location and extent of the fire (percentage involved)
  - Evacuation status in progress, if applicable
  - Presence of any audible or visible alarm
  - Any other pertinent information that needs conveyed.
- The OIC shall request to upgrade other units to an emergency response or request the balance of the first alarm through the responding Battalion Chief. Examples of upgrading units include, but not limited to the following:
  - Report or observance of any immediate life hazards
  - Smoke or fire observed by fire department personnel
  - Reports from building occupants or maintenance personnel that indicate the presence of smoke or fire.
  - Confirmed activation of water gong device
  - Upon investigation, the alarm panel indicates multiple devices have activated. This may be the result of a nearby lightning strike that may have damaged the alarm system itself. Consider this possibility before

upgrading responding units.
    - Note: The upgrading of responding units will not be automatic for “smoke odor” or “light haze”.
- Conduct an exterior investigation by performing a 360 degree walk-around or drive-around of the building, viewing doors, windows, or other methods of observation that do not require entry of firefighters.
- After confirming no exterior hazards, gain access to the building to check for additional hazards and locate the control panel.
    - Keys shall be accessed from the lockbox to make entry into the building (if available).
    - The building owner or their authorized representative must respond to the incident and assist with gaining access and resetting the alarm. If a responder is unavailable or will not respond, follow Department policies.
    - If no key available, obtain permission from building owner or their authorized representative to gain entry. If a responder is unavailable and the OIC does not have access to the locked building, a thermal imaging camera will be used around the perimeter to determine if heat is detected in the structure.
    - If heat is detected and the OIC is not satisfied the building is safe, forced entry may be required.
    - If forced entry is needed during “nothing showing/visible” conditions, contact the responding Battalion Chief or Incident Commander. The law enforcement agency having jurisdiction must be contacted if forced entry is made. Any time forced entry is required, care should be taken to reduce the amount of damage.
    - OIC shall notify the Communication Center via radio of forced entry and the number of firefighters entering the building to investigate.
    - Gain access to the alarm panel or fire control room to determine the location/zone/area and possible cause of the alarm activation.
    - Proceed to the area of activation after notifying the Communication Center of the location.
    - If elevators are to be used, personnel shall use the elevator service key and operate it accordingly with IMS guidelines.
    - The area shall be thoroughly investigated to determine the cause of the activation.
    - **Do not silence the alarm in occupied buildings prior to investigating the affected area.** Doing so will make occupants think it is safe to re-enter the building and they may discontinue their evacuation. The OIC has the discretion of silencing the alarm once the affected area has been thoroughly investigated and no hazards noted. Note: Silencing the alarm will deactivate the audible devices and may deactivate the visual devices on older systems. Newer alarm systems

will deactivate both strobes and audible devices.
    - If a reliable/responsible building representative has already investigated the situation and reports no fire conditions, the OIC may silence prior to investigating the area of activation to determine the cause of the alarm.
    - When it has been determined there is no fire, the OIC shall have the building owner or their authorized representative reset the alarm. If the alarm system will not reset, crews will follow Department policies.
    - If the building is to remain occupied and a life safety concern is present, fire department personnel shall follow their respective Department policies pertaining to fire watch procedures and notification to the life safety personnel having jurisdiction shall be made.
- In the event there is no responder to reset the alarm and the building is occupied, advise the jurisdictional Battalion Chief and he/she will implement their Department policies.
- In the event there is no responder to reset the alarm and the building is unoccupied, one unit will remain on scene for at least 20 minutes. If no reliable representative has arrived after 20 minutes, the unit will notify the Communication Center of the system status and follow Department policies prior to returning to service.

Operations for Second Unit On Scene

- The second arriving unit shall stage at the hydrant nearest to the incident.
- In the event the fire investigation reveals smoke or fire, further actions will be dictated by the appropriate IMS procedure.
- In the event the first arriving unit requires assistance in the investigation, the driver/operator of the second unit shall remain with his/her assigned apparatus and the remainder of the crew will assist in the investigation.
- All firefighters will remain in radio contact during the investigation and will adhere to accountability practices during the investigation.

3.17

Title: Roadway/Expressway Emergencies

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To establish guidelines and provide recommendations for the management of Roadway and Expressway Emergencies. The objectives of these guidelines are to improve safety for the responders, motorists and victims while enhancing the efficiency of the scene. Incident management is a dynamic and responsive activity. The availability of equipment and personnel as well as situational awareness should guide the appropriate response during the incident.

General: Fire Department operations involving Roadway and/or Expressway Emergencies include situations as wide and varied as any confronted by the fire service today. The span of incidents includes minor vehicle accidents with minor injuries to major Haz-Mat spills with fire and evacuations. With the wide variety of challenges encountered during incidents involving limited access highways; flexibility, decisive command, pre-planning and resource availability are critical to safety and scene mitigation. The safety of emergency response personnel, the care and safety of the injured, and control of hazards remains first priority.

State of Florida Open Roads Policy:

Fire Department Agencies within Seminole County have agreed to support the State of Florida Open Roads Policy. The intent of this policy is to expedite the removal of vehicles, cargo, and debris from the State Highway system (such as Interstate 4 and State Road 417), to restore, in an urgent manner the safe and orderly flow of traffic following a motor vehicle crash or incident. Operations are to be conducted in as expedient as possible considering the severity of the collision or incident. This policy encourages incidents to be cleared from the roadway within 90 minutes of the first arriving unit.

If there are **no injuries** at a Motor Vehicle Crash (MVC) and the vehicles are moveable, you should have the occupants relocate the vehicles to the next off ramp or, at the very least, to the shoulder of the highway. Fire personnel may assist in this operation if it can be accomplished in a safe manner. Florida Statute 316.061 states, “If a damaged vehicle is obstructing traffic, the driver of such vehicle must make every reasonable effort to move the vehicle or have it moved so as not block the regular flow of traffic.” If the vehicles are moved to an alternate location, have the Communications Center make the appropriate notifications to other responding organizations.

The determining factor of Fire personnel to move a vehicle is whether there are any injuries relating to the accident. If there are injuries amongst vehicle occupants, **DO NOT MOVE THE VEHICLES.** If the injured patient(s) are out of the vehicle and ambulatory, the vehicles involved in the crash should be moved, if possible.

Once the vehicles are cleared from the roadway, fire apparatus should also move off the roadway with the vehicles involved to permit for normal traffic flow. Required information can be collected after the accident vehicles and fire apparatus have been moved from traffic lanes. Fire units that are not required for immediate scene management should return to service and clear

the scene as soon as possible.

Once the vehicles have been moved to a safe location and the necessary alarm information is obtained, fire personnel may depart the scene, even if law enforcement has not arrived (if individual department policy permits). When the involved vehicle(s) will be left unattended, the last Fire department unit to leave the scene will mark the unattended vehicles with scene tape to prevent being re-dispatched to the same incident. If a hazard exists, the necessary fire apparatus needed to handle the hazard shall remain on the scene to mitigate the hazard.

Incident Types: Four incidents types have been identified in conformance with the State of Florida's Open Road Policy.

- Catastrophic Incident – Natural or man-made incidents that include lane closures ranging from 12 hours to several days. Catastrophic incidents may involve several agencies such as notification to the State Warning Point, Florida Department of Environmental Protection, Homeland Security, Haz-Mat contractors and others. Some examples of catastrophic incidents are:
    - Major bridge/overpass damage
    - Road bed damage
    - Wild fire related closures
    - Weather related closures (major storm, hurricane)
    - Crashes that have significant environmental impact (Haz-Mat spill)
    - Acts of terrorism or vandalism

- Major Incident – Incidents with an expected duration ranging from 90 minutes to 12 hours and require coordination between different agencies. These incidents typically require setting up a complete Traffic Incident Management Area. Some examples of a major incident are:
    - Chain reaction crashes
    - Severe injuries and/or fatal crashes
    - Environment related crashes (fuel spill, Haz-Mat leak)
    - Weather related closure (fog, major storm)

- Intermediate Incident – Incidents with an expected duration of 30 to 90 minutes. These incidents usually require setting up a proper traffic management area. Some examples of an intermediate incident are:
    - Major roadway debris
    - Overturned/rollover vehicle crash
    - Multiple vehicle crash with injuries
    - Commercial carrier crash

- Minor Incident – Incidents with an expected duration of less than 30 minutes. These incidents require minimum coordination between agencies. Some examples of a minor incident are:
    - Minor property damage
    - Disabled vehicle blocking the flow of traffic
    - Non-transport injuries

Safety Equipment: The use of high visibility clothing is required by the 2008 Code of Federal Regulation (CFR) 634 section 23. This requires anyone working within the right-of-way of a federally funded highway to wear clothing that meets the Performance Class II or III requirements of ANSI/ISEA code. This includes full bunker gear and/or approved vests.

Traffic cones are the most common temporary traffic control device used. Fire and Rescue units should carry traffic cones which conform to Manual of Traffic Control Devices (MUTCD) Section 6F.59. The recommended number of traffic cones for Fire and Rescue units is 10-15, if storage space allows.

NFPA 1901 provides the fire and rescue department vehicles emergency warning lighting and retro reflective taping guideline. Fire-Rescue apparatus shall conform to this standard.

Response to the scene and arrival on scene: Units should attempt to reach the scene in the direction reported by dispatch. If the direction is unknown or the initial directional information is incorrect, the first due officer will determine the need for and request additional resources to respond to the incident.

Median strip crossovers marked “Authorized Vehicles Only” may be used for turning around and crossing to the other lanes **ONLY** when emergency vehicles can complete the turn without obstructing the flow of traffic in either travel direction, or all traffic movement has stopped. Under no circumstances shall crossovers be utilized for routine (nonemergency) changes in travel direction.

Use of U-turn access points is extremely hazardous and shall be utilized only when the situation is necessary for immediate lifesaving measures.

Response on access ramps shall be in the normal direction of travel, unless the IC on the scene can confirm that oncoming traffic has been stopped and no civilian vehicles will be encountered on the ramp.

The first arriving officer on scene shall give an initial report consisting of:

- Traffic conditions with the best route for additional responding units to approach the scene
- Type of incident found
- Number and type of vehicles involved
- Lane blockage due to the incident

A follow up report shall be given and include:

- Number of injured by ALS/BLS
- Need for extrication
- Any Hazardous materials spilled
- Any additional or special resources required

On scene Considerations:

- Activities that present a significant risk to safety of members shall be limited to situations where there is a potential to save endangered lives.
- Condition of involved vehicles
- Scene access and egress
- Environmental conditions, is there any Haz Mat and where is it going, (utilize the Emergency Response Guidebook for guidelines on safe

evacuation distances, fire/explosion hazards, health hazards, and other potential hazards).

- Notify the State Warning Point and Seminole County Petroleum Division if any reportable quantities of petroleum products of 25 gallons or more through the Communications Center are on the surface.
- Evidence
- Risk to vehicle occupants
- Known or probable occupants (suspected ejected victims)
- Occupant survival assessment
- All personnel must use extreme caution when getting off the apparatus so that they are not struck by passing traffic.
- Personnel must mount and dismount the apparatus only on the side opposite flowing traffic whenever possible.
- All responders shall don full personal protective clothing for firefighting or extrication before exiting the apparatus. ANSI compliant, high-visibility traffic vests can be worn in place of PPE if not participating in firefighting or extrication operations.
- Check for approaching traffic before exiting
- Never trust moving traffic. Behave as if the driver of every vehicle is trying to run you over.
- Personnel should remember to look down to ensure that any debris on the roadway will not become an obstacle, resulting in personal injury.

Emergency Vehicle Lighting: Enhances the safety of the incident scene by increasing the visibility of the response vehicles and by warning the approaching traffic. However, excessive lighting may distract oncoming motorist, especially at night and low visibility conditions. Emergency vehicle lighting can be reduced if good traffic control has been established. If good traffic control is established through placement of advanced warning signs and TTC devices, responders can perform their tasks with minimal emergency vehicle lighting. After securing the incident scene, use the following light-shedding procedures to best utilize the various emergency lights on scene:

- Turn off the opti-com lights
- Turn off headlights, unless required to illuminate the scene
- Turn off white strobes
- Turn on ground lights when present
- Turn on amber arrow board/directional lights
- Turn on the compartment lights

Proper Vehicle Parking: Fire apparatus must be placed between the flow of traffic and the firefighters working on the incident in the “Fend-Off position” to act as a shield. The apparatus must be parked at an angle so that the operator is protected from traffic by the tailboard. Front wheels must be turned away from the firefighters working roadway/expressway incidents, so that the apparatus will not be driven into them is struck from behind. Key elements of Safe Positioning/”Fend-Off Position” include:

- When establishing the buffer, place the vehicle at a 30° angle to the road, which is referred to as the "fend-off position". If the vehicle is struck, the angle of the buffer may help to deflect a vehicle that otherwise may run into the incident scene. This positioning follows the National Fire Protection Association (NFPA) 1451 guideline about shielding emergency responders, and with emphasis on showing more

of the vehicle's retroreflective striping and emergency lights. This vehicle positioning placement improves the ability of oncoming motorists to recognize the emergency vehicle.

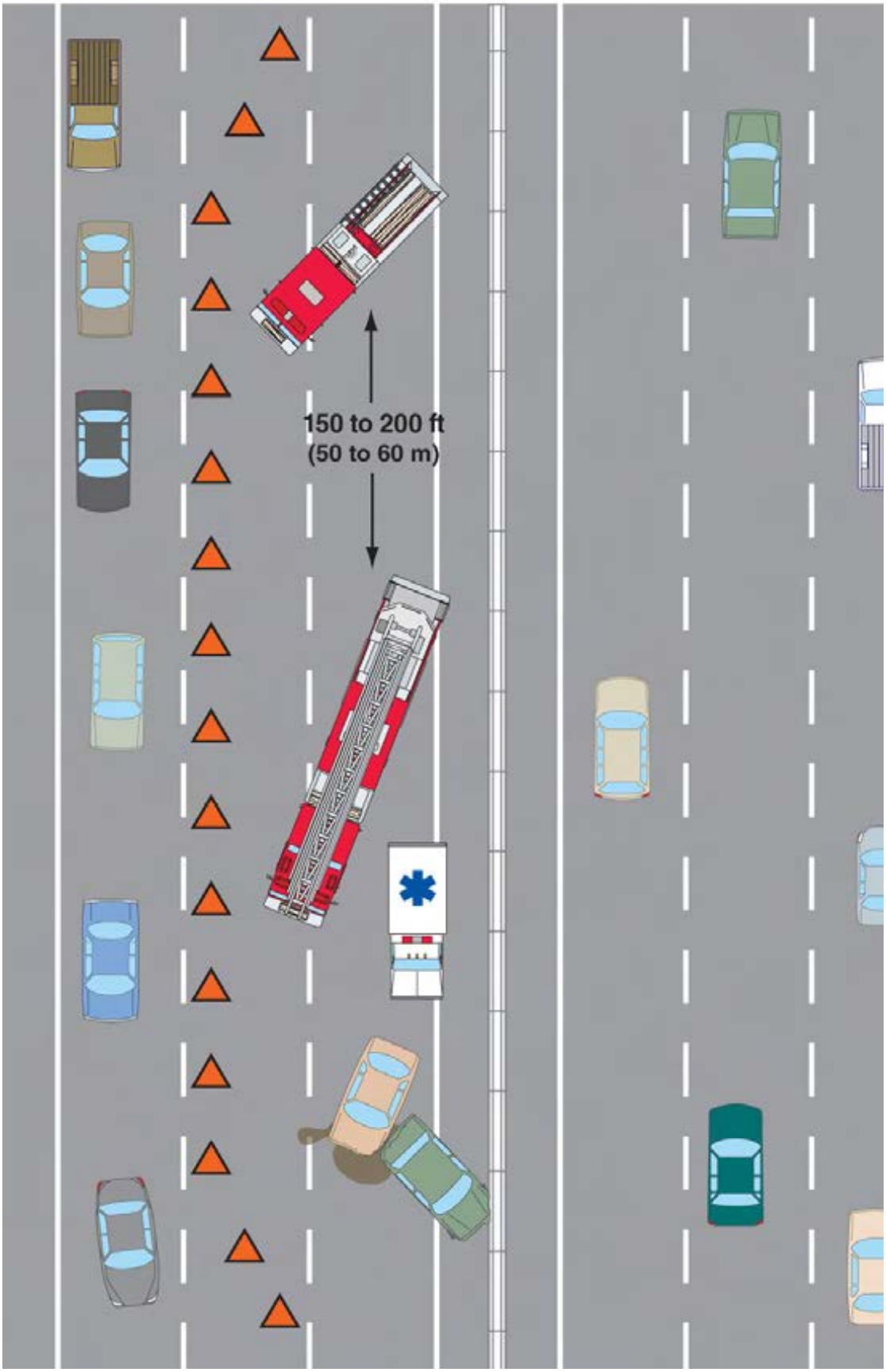
- When establishing the fend-off position, the driver should attempt to position the front bumper of the fire truck at least 2 feet from the longitudinal pavement marking line. This area is referred to as the lateral buffer, and is designed to reduce encroachment into designated traffic lanes.
- Also consider parking additional apparatus 150 to 200 feet behind the shielding apparatus to act as an additional barrier between firefighters and the flow of traffic. The Traffic Incident Management Area can add protection to the incident by creating a physical barrier between traffic and the incident. A Traffic Incident Management Area is the area of roadway where temporary controls are imposed by the responders in reaction to the incident.

This area provides a safe working area for responders while using the following guidelines:

- Allow sufficient space between the incident and vehicle. If the incident is near a curve or hill, downstream notification is necessary for the safety of the responders and citizens.
- Park all responding units on the same side of the roadway.
- Occupy additional lanes when required for victim and or responder safety.
- Ambulances shall be placed within temporary work zone downstream of the incident with their loading doors angled away from moving traffic (see example diagram).
- Park as far off the traffic lanes as possible.

Special Considerations: Each Company Officer is responsible to research and pre-plan expressway emergencies in their district and surrounding districts. Certain considerations based on location and or topography need to be known:

- Drainage considerations, if dealing with Haz-Mat. Bridges over water may pose special considerations for Haz-Mat
- Water supply issues for major fires
- Helicopter landing zone
- Call early for traffic control (LEA, FDOT, Road Rangers)
- Overpass issues (access, drainage, vehicle in the water, vehicle dangling, ect.)
- Need for additional resources/alarms
- Consider using aerial apparatus for elevated access/evacuation


150 to 200 ft
(50 to 60 m)

3.18

Title: Vehicle Extrication

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: To provide Fire Department personnel with an operational procedure to extricate victims from vehicles and/or machinery while minimizing the risk to rescue personnel working at the scene of an emergency. Provide framework for the management of a coordinated effort for the removal of all trapped patients in a timely, efficient and safe method.

General: To develop a coordinated effort for the removal of all entrapped or entangled victims in a timely, efficient and safe manner so trapped patients receive definitive surgical intervention at an appropriate trauma facility within their "Golden Hour" of survival. The goal is to extricate patients as rapidly as possible, performing a methodical, thorough size-up to protect all personnel involved in the incident.

Operations:

Upon arriving at the scene of a vehicle accident with entrapment, the first arriving Company Officer shall position the apparatus in the "fend off" position to ensure safety of all personnel operating the scene. The Company Officer shall size up the situation, evaluate the need for and request additional resources, and establish Command. If the arriving Company Officer determines that one or more patients will require vehicle extrication, Command shall request an extrication unit. Depending on the level of entrapment, additional resources should be requested early on in the incident. A rough rule of thumb is, one extrication unit per vehicle extrication. Critical patients may benefit from simultaneous efforts of multiple extrication units and/or tool redundancy, which may indicate additional extrication unit(s).

Level of Entrapment:

- Light Entrapment – To free victim using one move of hydraulic tool or hand tools, (such as popping a door). In most cases this would only require a single engine company.
- Moderate Entrapment – To free victim using two moves of hydraulic tool or device, (such as roof removal and popping a door). This level of entrapment will require more than one Engine Company, but not require numerous dedicated resources.
- Heavy Entrapment – To free victim using three or more moves of a hydraulic tool or device, (such as roof removal, popping a door and a dash roll up). This level of entrapment will require numerous dedicated resources to include Extrication Units, Rescues, Tower(s) and Heavy Rescue (Squad 2).

Command Responsibilities/ Considerations:

- On extrication assignments, a Battalion Chief will assume Command upon their arrival.
- Command shall provide for coordination between operating units, and provide adequate resources for those units to

accomplish their assigned task.

- Depending of the complexity of the incident, Command should consider establishing Groups i.e., MCI, Extrication or heavy entrapment/long term operations.
- Consider using the Heavy Rescue (Squad 2 / Towers) for entrapment/entanglement which involves heavy vehicle, machinery, etc.
- Coordinate perimeter control with LEA
- A Safety Officer position shall be established if available.
- For complex or extended operations, a Liaison position shall be established to aid multi-agency coordination.

Procedures:

- Engine Company
  - The Engine Company Officer is primarily responsible for coordination of patient care and scene safety until relieved by the Safety Officer.
  - Conduct a scene survey, looking for safety hazards, numbers of patients, possible ejections, and size-up in accordance with this guideline.
  - {**Establish action circle around the extrication site approximately 15' from the involved vehicles**}. The purpose of the survey is safety, live wires, fuel, hazardous material, etc. **No One Should Touch the Vehicle Until the Survey is Completed!** Only personnel with PPE (full bunker gear) shall operate inside the Action circle.
  - Tools required for extrication shall be staged at the front of the vehicle, when practical, in the 15 foot action circle and shall be returned to the staging area when no longer in use.
  - Establish patient contact. Begin initial patient assessment and report the number of patients entrapped along with the total number of patients, their condition (ALS and or BLS), and degree of entrapment to IC.
  - As soon as possible, a manned charged 1 ¾ inch hose line should be placed in position to protect personnel. A dry chemical extinguisher shall also be placed at the designated tool staging area.
  - Provide vehicle stabilization prior to entering vehicle for patient care.
  - Determine transport action needs; request additional resources as needed, such as, Rescues, LZ Unit, and Air Transport, etc.
  - As soon as possible, provide lighting for the action circle during night operations.
  - Manage fluid/fuel spills and disconnect battery to kill power to the vehicle.
- Rescue Company
  - The Rescue's primary function is to assist the Engine Company with patient care and transport of the patient(s).
  - Once extricated, patients shall be removed from the

action circle for further patient care.

- Extrication Unit
  - The Extrication Unit Officer should position the apparatus to the best operational advantage, trying not to create additional lane blockage.
  - The Extrication Unit Officer should communicate face to face with the Engine Officer or person in charge of patient care to establish preferred route of patient extrication. Extrication Unit Officer will then determine the most effective method of removing the patient.
  - The Extrication Unit Officer should reassess vehicle stabilization prior to beginning extrication, if not already provided by the Engine Company.
  - The Extrication Unit Officer is responsible for coordinating the extrication effort. In order to run the scene with the utmost efficiency, it is recommended that the Extrication Unit have a pre-determined plan of action (equipment assignments and responsibilities).
  - The Extrication Unit Officer has the ultimate responsibility of determining the best method of extrication. The primary responsibility of the Extrication Unit Officer is to oversee the entire extrication operation. The Extrication Officer must keep a supervisory view of the operation and refrain from performing hands-on tasks, unless required for operational needs.
  - Patient condition will dictate the extrication plan. Unstable patients will require rapid extrications.
- Heavy Rescue/Tower
  - Primary responsibility is to enhance and assist the extrication Unit with operations.
  - Heavy Rescue/Tower's Officer should meet face-to-face with the Extrication Unit Officer to determine what additional resources are needed and to be briefed on the extrication actions.
  - Provide additional resources in the area of manpower and specialized equipment.
  - Enhance action circle and scene lighting.
  - Manage hazardous materials.

Safety Considerations:

- With the ever-increasing presence of supplemental restraint systems (air bags, seatbelt pre-tensioners, etc.), personnel must be aware of the dangers associated with these systems.
  - If vehicle battery is accessible, it should be disabled. Starting with negative first, a method known as chunking should be used to keep the cut ends from touching once cut. (Chunking is taking a small section out of the cable by making two cuts vs. just cutting it). This can be accomplished by taping the ends with electrical tape.
  - The ignition should be turned off and the key removed as soon as possible. Power to most of the

electrical functions on a car flow through the ignition switch, known as a hot switch. Shutting it off and removing the key will eliminate power to most of these items.
    - A survey of the interior of the vehicle to determine presence of the supplemental restraint systems. This can be accomplished by stripping the interior molding, and looking for markings indicating these systems.
    - The Extrication Unit Officer should account for the presence and locations of the supplemental restraint systems and make an announcement of any un-deployed systems prior to the start of the extrication operation. This will avoid accidental deployment or damage to system components which may injure operating personnel. If an air bag restraint is available (i.e., Holmatro Secunet), it should be used in order to protect personnel from an accidental deployment.
- When operating near un-deployed air bag, personnel should follow the 5-10-20 rule, maintaining a clearance of the following distances from these airbags:
    - 5 inches from side impact air bag
    - 10 inches from steering wheel air bag
    - 20 inches from passenger side (dashboard) air bag.
- When placing apparatus, be careful not to position so that the exhaust is directed into the work area.
- Officers should look for signs of specialty vehicles such as Hybrids (electric gas combination), which have very high voltage, and LP gas powered vehicles which pose other safety concerns. Since there is no hazard standardization in the auto industry, personnel must be knowledgeable on the subject and recognize the presence of such hazards and/or their common locations and take appropriate actions.
- Personnel should be aware that the auto industry is ever changing and currently it is starting to use hardened materials in newer vehicles, which most fire department hydraulic tools can't force, penetrate, or cut. Only a select few units have the newest hydraulic tools which are capable to manage these new metals. Squad 2 has these tools (other units may have them as well) and the IC should determine if they are needed and call for these special resources.
- Officers shall ensure proper safety vests are worn by all personnel not wearing their bunker gear.

3.19

Title: ARFF Procedures and Airport Responses

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: To establish guidelines for the safe and efficient deployment of emergency resources at aircraft incidents on or near the Orlando Sanford International Airport (OSIA). The Sanford Airport Fire Department may also provide a resource for aircraft related incidents outside airport property within Seminole County. Life safety remains the top priority; every effort shall be made to maintain all evidence, and to prevent further damage to airport property, thus minimizing economical impact on the County as a whole.

General: This document serves as an overview of the aircraft emergency responses, types of crashes as well as related topics to support safe operations. Each incident is unique and must be handled as such. Unified command should be established according to NIMS standards. Nothing in this document is intended to replace formal training, familiarization with OSIA, and the specific nature of aircraft related emergencies. This information can be applied to all aircraft emergencies regardless of the location of occurrence.

Types of Crashes: Being familiar with the types of crashes will allow emergency personnel to understand the areas of greatest concern and potential hazards.

- High Impact Crash
  - Aircraft that have altitude and speed will normally suffer significant structural break up. This type of crash may result in a large crater.
  - The potential for explosion and fire is significant. In situations with no fire, potential for large pockets of fuel are high.
  - The potential for survival is small, and there is an increased danger of biohazard exposure.
- Low Impact Crash
  - Aircrafts that were able to control their descent, or at a much lower speed allowing them to ride down the crash.
  - Aircraft may show little or no damage depending on final resting place.
  - Although visible damage may not be noted, the need for forcible entry may be required due to stress on the doorways, and the overall structure.
  - High probability of fuel spill, and high potential for fire due to vapors.
  - Crews should remain prepared for unknown hazards regardless of how minor the incident occurs. For aircraft equipped with parachute systems or airbags, use extreme caution.
- Water Crashes
  - Potential for fuel fire still exists and adds an additional level of hazards for victims in the water and rescuers.
  - Wreckage that is floating may only be buoyant due to trapped pockets of air, and opening the aircraft has the

potential to increase the descent rate.
    - Entry to the aircraft should be made below the water line as to maintain buoyancy. This remains the same whether using natural openings or forcible entry.
    - Personnel shall not exceed their level of training in the effort to attempt rescue.
- Cart Wheel Crashes
    - Crashes that occur from failed landing gear have a tendency to “cartwheel” down the runway, causing victims to be thrown greater distances from the aircraft.
    - Regardless of the type of crash, the entire area from the first point of impact to at least 500 feet passed the last piece of debris should be checked for victims and evidence.
    - Consideration should be given to using Seminole County Sheriff’s air units equipped with FLIR/Thermal imaging for night operations or large area searches.

Initial Responding Unit Considerations: Every emergency situation is unique. The following considerations are being given as general tasks that units should be prepared to perform upon arrival.

- Engines
    - Evacuation in progress upon arrival
        - Assist in anchoring slides and directing passengers to safe environment/triage area.
        - Assist in opening remaining doors if conditions permit.
    - No evacuation in progress upon arrival
        - Prepare equipment to make entry through the over wing hatches or doors.
        - **Any aircraft with a doorsill over six feet, with the wheels extended, is required to be equipped with an emergency escape slide; use caution when opening doors and hatches.**
        - Prepare for suppression operations and ventilation as dictated by interior conditions.
- Rescues
    - Evacuation in progress upon arrival
        - Begin triage of passengers; implement MCI procedures as directed in Seminole County IMS/Protocols.
        - Assist Engine crews with slide stabilization and ushering passengers to Triage area.
        - Prepare for establishment of Treatment/Transport areas.
        - Triage personnel must remain vigilant in giving Command timely, accurate, patient counts and resource needs.
- Tankers
    - ARFF Operations in progress
        - Identify the closest efficient water supply and request any additional resources through Command.

        - Positions for quick resupply of ARFF units when called for.
- Ladder/Tower Aerial Units
    - Placement needs to be coordinated with Command for deployment, may be used to support the following.
        - Water supply for interior hose operations.
        - Work platform for extrication operations.
        - Elevated reconnaissance and investigation point.
- HazMat/SHOT Units
    - The potential for unknown hazardous materials is significant; the preparation for the following tasks should be considered.
        - Assist Command with air monitoring and hazardous material identification.
        - Mitigation of uncontrolled fuel leaks.
        - Assist Treatment and Transport area with decontamination, set up for mass decontamination as necessary.
- Command Units
    - Considerations for all Units.
        - Coordinate with ARFF units for special considerations, water supply needs.
        - Formal establishment of Command, if not in place, Unified Command requested.
        - Request Command support to Staff Staging Area and Safety position as soon as possible.
        - For incidents that are spread over a large area, consideration should be given to several safety officers and 2 out/RIT assignments during suppression efforts.
        - Assign available resources to direct passengers to safety, if evacuating, or prepare units for entry.
        - Assess command channel efficiency and request additional channels early.
        - Establish EMS Group early
            - Coordinate Triage, Treatment, and Transport areas.
            - Tracks patient destinations and advise on needed transport resources.
            - Maintain an accurate count of all passengers and their triage status.
        - Identify water supply needs early and request additional resources/mutual aid as necessary.
        - Assess resources on hand, in staging and enroute.
        - Plan early for extended operations, and the necessary rehabilitation support
        - Request Command staff to support on site needs as well as Unified Command and EOC staffing.
        - Provide CISD for responders when needed.

Approach Considerations: As with any emergency the initial placement and size-up will have a direct affect on the initial rescue efforts, fire attack, and possibly the overall success.

- Approaching the Scene
    - Emergency vehicles shall have emergency lights on at all times and yield to aircrafts while on taxiways and runways.
    - Approach all aircraft from up wind and higher slope of elevation, when possible, due to the possibility of toxic fumes and fuel run off.
    - Approach general aviation aircraft from the front or side using extreme caution when engines are running, regardless of type.
    - When operating behind aircraft, use caution due to ground idle blast areas from jet engines.
    - Never touch the propeller on an aircraft, it may still have a charge and turn over.
    - Approach all military aircrafts at a 45-degree angle to the fuselage due to probability of forward and rear firing ordinances.
    - In the event of low visibility, consideration should be given to deploying a firefighter with radio communications to guide for apparatus hazards, or the potential for striking evacuees.
    - Keep at least 25 feet away from the rear of fixed wing general aviation aircraft when in motion due to the ground idle blast from a jet engine/ prop wash.
    - Remain at least 600 feet away from the rear of larger commercial size aircraft while engines are running.
    - The nose cone of commercial aircraft contains radar equipment and should be avoided when possible.
    - Helicopters should be approached from the front only and always within view of the pilot. Never approach from the rear due to the tail rotor and being out of view of the pilot.
- Placement of Apparatus
    - All units should remain at a safe distance (200’ minimum) until ARFF or Command units give direction. Personnel operating in the immediate area of the aircraft/emergency should only be those with a current tactical assignment.
    - Position all apparatus in a way that will be conducive to safe operations and maximize fire hose/stream effectiveness. Never place apparatus in a manner that will hinder the pathway or safe egress area for passengers and crew exiting the aircraft.
    - ARFF apparatus have the ability to pump and roll, as such, other apparatus need to refrain from parking directly in front or behind ARFF vehicles.
    - Tankers and Rescue units should stage outside the immediate scene until directed to a specific location for transport or resupply.
    - Ladder/Tower Aerial units should stage outside the area and await deployment by Command. These units provide excellent work platforms for extrication, and water supply sources for interior operations on larger aircraft.

Mitigation Procedures: With early notification and efficient response some incidents can be mitigated prior to the need for large-scale fire

suppression operations. Special considerations for frequently encountered emergencies are as follows.

- Hot Brakes
    - Hot brakes can occur due to an aircraft being overloaded, a mechanical malfunction, or heavy braking. Personnel should only approach from the front or rear wheel assembly.
        - Brake assemblies will not reach their peak temperature until 30-45 minutes after stopping.
        - Initial action should include monitoring the temperature via heat gun or thermal imager at 5-minute intervals.
        - In most cases natural cooling will be effective, if temperature continue to increase ventilation fans can be place in front or behind the wheels to force cool air through the assembly.
        - All personnel should remain clear of the sides of the wheel assemblies for a minimum of 300’ due to the potential for wheel failure. Optimum approach is a 45-degree angle to the wheel assemblies.
        - If cooling efforts fail and fire occurs, personnel should use an indirect attack to prevent rapid cooling of the brake and wheel assembly.
- Wheel Fire
    - As with hot brakes, approach from the front or rear and keep all personnel clear of the sides of the wheel assemblies for a minimum of 300’.
    - Rapid cooling of the wheel assembly can cause explosive wheel failure resulting in fuselage and wing penetration.
        - For small fires with no flame impingement on the wing either a dry chemical or Halon extinguisher should be used, DO NOT USE CO2.
        - If water must be used, utilize short burst in a fine mist, solid streams should only be used as a last resort. Directing streams on the ground in front of or on the wing will provide an adequate indirect attack.
        - Commercial Aircraft have fusible plugs that normally perform a controlled release if the rim temperature exceeds a predetermined level, usually between 300 – 400 degrees. If the plug releases the risk of wheel assembly, explosion is greatly reduced.
- Hydraulic System Fires
    - Commercial Aircraft hydraulic systems operate at a pressure in excess of 2000 psi. Aviation hydraulic fluid is easily ignited when in a fine mist, and has torching effect due to the pressure.
    - Skydrol, one of the most common hydraulic fluids, decomposes when ignited and will cause severe eye and respiratory tract irritation. Utilizing full PPE with SCBA will negate these associated hazards.
    - Dry Chemical and Halon extinguishers are extremely

effective in extinguishing both two-three dimensional hydraulic fires.

Fire Suppression Operations: Whether crash related or mechanical in nature, fire involving an aircraft requires quick response and the application of the appropriate extinguishing agent in a timely manner. With moderate fire involvement the fuselage of an aircraft can burn through in as little as 90 seconds. Once the exterior fire is suppressed, crews should initiate an aggressive interior attack to prevent further escalation of the event.

- Exterior Operations
  - For exterior fire involving aviation grade fuels, ARFF units will initially place apparatus to protect the egress corridors for those passengers that are able to self-rescue. Support crews/ units should be deployed at egress points to assist evacuees. Injuries can occur after the evacuation of an aircraft. Mass application of ARFF foam to suppress the fire and contain vapors will occur as soon as possible, but fire extinguishment is not the initial priority.
  - Initial automatic aid units will be deployed by the Command to support ARFF units (i.e., water supply, ground and aerial ladder(s) support, and patient triage, treatment, and transport according to the current IMS MCI procedures) and to engage in interior operations when conditions permit/assigned by ARFF units and Command.
  - When conducting exterior operations, all personnel must remain vigilant in not disturbing the applied foam blanket. When moving hose, feet, ect., it is recommended to “drag or scuff” them as to not repeatedly break the foam blanket.
  - When operating in the foam blanket, all personnel should don full PPE including SCBA due to the potential for re-ignition if the foam blanket is penetrated.
- Interior Operations
  - Regardless of the amount of active fire, no interior suppression operations shall be initiated if it inhibits any self-rescue operations in progress.
  - When deployments of hose lines are necessary in large body aircraft, consideration should be given to deploying Ladder/Tower Aerial devices for water supply.
  - Since most passengers will try to exit through the front doors, the primary entry point for firefighting on air carrier aircraft is over wing hatches. In most instances you will not hinder evacuees and you will not have to deal with escape slides. The wing also provides a good work platform as long as all ground fire has been controlled and is monitored.
  - Passengers that are obviously expired should not be moved without approval from the investigating authority.
  - Command should establish 2 OUT / RIT according to the current IMS Manual prior to crews conducting an interior operation.
  - If available, ARFF personnel will assist the initial entry crew and ensure that the flight deck is secured as follows.

        - Shutting down the throttles, activating the fire bottles if indicated and shutting down the batteries **in this order.** (Once the batteries are disconnected all other systems become inoperable.)
        - Once the throttles, bottles and batteries are confirmed off, Command is to be advised of, "**Flight Deck Secured**".
        - The primary goal remains rescue, and a coordinated attack to suppress the fire. If manpower allows, extinguishment should be accomplished, but providing a survivable environment through ventilation and victim removal is the higher priority.
    - When possible interior hose lines should be ARFF with a minimum of 3% concentration. For situations where foam lines are not available, interior and exterior crews need to be cognizant of "run off" and the effect it will have on the ground foam blanket.

Extrication Operations: The potential for rapid extrication is more prevalent in general aviation aircraft, but could be required in an air carrier crash. It is essential that responders realize that related hazards with different aircraft and the application of automobile techniques should not be done without technical advice from ARFF crews.

- Regardless of the size or type of aircraft, responders should attempt to use the normal entry and exit points before initiating forcible entry.
- Ladder/Tower Aerial units should be deployed when possible to provide a safe working platform when extricating on large body aircraft.
- Passengers that are obviously expired should not be moved without approval from the investigating authority, unless the immediate removal is needed to facilitate rescue of another passenger.
- Prior to any forcible entry a charged hose line should be in place and if available a staffed ARFF unit to provide fire suppression.
- General Aviation aircraft that are not pressurized do not offer much resistance to forcible entry, but the placement of fuel tanks and delivery lines create unseen hazards not typical to automobiles.
- Standard extrication tools such as hydraulic tools, reciprocating saws, and pneumatic tools are acceptable. K12's, or tools that create significant sparks, should only be used as a last resort due to aviation fuel.
- Personnel should never cut through wings of the aircraft, or any area where fuel cells may be located.
- Cirrus aircraft, and now others due to retrofitting, have a ballistic parachute system that if cut in the wrong location during rescue operations, the ballistic charge can deploy the parachute and cause severe injury or death to passengers or rescuers.
    - Some aircrafts may be labeled, "Ballistic Recovery System" or "BPS", but standardized markings are not

required at the current time.

Overhaul Operations: The FAA mandates that any aircraft related incident and scene be treated as a crime scene until such a time that proof to the contrary is found. As such, it is essential that overhaul be conducted only to the extent necessary to mitigate any immediate hazards. Prior to the initiation of overhaul, Command should consult with the FAA and/or the ranking investigating agency on scene for any special direction.

- The level of PPE should provide for personnel safety from sharp metal, residual aviation fuels, and products of combustion. Composite materials are becoming more prevalent in aircrafts and pose additional hazards to responders. Composite fibers remain in the air long after the fire is extinguished and if inhaled into the lungs can have, effects that have been compared to asbestos inhalation.
- In severe crashes responders can expect a high probability of biohazards on the scene. Special consideration should be given to scenes that occur in wooded areas, as biohazards may remain in elevated locations until precipitation occurs.
- Any evidence that is in danger of being destroyed due to fire or other forces of nature may be moved to preserve it. Moving of any items must be approved and documented by Unified Command, and reported to the investigating body.
- The flight data recorder and the cockpit voice recorder should be reported immediately upon being found. If they are found in water, and must be moved, they should be preserved in a container of the same water they were submerged in.
- Passengers that are obviously expired should not be moved without approval from investigating authority.

Characteristics of Aviation Fuels: Depending on the aircraft, the potential fuel load can range from 40 gallons up to 100,000 gallons when full. In a high impact crash, the initial fire normally burns off 80% of the fuel; the remaining fuel feeds the fire involving the other combustibles. Incidents involving a fuel leak with no fire require at least a general knowledge of the three basic types of aviation fuels: Avgas- high octane gasoline; Jet A or JP1-Kerosene grade; Jet B or JP4- blend of Avgas, and Kerosene.

- Fuel amounts may be given in pounds as opposed to gallons on occasion, for easy conversion, divide by 7 pounds per gallon:
    - There is no simple conversion when fuel is given in hours due to the variable factors of wind speed, aircraft load, speed, etc.
- AVGAS: High octane gasoline 100-145 octane; flash point at -50 degrees Fahrenheit; flammability limits are from 1% - 7%; flames spread 700 – 800 feet per minute; auto ignition occurs between 825 – 960 degrees Fahrenheit. Weight 6 pounds per gallon.
- JET A or JP1: Kerosene grade fuel; flash point +95 – 145 degrees Fahrenheit; flammability limits just under 1% - 5%; auto ignition temperature range is from 440 -475 Fahrenheit; flame spread rate is less than 100’ per minute; overall the safest aviation fuel. Weight is 6.8 pounds per gallon.

- JET B or JP4: Used in high performance military aircraft and civilian commercial transport; it's a blend of AVGAS and kerosene; flammability limits are from 1% - 7%; auto ignition temperature is between 470 – 480 degrees Fahrenheit; flame spread is the same as AVGAS, 700 – 800 feet per minute; JP4 should be handled with the same precaution as AVGAS.
- Jet fuels are of lower volatility than AVGAS under normal conditions. However, in an aircraft crash and fire, the impact will cause the fuel to atomize; The fuel will then ignite readily and propagate fire spread.

ARFF Off Site Response: The Aircraft Rescue and Firefighting personnel and equipment are tasked with life safety of all commercial carrier occupants and general aviation aircraft, both arriving and departing the Orlando Sanford International Airport. ARFF resources may be deployed off site at the direction of the ARFF Command Staff as follows.

- Aircraft Incidents
    - General aviation crash: one ARFF Unit with foam capabilities will respond for suppression and technical support within 5 miles of OSIA.
        - Any general aviation crash outside of 5 miles would fall under "Special Requests" listed below.
    - Commercial airline crash: all available ARFF units will respond for suppression and technical support anywhere within Seminole County.
- Special Requests
    - At the discretion of the ARFF Command staff, one ARFF unit will respond as requested countywide to assist with special hazards mitigation.
        - Deployed unit will be able to provide at a minimum of 4000 gallons of finished AFFF foam product before needing to re-supply foam.

Alert Levels and Type: Alert levels are indicated by a number (1-3) signifying the severity of the emergency and a letter (A-D) signifying the seating capacity of the aircraft.

- Alert Levels
    - Alert 1 – These involve minor malfunctions, which by themselves do not constitute a threat to the aircraft or its passengers. Examples: minor electrical problems, faulty gear indicators, and other situations for which the pilot issues a precautionary alert.
        - ARFF personnel man their equipment and standby on ramp at the ARFF station.
    - Alert 2 – Considered a full emergency, which if the situation is not contained, will endanger the aircraft and/or its passengers. Examples: Engine, electrical or fuselage fires, a confirmed landing gear problem, or problems with directional control abilities.
        - ARFF units respond to staging points along designated runways, automatic aid units respond

to appropriate staging area as directed.
- Alert 3 – Indicates an aircraft fire, crash or accident has occurred or is imminent on or near airport property.
  - ARFF units and automatic aid units will respond directly to the scene.

- Aircraft Capacity
  - (A) – Indicates the aircraft involved has a seating capacity from 1 to 6 passengers.
  - (B) – Indicates the aircraft involved has a seating capacity from 7 to 29 passengers.
  - (C) – Indicates the aircraft involved has a seating capacity from 30 to 149 passengers.
  - (D) – Indicates the aircraft involved has a seating capacity over 150 passengers.

Airfield Communications: OSIA utilizes the Seminole County 800mhz radio system, FAA UHF Communications System, and a visual light system as a back up to radio transmission.

- Radio Communication
  - The Seminole County 800mhz radio system will be utilized for all emergency response units mitigating the emergency.
    - 14C SAA3 – is the normal day-to-day operations channel for all airport departments, and ARFF non-emergency activities.
    - Assigned Command Channels – shall be utilized as the primary command channel for all airport alerts until Command requests additional channels to facilitate the appropriate span of control, and safe operations.
  - FAA UHF frequencies can be used for monitoring the incident; only ARFF personnel or those directed by Command shall communicate with the ATCT.
    - 121.35 – The primary frequency for ground movement on the Airport.
    - 120.30 – The primary frequency for approaching and departing aircraft to contact the Air Traffic Control Tower (ATCT).
    - 123.975 – Serves as the Discrete Emergency Frequency (DEF), and allows for command units to have direct contact with the affected aircraft prior to arrival at OSIA.
- Visual Communication
  - Light Gun signals – In the event of radio failure the ATCT will utilize high powered light gun to signal directions to emergency equipment. The colors and patterns are as follows.
    - Flashing GREEN – You have clearance
    - Steady RED – Stop do not proceed
    - Flashing RED – Clear the runway
    - Flashing WHITE – Return to Station or Starting Point
    - Alternating RED & GREEN – Proceed and use *extreme* caution.

Navigating the Airport: OSIA has standardized ground markings and colored lighting used to differentiate taxiways, and runways. At no time should responders move out of the immediate area unless specifically instructed by command or while under escort of an airport official.

- Lighting and markings
    - Yellow pavement marking – indicate that you are on taxiway, which will eventually lead you to a runway.
    - White pavement marking – indicate that you are on a runway.
    - Blue edge lights – are found on the side of the **taxiway**, in conjunction with the yellow pavement markings. The lights are spaced 100 feet apart.
    - White edge lights – are found on the side of a **runway** in conjunction with the white pavement markings. The lights are spaced 200 feet apart.
    - Red marker lights – mark obstructions such as buildings, poles and towers. When located on the ground, indicate the end of a runway, or a restricted area.
    - Hold Short Bar – is composed of two solid yellow lines and two sets of yellow dotted lines. Vehicles that approach from the solid line side must receive approval from the ATCT prior to crossing.
        - Hold Short lines are normally located just before runways.
- Operating on Taxiway/Runway
    - Always maintain the right side of Taxiways.
    - Aircraft always have the right of way.

Response Matrix: The following resources shall be dispatched based on the level of Alert as indicated from the ATCT or Battalion 51.

Staging Locations: The following locations are designated as default staging locations for initial responding units until such a time that the on scene Command has given more specific, incident related assignments. If not provided on initial dispatch, units should request from ARFF or Communications the appropriate runway designation for proper staging locations.

Runway 9 Left/27 Right and 9 Center/27 Center

Station 41 units or assigned coverage –**shall respond to Level I Staging at** the North Ramp (Staging Area 1) using the access road or gate 57E off Starport Way and shall remain clear of all taxiways unless under escort and/or requested by the Airfield Commander upon approval of the ATCT or airfield closure.

All other units- shall respond to **Level I Staging at 1479 E 29Th Street which will place units near (Staging Area 2), utilizing vehicle gate 84E off E 29th St** and shall remain clear of all taxiways unless under escort and/or requested by the Airfield Commander upon approval of the ATCT or airfield closure.

Level II Staging shall be the parking lot outside of gate 84E. Unless otherwise directed by the Airfield Commander.

Runway 9 Right/27 Left

All units shall respond to **Level I Staging at 2151 Spinner Lane (aka the "Southeast Ramp")** (Staging Area 3) utilizing gate 16E and shall remain clear of all taxiways unless under escort and/or requested by the Airfield Commander upon approval of the ATCT or airfield closure.

All additional alarms (2nd, 3rd, etc) units shall report **to Level II Staging along Marquette Avenue** and shall remain clear of all taxiways unless under escort and/or requested by the Airfield Commander upon approval of the ATCT or airfield closure.

Gaining access with a security badge doesn't authorize free movement on the airport. Units shall remain at the staging location, and clear of all runways and taxiways until specifically requested by ARFF or command.

Airport Response A

(seating capacity 1 - 4)

Alert	First Alarm	Second Alarm
1-A	3 ARFF Units, 1 Battalion Chief	1 Engine, 1 Rescue
2-A	3 ARFF Units, 1 Engine, 1 Rescue, 1 Battalion Chief	1 Hazmat, 1 Tanker, 1 Battalion Chief
3-A	3 ARFF units, 1 Engine, 1 Rescue, 1 Hazmat, 1 Tanker, 1 Battalion Chief	1 Engine, 1 Rescue, 1 Battalion Chief

Airport Response B

(seating capacity 5 - 30)

Alert	First Alarm	Second Alarm
1-B	3 ARFF Units, 1 Battalion Chief	1 Engine, 1 Rescue, 1 Battalion Chief
2-B	3 ARFF Units, 1 Engine, 1 Rescue, 1 Battalion Chief	2 Engine, 2 Rescue, 1 Hazmat, 1 Tanker, 1 Tower, 2 Battalion Chief, CERT, MCI Unit, Mobile Command Unit, Med 1
3-B	3 ARFF units, 3 Engine, 3 Rescue, 1 Hazmat, 1 Tanker, 1 Tower, 3 Battalion Chief, CERT, Med 1, MCI Unit, Mobile Command Unit	2 Engine, 2 Rescue, 1 Tanker, 2 Battalion Chief

Airport Response C

(seating capacity 31 - 149)

Alert	First Alarm	Second Alarm
2-C	3 ARFF Units, 2 Engine, 2 Rescue, 2 Battalion Chief	2 Engine, 4 Rescue, 1 Hazmat, 1 Tanker, 1 Tower, 3 Battalion Chief, CERT, MCI Unit, Mobile Command Unit, Med 1
3-C	3 ARFF units, 4 Engine, 6 Rescue, 1 Hazmat, 1 Tanker, 1 Tower, 5 Battalion Chief, Med 1, CERT, MCI Unit, Mobile Command Unit	3 Engine, 4 Rescue, 1 Hazmat, 1 Tanker, 1 Tower, 3 Battalion Chief

Airport Response D

(seating capacity 150 and up)

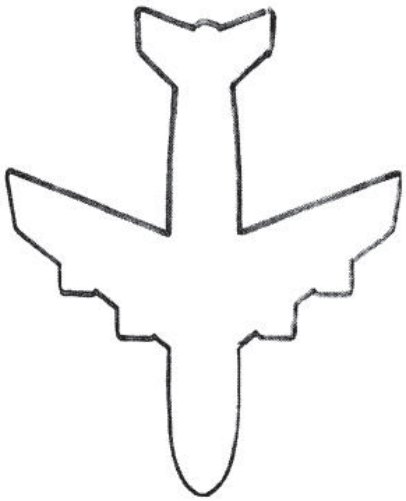
Alert	First Alarm	Second Alarm
2-D	3 ARFF Units, 2 Engine, 2 Rescue, 2 Battalion Chief	3 Engine, 5 Rescue, 1 Hazmat, 1 Tanker, 1 Tower, 3 Battalion Chief, CERT, MCI Unit, Mobile Command Unit, Med 1
3-D	3 ARFF units, 5 Engine, 7 Rescue, 1 Hazmat, 1 Tanker, 1 Tower, 5 Battalion Chief, Med 1, CERT, MCI Unit, Mobile Command Unit	4 Engine, 5 Rescue, 1 Hazmat, 1 Tanker, 1 Tower, 3 Battalion Chief

Air Carrier_____AC#_____ SOBs_____FUEL#_____

Location_____ Alert 1 2 3 4 A B C D

Critical Life Safety Benchmarks				Sanford Airport Authority Fire Department Tactical Worksheet							
Completed	Tasks	Complete	Tasks	Exposure			Command Considerations Checked				
	Chalk Gear		Wheel Temps.	C			Y/N	Fire	Y/N	Medical	
	Flight Deck Secured		Batteries Secured					Offensive or Defensive		M.C. I Declared	
	Search/Rescue		Fuel Leaks Controlled	B	EXP	D		Divisions or Groups		Triage	
	Primary Search		Exposure 1,2,3,4					Extension		Treatment Sector	
	Secondary Search	Ventilation		A				Adequate Foam Supply		Transport Sector	
	Fire Attack		Horizontal					Fuel Containment		Helicopter/ LZ	
	"Water on Fire"		Vertical	Quadrants						Hospitals Alerted	
	Knock Down			B	C		Notifications Made				
	Property Conservation							Red Cross		Safety Officer	
	Salvage		Overhaul	A	D			C.E.R.T.		FISDO / NTSB	
								Chaplain		TSA/ FBI	

AUTO AID	Assignment
BAT	
BAT	
BAT	
BAT	
BAT	
Hazmat	
Tanker	
Tower	
AUTO AID	Assignment
Eng	
Eng	
Eng	
Eng	
Eng	
Eng	
Eng	
Res	
Res	
Res	
Res	
Res	
Res	
Res	
Res	
Res	



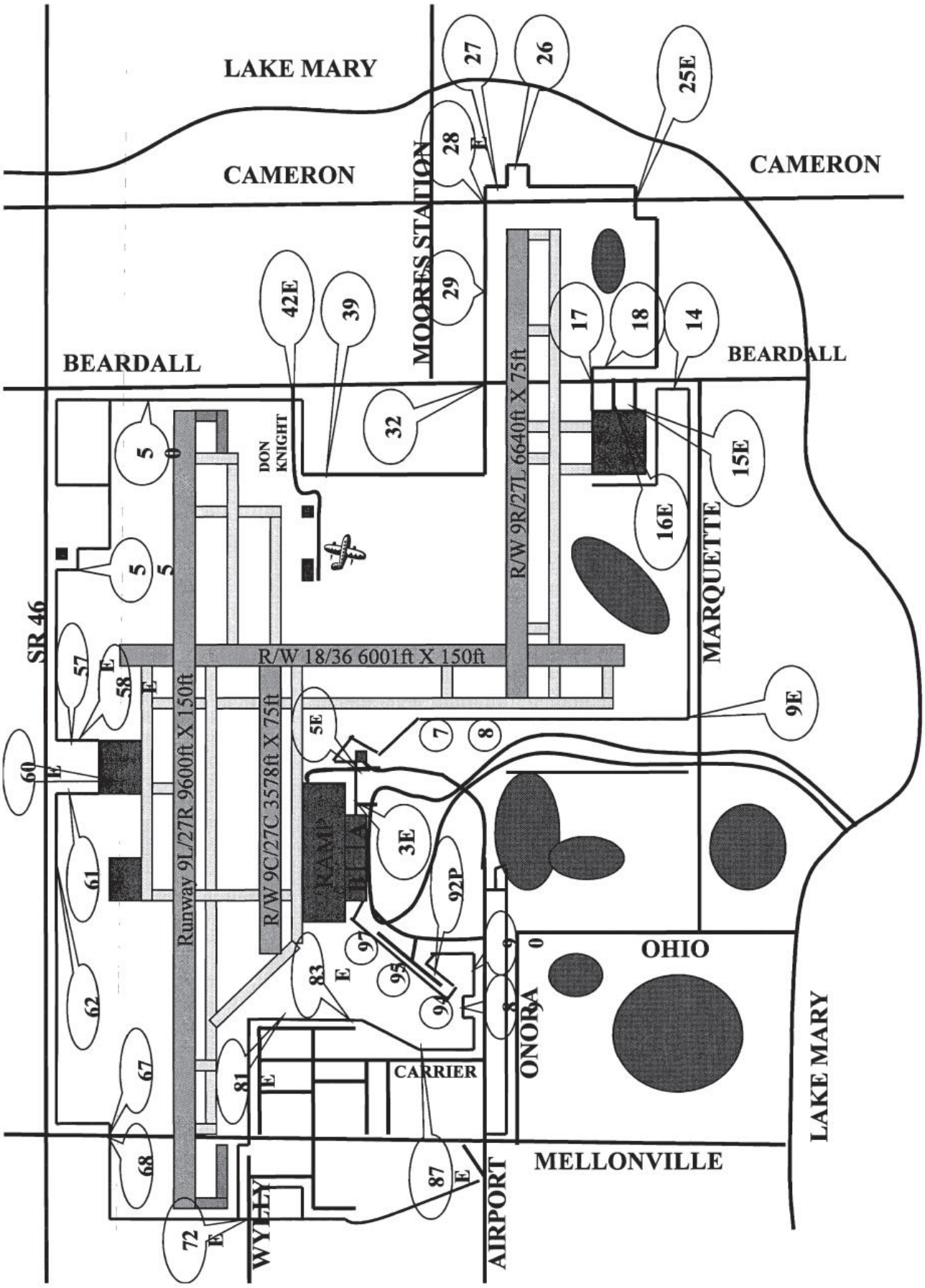
ARFF Assignments
C51
Div 51
Bat51
ARFF1
ARFF2
ARFF3
ARFF5

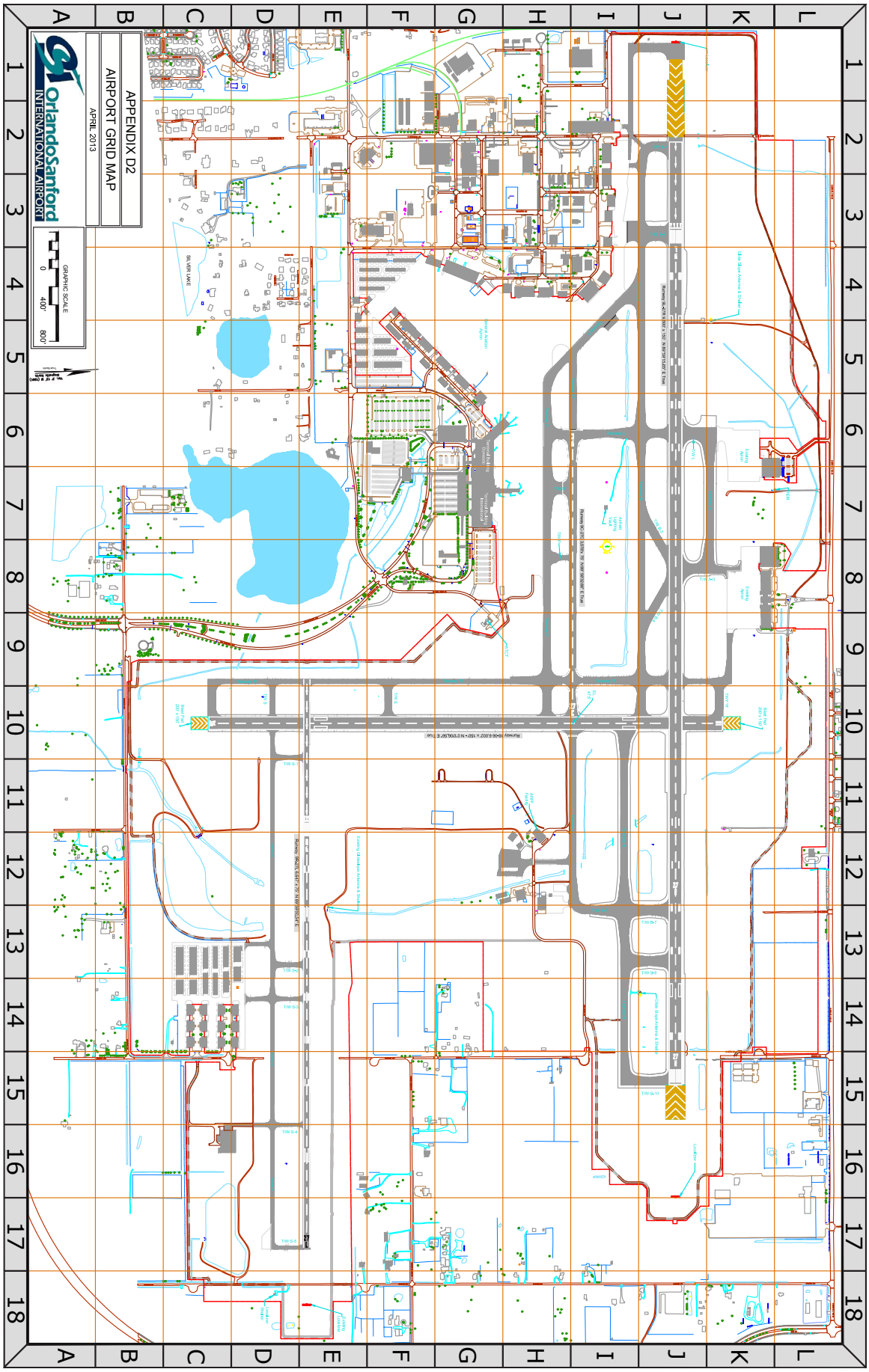
Command Tac/s	Ops Tac	Medical Tac	Staging Location

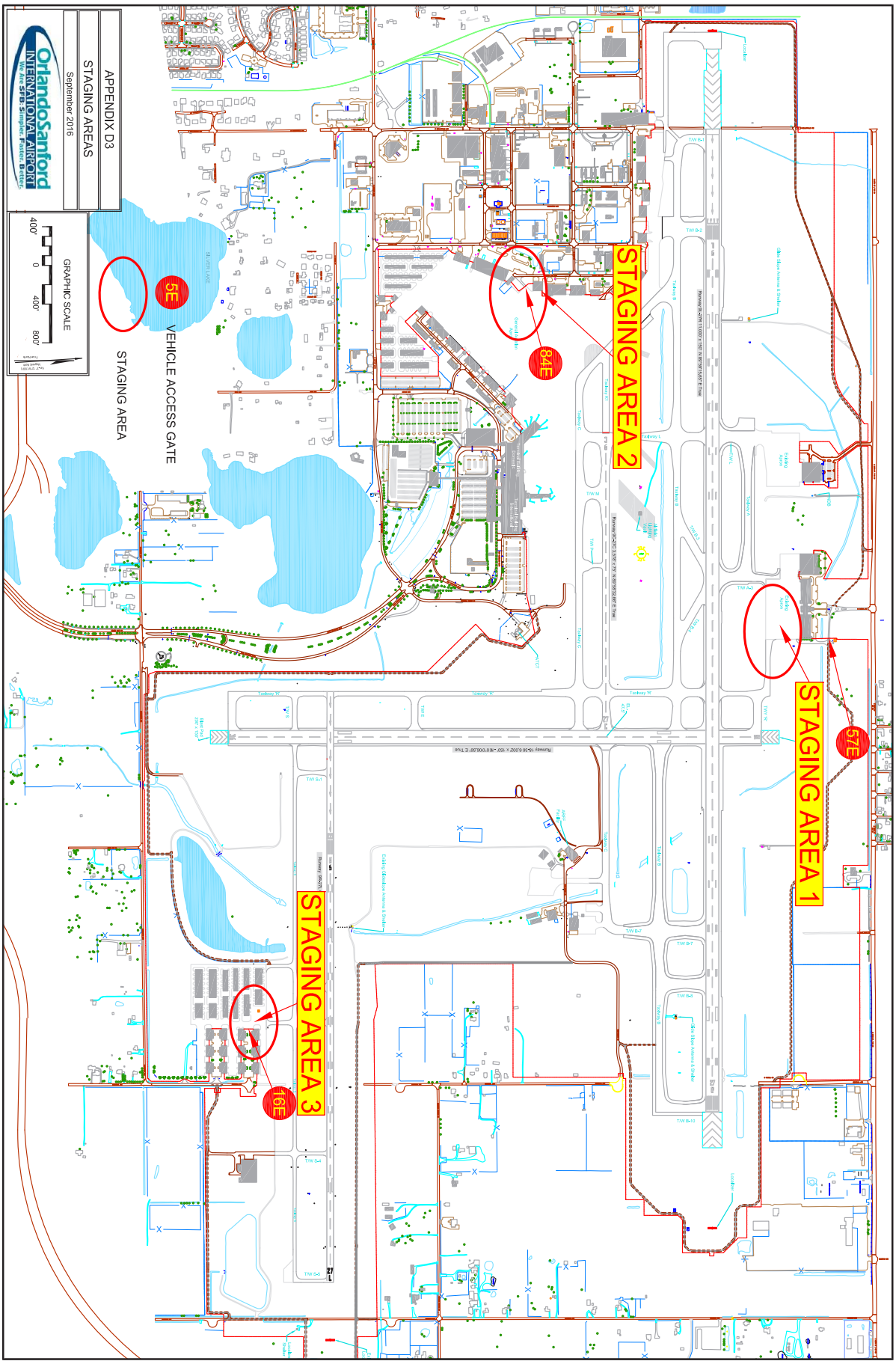
Souls on Board or Patient Count _____

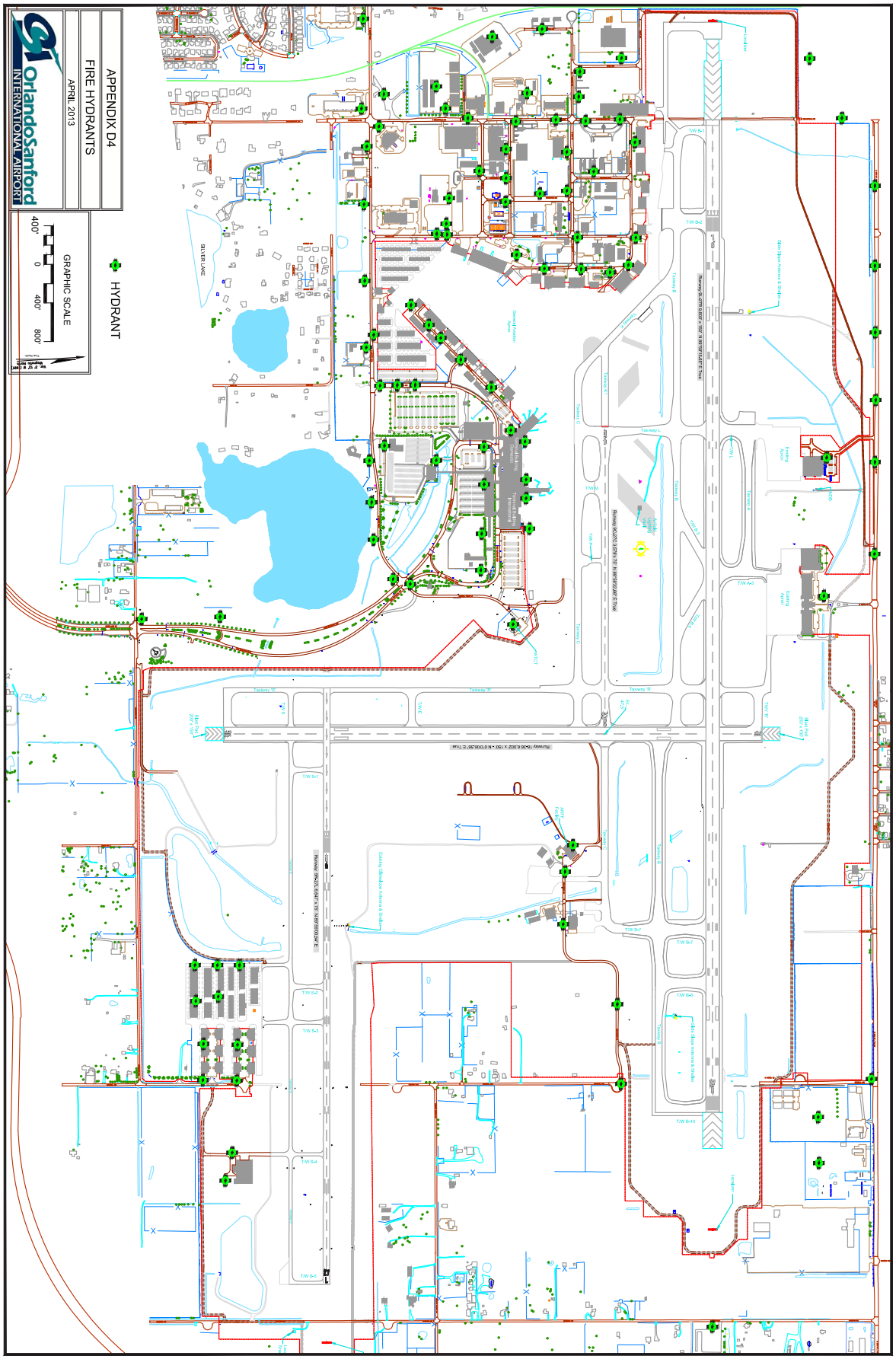
Resources in Staging Area

Triage	Red	Yellow	Green	Black				
Staging Location								
Need Transport								
Transported								


LAKE MARY
CAMERON
CAMERON
MOORES STATION
BEARDALL
BEARDALL
DON KNIGHT
R/W 9R/27L 6640ft X 75ft
R/W 18/36 6001ft X 150ft
Runway 9L/27R 9600ft X 150ft
R/W 9C/27C 3578ft X 75ft
RAMP
MARQUETTE
SR 46
OHIO
ONORA
CARRIER
MELLONVILLE
AIRPORT
WYLLY
LAKE MARY
25E
27
26
28 E
42E
39
29
32
17
18
14
15E
16E
9E
5E
3E
92P
83 E
81 E
87 E
72 E
57 E
58 E
60 E
61
62
67
68
5
7
8
93
94
97


APPENDIX D2
AIRPORT GRID MAP
APRIL 2013
OrlandoSanford
INTERNATIONAL AIRPORT
GRAPHIC SCALE
0
400'
800'
SILVER LAKE
A
B
C
D
E
F
G
H
I
J
K
L
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18


APPENDIX D3
STAGING AREAS
September 2016
OrlandoSanford INTERNATIONAL AIRPORT
We Are SFB. Simpler. Faster. Better.
GRAPHIC SCALE
400' 0 400' 800'
5E
STAGING AREA
VEHICLE ACCESS GATE
84E
STAGING AREA 2
57E
STAGING AREA 1
16E
STAGING AREA 3


Orlando Sanford International Airport
APPENDIX D4
FIRE HYDRANTS
APRIL 2013
400' 0 400' 800'
GRAPHIC SCALE
HYDRANT

3.20

Title: Brush/Wildland Fire Emergencies

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: Provide guidance to Incident Commanders, Officers, and Firefighters on their expected role during wildfire events. Also, outline steps for the handling of wildfire incidents in order to improve effectiveness and reduce the need for extensive communication to convey task assignments.

General: Wildland fires can occur in all areas of Seminole County. Due to rapid growth and development patterns in the County, urban interface issues are common. Other challenges include inadequate access, multiple fuel types, and weather patterns.

Initial Response:

- Size-up – Prior to dispatch, while en route, and throughout the incident the following factors should be considered:
  - Current and predicted weather
  - Access issues
  - Values at risk: life, structures, timber, etc.
  - Available resources
    - Consider air assets early
    - Additional resources needed to properly manage the incident should be determined early.
    - Divisions and Groups shall be established for proper span of control and effective management of the incident.
    - Divisions will be assigned geographically (North, South, East, West).
    - An incident Safety Officer shall be established.
  - Size of fire
  - Rate of spread
  - Fire behavior
  - Escape routes and safe zones
  - Water supply
  - Fuel Types
    - Light Fuel – grass, needle cast, patchy shrub (palmetto, gall berry, oak shrub) fuels less than 12 inches in height with minimal over story (canopy).
    - Moderate Fuels –grass, uniform shrub (palmetto, gall berry, oak shrub) fuels 1’ to 3’ in height with moderate over story.
    - Heavy Fuels –grass, shrub (palmetto, gall berry, oak shrub), fuels 4’ and greater in height with any over story.

- Action Plan- The initial Command should develop an Incident Action Plan. The action plan should establish the role of all personnel at the incident.

- FFS Notification (Florida Forestry Service) – FFS should be notified of all wildland fires for initial attack. If immediate containment is achieved by Fire/EMS units, FFS dispatch should be notified. FFS may cancel a tractor-plow unit and send only a supervisor, divert units to higher priority fires, or determine no further action is needed.
    - If the fire cannot be mopped up or if future control issues are a concern, FFS should respond for control line construction.
    - FFS has the primary responsibility for wildland suppression and members of the Seminole County First Response System will operate in a Unified Command system with FFS. The FFS supervisor should have the lead role in development of strategic and tactical goals.

Wildland/Urban Interface:

- The primary role for Fire Department units during a wildland/urban interface event will be structural protection.
    - Hoselines for structural protection should be a minimum 1 ½" to provide adequate fire flows, while retaining mobility.
    - Water conservation is critical. Use water wisely and do not exhaust entire booster tank in case it is required for personnel/apparatus protection.
    - Apparatus should be positioned for quick exit and avoid damage from flame impingement.
    - Consider structural preparations such as debris removal, closing windows, etc.

- Structural Triage should be performed during urban/interface situations when multiple structures are threatened. The process shall be divided into three categories based on timing of the fire front and the amount of work required to lessen the threat to the structure.
    - Not threatened (Green): 50' of greater separation from fuel to structure, easy turn around for engine, non-combustible roof tile, metal, asphalt.
    - Threatened (Yellow): 15' – 50' separation from fuel to structure, minimal turn around for engine, multiple items near structure (lawn chairs, wood piles, fences, debris on roof, etc.)
    - Unlikely to save (Red): less than 15' separation from fuel to structure, no turn around or easy ingress/egress, excessive debris needed for removal, wood shake roof.

Non-interface Wildand Fires:

- Attack mode. (Offensive vs. Defensive)
    - When fires are completely accessible from roadways and reached with a pre-connected hose line, an offensive attack may be conducted by engine apparatus.
    - Woods Trucks may conduct an offensive attack with

adequate access from fields or two trails.
- For remote or large fires, a defensive mode should be assumed.
- Barriers such as roadways should be utilized for apparatus placement and fire containment.
- FFS should initiate an action plan for fire that is inaccessible by Fire Department apparatus.

Extended Attack:

- Situations in which a wildland fire cannot be controlled by initial attack resources and/or the time frame of containment exceeds 24hrs, the incident shall be placed in extended attack.
  - For each operational period, an Incident Action Plan shall be developed.
  - Initial attack resources should continue to be assigned to the incident for extended attack with support personnel being ordered by 2200 for the next operational period.
  - Initial attack equipment and personnel will be staged appropriately for additional fire starts. Equipment and personnel will not be pulled from extended attack unless approved by the Incident Commander.

Mop Up:

- Standards and Objectives
  - When possible all fires should be completely extinguished.
  - Larger fires with little access should be completely overhauled fifteen feet within lines, flaming within 100' of the line.
  - Consider risk vs. benefit when conducting mop up operations.
  - Safety hazards such as snags should be mitigated by trained personnel.

Safety:

- Firefighters should not be permitted to enter wooded or heavy brush area without a specific assignment and in most instances should be restricted to areas within two hundred feet of the roadway or assigned apparatus.
- All personnel should recognize that a roadway or other open area might not be a safe place in extreme fire conditions.
- Apparatus should be protected by covering hose beds, closing compartments, and rolling windows up.
- Apparatus should be parked in a safe area with the front facing escape route. Apparatus should be backed into driveways and narrow roads.
- Headlights and emergency lights should be on during smoky conditions.
- The last 100 gallons of water in booster tanks should be saved for apparatus and crew protection. Never pass up a water source when the tank is less than full.

- Firefighters should be aware of the following common denominators of fire behavior on tragedy fires.
    - Most injuries or deaths to firefighters occur on smaller fires or isolated portions of larger fires.
    - Most fires are innocent in appearance before unexpected shifts in wind direction and/or speed results in “flare ups” or “extreme fire behavior”.
    - Flare ups generally occur in deceptively light fuels such as grass and light brush.
- Crews should be rotated to rehab areas based on work load, heat stress, and other factors. Additional resources should be in place to maintain acceptable levels of safety.
- Electrical lines pose a shock hazard during smoke conditions. Do not utilize power lines right of ways as a safe zone.
- Fire personnel will not ride on the exterior of apparatus unless the apparatus is designed for such purposes.
- The minimum approved PPE for wildland fires shall include a wildland jumpsuit or wildland jacket and over pants, hardhat with neck shroud, leather gloves and boots, and a fire shelter. If wildland PPE is not provided then full structure gear should be worn.
- Fire department personnel and equipment will not work within 100’ of FFS tractor/plow units while they are plowing or blading lines.

Fire Orders:

- Escape routes and safety zones, make them known.
- Post lookouts when there is possible danger.
- Be alert, keep calm, and think clearly. Act decisively.
- Maintain prompt communications with your forces, your supervisor and adjoining forces.
- Give clear instructions and ensure they are understood.
- Maintain control of your forces at all times.
- Keep informed on fire weather conditions and forecasts.
- Know what your fire is doing at all times.
- Base all actions on current and expected fire behavior.
- Fight fire aggressively, having provided for safety first.

LCES:

- Lookouts-competent, trusted, at good advantage points, know escape routes.
- Communications-frequencies confirmed, backups and periodic check ins maintained.
- Escape routes-more than one, scouted, provide adequate escape time.
- Safety zones-survivable without fire shelter, clean burn areas, roads, clear cuts, etc. ; close enough considering escape time, larger sized if downwind or in heavy fuel areas.

Watch Out situations:

- Fire not scouted and sized up.

- In country not seen in daylight.
- Safety zones and escape routes not identified.
- Unfamiliar with weather and local factors influencing fire behavior.
- Informed on strategy, tactics, and hazards.
- Instructions and assignments not clear.
- No communication link with crew members/supervisor.
- Constructing fire line without safe anchor point.
- Attempting frontal assault fire.
- Unburned fuel between you and the fire.
- Cannot see main fire, not in contact with anyone that can.
- Weather is getting hotter and drier.
- Wind increases and/or changes direction.
- Getting frequent spot fires across line.
- Terrain and fuels make escape to safety zones difficult.
- Taking a nap near the fire line.

3.21

Title: Civil Disturbances and Potential Violent Scenes Guidelines

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: To protect life and property, care for the sick and injured, rescue trapped occupants, and provide fire control by establishing guidelines for the safe response of fire department companies to incidents involving violence, potentiality of violence, and/or any type incident in which fire department members may be exposed to harm as a result of a violent or threatening act, unless the magnitude of the incident deems unsafe for fire department personnel.

General: Personnel always need to be aware of their surroundings and personal safety, and utilize law enforcement personnel to ensure they can safely perform their job functions.

Civil Disturbance and Potential Violent Scenes Guidelines

- The first-in company/unit shall ensure that the appropriate law enforcement agency is responding to a violent scene or potentially violent scene.
- The Incident Commander, Company Officer, or assigned paramedic should stage at a safe distance (minimum two blocks away). The unit(s) should consider the hazards and stage far enough away to avoid becoming a part of the incident.
- The decision to stage (or go to the scene) will be made by information given to the units by Dispatch / Communications Center, and by the Company Officer's or paramedic's experience. Units must rely on the limited information Dispatch receives from the caller. If the first-in company has any doubt about scene safety, the unit will stage until Dispatch/ Communications Center and the Law Enforcement Agency (LEA) advise the scene is secure.
- Units will advise Dispatch/ Communications Center if they stage, and the staging location. Units will turn off warning lights and sirens when at the staging area and turn them back on when completing the response to the incident. If Dispatch advises units to stage while dispatching the alarm, units may respond non emergency to the incident.
- Units must proceed to the scene with caution only after Dispatch/LEA advice the scene is secure. Turning off warning lights at the scene and shutting down prior to arrival may reduce crowd attraction to the incident. Consider apparatus placement for rapid retreat if necessary.
- All necessary personal protective equipment shall be worn based upon the hazards that are specific to an incident.

- Refer to Seminole County Practice Parameters for patient treatment guidelines.

- Upon arrival of the fire department Incident Commander, Unified Command will be established with law enforcement commander as a shared command post area.

- If directed by the Incident Commander, each apparatus operator will remove all exposed equipment (axes, extinguishers, tools) from exposed areas on apparatus.

- No fire department unit shall enter into an area of unrest without first being directed to do so by the Incident Commander.

- Whenever possible, a law enforcement officer will accompany the fire apparatus into the area of unrest. Personnel will ride in the enclosed area of the apparatus keeping all windows rolled up.

- The fire department will not use their personnel or equipment for crowd control or for the disbursement of people, and will avoid any physical contact with persons involved in the disturbance. Fire department will not carry on them or on the fire apparatus any firearm or concealed weapons.

- Firefighting will be kept to the necessary minimum with efforts being directed toward the control and confinement of the fire through a defensive attack while keeping in mind the protection of personnel and equipment. While attacking fires, remain as mobile as possible in case evacuation is necessary.

- If gunfire begins, immediately take cover. If personnel are physically or verbally attacked or threatened, apparatus and personnel will be withdrawn immediately. If ordered to evacuate, place equipment back on apparatus only if it can be done so without jeopardizing personnel safety.

- When the safety of the fire department personnel becomes threatened and a law enforcement representative is needed, but not present, the LEA will be requested to respond emergency to the current location. If possible, state the reason for LEA response. If the hostile situation does not allow for verbal contact with the Communications Center, then the emergency activation button on the radio shall be activated. As soon as possible, make contact with the Communications Center advising them of the situation and acknowledge the need for " Engine 99" response. Units may opt to switch to the law enforcement radio talk group for direct communication with Law Enforcement.

- On any alarm (particularly EMS alarms), a rapid removal of the patient from the hostile environment should be considered.

3.22

Title: **Helicopter Use and Landing Zones**

Issue Date: April 18, 2013
Revision Date: January 1, 2017

Purpose: To establish standardized considerations for requesting aero-medical transport and to provide guidelines for the establishment and management of off-airport landing zones (LZ) which will ensure safe operations for the aircrew as well as field personnel with landing zone responsibilities.

General: The decision to request aero-medical transport must be made while keeping in mind the best interest of the patient, the inherent hazards of helicopter operations, the need for increased manpower, the helicopter response time, current traffic conditions, and the proximity of the incident to area Interstates and Expressways.

Criteria that suggest the need for aero-medical transport may include, but are not limited to:

- Prolonged patient extrication.
- Situations in which the time differential between air and ground transport may substantially impact the outcome of the patient.
- Traffic conditions or geographic terrain which prohibits adequate ground access to the victim.
- The need for ALS services where none are available or will be significantly delayed.
- Mass casualty incidents.
- An insufficient amount of EMS personnel, equipment, or vehicles to manage a multiple casualty incident or a single patient encounter.
- Patients who meet the "Trauma Alert" criteria as specified by the State of Florida DOH EMS regulations and in whom the time differential between air and ground transport may substantially impact the outcome of the patient.

Landing Zone Selection:

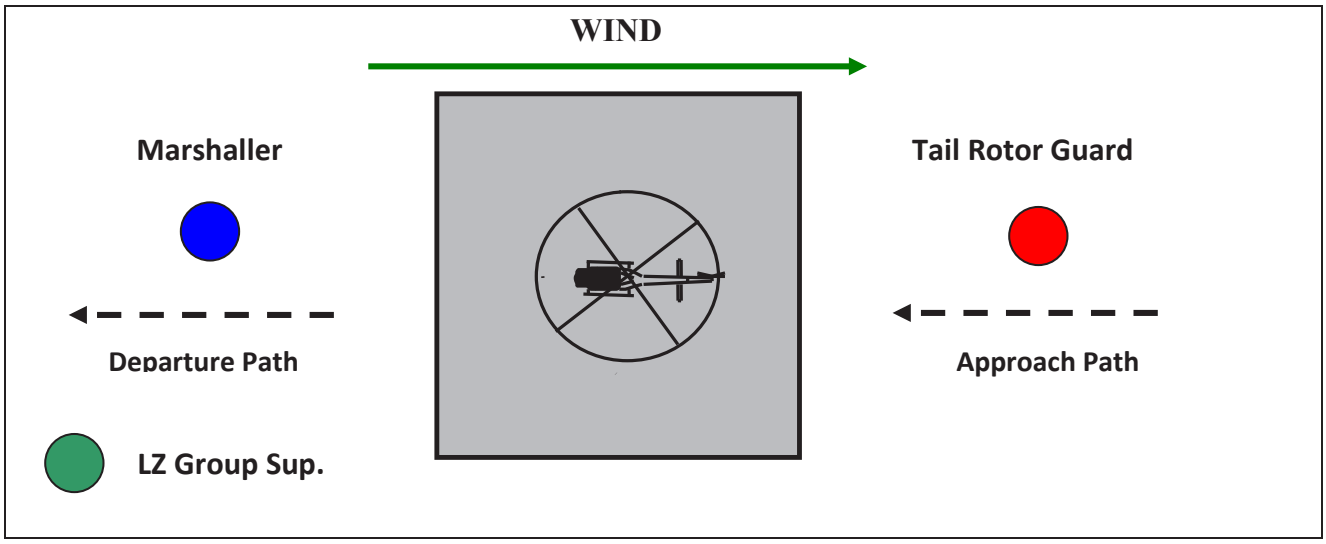
If the situation requires the use of a helicopter, first check to see if there is an area large enough to land a helicopter safely. The minimum area needed for aero-medical transport units is 100'x100'.

AirCare

Volusia Air One

100'x100'

Personnel charged with the responsibility of LZ selection should keep in mind that the approach and departure paths should be clear of obstructions in addition to the actual LZ area. The direction of approach and departure will be dependent on wind direction. The safest procedure is that the helicopter *lands and takes off into the wind*.



The landing zone should be level, firm and free of loose debris that could possibly blow up into the rotor system. The LZ area should be at least 300 feet away from the scene to prevent rotor wash from disturbing patient care.

The landing zone should be clear of people, vehicles and obstructions such as trees, poles, stumps, posts, brush, and wires. Remember that wires are difficult to see from the air. Additionally, sandy lots are not usually suitable landing areas. Water should be applied to sandy landing areas if an alternative suitable landing site cannot be found. Keep spectators back at least 300 feet. Keep emergency vehicles back at least 100 feet from the LZ perimeter.

For nighttime operations, the use of high beam headlights or strobes should be avoided in the area of the landing zone.

Landing Zone Group Supervisor:

The Landing Zone Group Supervisor is responsible for the selection and security of the LZ. The LZ Group Supervisor will establish radio contact with inbound aircraft and keep the aircrew informed on the location/status of the LZ. Information to be passed on to the aircrew by the LZ Group Supervisor includes:

- Location (Prominent landmarks, GPS if available/necessary)
- Hazards (Within close proximity to LZ, approach/departure paths)
- Status (If the LZ has not been fully secured it is the responsibility of the LZ Group Supervisor to inform the aircrew not to approach until LZ security is ensured.)

All pertinent information communicated from the ground to the inbound aircraft should go through the LZ Group Supervisor.

The LZ Group Supervisor shall employ the number of personnel required to ensure that the LZ remains secure against all vehicular and pedestrian intrusion. If LZ security cannot be ensured, the aircrew should be advised via radio and landing should be withheld until the LZ is secure. The LZ Group Supervisor will be responsible for the Marshaller duties when one is not assigned.

Marshaller:

The LZ Group Supervisor shall appoint a Marshaller to assist in guiding the aircraft safely into the appropriate landing area. The Marshaller is utilized to identify the landing zone and ground wind direction.

Tail-rotor Guard:

The LZ Group Supervisor shall appoint one member as a tail rotor guard. The tail-rotor guard shall stand clear of the LZ during landing. Once the helicopter has landed and the aircrew gives him/her a visual ok, he/she shall move into a position that allows observation of the rear of the helicopter without being unnecessarily close to the tail-rotor. The tail-rotor guard shall also have in his/her possession a dry chemical fire extinguisher and, if available, a portable two-way radio.

Landing Procedures:

The Marshaller should assist in guiding the aircraft safely into the appropriate landing area. The Marshaller should stand with his/her **back to the wind** and arms raised over his/her head (flashlights with cones in each hand for night operations).

The aircrew will confirm the LZ sighting via radio. Once the aircrew identifies the LZ, the Marshaller should back out but remain on the front side of the LZ and within the vision of the pilot.

Landing Zone Radio Traffic:

Just prior to landing and/or takeoff, the aircraft will declare "**LZ RADIO TRAFFIC ONLY"**. Then LZ Group Supervisor will declare it with the communications center which will activate tone for three seconds and announce, "LZ RADIO TRAFFIC ONLY."Activation of this procedure is meant to signify to ground crews to cease normal radio traffic during the landing or takeoff of the aircraft in case an emergency occurs.

This is only for short-term use and will be initiated by the aircraft and declared by the LZ Group Supervisor.

For example:

Air transport unit: ***"Air Care to LZ - on final approach, declaring LZ Radio Traffic only"***

Air transport unit: ***"Air Care to LZ - on the scene, return to Normal radio traffic."***

Air transport unit: ***"Air Care to LZ – departing the scene, declaring LZ radio traffic only."***

Air transport unit: ***"Air Care to LZ - clear of the scene, return to normal radio traffic."***

This will enable anyone that may see a previously undetermined hazard or any condition that may jeopardize the safe landing of the aircraft to call off the landing. This shall be done by calling "ABORT, ABORT, ABORT" on the radio. The Marshaller will wave his/her arms from horizontal to crossed overhead (unsafe signal) to wave off the aircraft.

The aircraft will immediately call: "(call sign) *EXECUTING MISSED APPROACH*" to acknowledge hearing instructions to abort landing. Upon resuming a safe orbit over the scene, the aircraft will call: "(call sign) *HOLDING, RETURN TO NORMAL RADIO TRAFFIC*." This will release the tactical channel for normal traffic, and the aircraft will communicate with the LZ Group Supervisor as to the new landing zone instructions. When the aircraft is on final again, they will re-initiate Landing Zone Radio Traffic. After a safe landing, the aircraft will call: "(call sign) *ON THE SCENE, RETURN TO NORMAL RADIO TRAFFIC.*" No acknowledgement will be necessary from SCCC or field personnel.

The tail-rotor guard shall ensure that the aircrew gives him/her a visual OK prior to moving into position behind the aircraft. **The tail-rotor guard should never be within 25 feet of the tail-rotor.** The tail-rotor guard shall ensure that no pedestrian or vehicular traffic enters into the LZ from the rear.

All personnel assigned to LZ security shall keep in mind that once the aircraft is on the ground their priority is ensuring that no pedestrian or vehicular traffic enters the LZ. This will require that all eyes of the LZ personnel frequently scan the perimeter of the LZ to avoid any intrusions.

PPE/Equipment:

The LZ Group Supervisor, Marshaller, and tail-rotor guard shall don Firefighter's protective pants, coat, shoes, gloves, helmet (chinstrap secured) and eye protection. Nomex brush fire gear is permitted if available.

Approach To Aircraft:

Do not approach the aircraft once it is on the ground until the pilot or flight crew signals that you may approach. Air Care and Volusia Air 1 should be approached from a 45-degree angle to the front unless guided by a member of the crew. Personnel shall wear helmets with the chinstrap in place and eye shield or goggles down when approaching the aircraft. Wearing full protective gear (brush fire gear is acceptable protection) is also recommended when assisting with operations at the helicopter. Ensure loose, lightweight items such as stretcher sheets are removed

from the stretcher prior to approaching the Aircraft. The safest time to get this done is in the back of the rescue or prior to placing the patient on the stretcher.

Multiple Aircraft:

In some instances it may be necessary to bring more than one aircraft into a scene. Due to the increased hazard of multiple aircraft working in close proximity to one another, careful attention must be given to LZ procedures in order to ensure a safe operation. Since it is rarely essential to have multiple aircraft on the ground, it is recommended that only one aircraft be brought into the LZ at any one time. Any additional aircraft responding in to the scene should be advised by the LZ Group Supervisor to orbit the LZ at a safe altitude and maintain radio contact with the LZ Group Supervisor to await clearance into the LZ.

If it is determined by the on scene Incident Commander that multiple aircraft are to be landed simultaneously, the LZ Group Supervisor shall ensure that the landing zone area is large enough to safely accommodate the additional aircraft. Also, additional personnel must be assigned to the Marshaller and tail-rotor guard positions for each additional aircraft.

3.23

Title: Mass Casualty Multi Victim

Issue Date: Jan. 1. 2017
Revision Date: January 1, 2017

Purpose: In Seminole County natural and man-made hazards have the potential to generate large numbers of injuries and fatalities. The county and cities have the potential to respond to hurricanes, tornadoes, radiological disasters, railway disasters, industrial disasters, weapons of mass destruction biological events and any other event that may cause mass causality and/or multiple victims.

The purpose of this mass casualty multi victim guideline is to provide a systematic approach to mitigation of multiple patient situations. In a large mass-causality event, the actions taken by the first arriving crew in its first five minutes on scene will often mean the difference between a poorly run scene that risks poor patient outcomes, and a well-run scene that gives victims their best chance for survival.

General: There are many facets to responding to a mass-casualty event. While some disaster/emergency events are slow moving and provide ample reaction time, the worst-case assumption for an MCI is that there will be little or no warning. There is the initial scene assessment and setup, triage, movement of patients to casualty collection points, treatment and ultimately transportation for definitive care.

The goal of the Seminole County system is to ensure the safety of the responders and provide efficient triage, treatment and transportation of victims. It is important that all responders have a good fundamental understanding of not only the various aspects of triage, treatment and transport, but also principles and concepts pertaining to the management and coordination of MCI's and other large-scale events.

The basic system outlined in this guideline is applicable to all multiple patient situations and should be used in such incidents. **It is the responsibility of the Seminole County Dispatch Center and the Incident Commander to make an early determination of a MCI event and implement the required resources and procedures.**

Basic Operational Approach:

- The basic operational approach is divided into three categories, LEVEL 1, LEVEL 2, LEVEL 3 based on the number of anticipated patients. When a mass casualty occurs emergency responders will take appropriate action to save lives, secure the scene, and assure prompt notification of the necessary response needed. Command will quickly build and fill the necessary functional groups and/or divisions using appropriate span of control and division of labor.
- Care should be taken to limit disturbance of the scene to those activities critical to the removal of living victims for transport to medical facilities. Once viable patients are removed, no action should be taken on remains or personal effects until the coroner's arrival.
- Depending on the nature of the incident, the initial IC will likely be Fire Department but may transition to a Unified

Command upon the arrival of agencies appropriate to the incident. The coroner may assume command of the incident once all life saving activities has been accomplished, survivors removed, and on-site hazards stabilized.

- The coroner's function on scene will be accomplished through designation as a branch or group.
- Duties and responsibilities of personnel assigned to ICS positions that are not addressed in this plan (e.g., Safety, Liasion, Plans) will be in accordance with established ICS procedures.
- Based on the scope of the situation, a local emergency may be declared. This would put disaster laws and emergency measures into effect, thus enhancing the response and recovery effort. A request for state and federal resources may also be submitted if needed to secure additional/specialized assistance.
- Depending on the scope of the incident and the length of time necessary to complete emergency response and recovery operations, a rehabilitation area for response personnel should be established and the Rehab unit requested to respond. This area should separate from the staging area and accident scene when possible. Command should be aware of the need for Health and Safety Officer/Peer Support when appropriate.
- In a disaster situation, identification of the dead is a critical issue; accordingly, remains must be treated with respect and dignity. Upon notification of the number of fatalities involved, the Coroner's Office will determine if it will be necessary to initiate procedures to establish a temporary facility. Seminole County Dispatch will facilitate the response of refrigerated trucks and commercial buses.

Response Levels:

- **MCI Level 1- Mass Casualty incident 5-10 patients –**The response to a MCI-1 will include: (2) BC, (1) Squad, (2) Engines, (3) Rescues, (1) Tower, and (1) MCI Trailer. Communications will make the appropriate notifications.
- **MCI Level 2- Mass Casualty Incident 11-30 patients –** In addition to the MCI 1, the response to a MCI-2 will include: (3) BC, (3) Engines, (4) Rescues, and (2) ATV.
- **MCI Level 3- Mass Casualty Incident 31 or more patients –** In addition MCI 2, the response to a MCI-3 will include: (1) Engine and (2) Rescues.
  At this point all available command staff/training staff should respond. An incident of this magnitude will requires the use of regional, state and/or federal resources to manage the incident. Activation of the County Emergency Operations Center may be needed to coordinate additional resources.

First Unit on Scene:

- Determine severity of situation to include: number of patients, types of injuries (Red, Yellow, Green, and Black) and level of MCI and establish command. Confirmed MCI will require

dispatch to send out an EM system notification to surrounding counties and hospitals.

- Determine if the scene is open or closed: **Open**: easy/safe access to patients. **Closed:** rescue, hazards or search will be needed. Report area involved including problems with scene access. Inform all incoming emergency vehicles of safest route to scene.
- Notify dispatch to relay information to responding units, and request appropriate response of resources. Dispatch will notify hospital(s) of situation, to include number of patients and type of injuries.
- Provide for the life safety of victims emergency response personnel. Maintain accountability of response personnel.
- Consider location for staging area and identify adequate work area for **Triage, Treatment**, and **Transport. T3**
- Always consider the need for patients to be decontaminated if they have been exposed to ANY hazardous material.

Command Responsibilities of Chief Officers:

First Arriving Command Officer:

- Establish command if not established by the first unit and designate a command post location.
- Confirm that the considerations of the first arriving unit have been accomplished. Reassign any personnel and or tasks due to higher immediate priorities.
- Evaluate the operational plan and adjust as needed.
- Consider additional alarms/resources.
- Establish divisions/groups for command and control of units working in hazardous area, while ensuring safety and accountability of personnel.
- Note: The first arriving Command Officer should develop a strategic plan benchmarking the following: number of victims, victim accountability, extrication, hospital contacts, triage (Red, Yellow, green and Black), treatment, transport, staging, air transport, safety and 2-OUT/RIT. All additional Command Officers responding should be prepared to manage operational groups such as transport and treatment, etc.

Second Arriving Command Officer:

- Report to the command post and assume responsibilities as directed by Command, including, but not limited to:
  - Assumption of operational control of the units.
  - Establish Divisions/Groups as required.
  - Evaluate incident progress and rescue potentials, call for additional resources.

Third Arriving Command Officer:

- Report to the command post and assume responsibilities as directed by Command, including, but not limited to:
  - Confirm that the accountability system is in place.
  - Ensure efficient traffic patterns are in place early in

the incident, including treatment/transport area.

Later Arriving Command Officers:

- Report to command post and assume responsibilities as directed by Command.

Divisions or Groups:

- Nearly all multiple casualty incidents require victims to be extricated or located, triaged, treated and transported to the hospital. These tasks, along with the support tasks of these functional areas, become the functional group of the operation. To ensure efficiency in the operation, Command should assign groups as early as possible. Only Command assigns the groups and Command should assign one officer to manage the needs of each group.

Group officer considerations:

- Group officers should be supervisory personnel who are familiar with the role assigned to them. The IMS manual contains addendum worksheets for MCI flow cart, transportation log, staging log and rehabilitation tracking.
- Each group assumes a radio designation consistent with the function and responsibility of the group. Example: transportation group is responsible for the transportation of the injured and will be called “Transportation”. Communications will generally be on a command channel E,F,G. Staging will automatically be placed on J or I. Command can request the use of additional command channels for placing functional groups such as transportation on their own channel.
- Each Group officer communicates with Command via the radio. All personnel assigned to the group should communicate face-to-face. This will reduce the already anticipated heavy radio traffic associated with a MCI.
- Group officers should have visible identification, such as reflective vest indicating the group role that can easily be seen by personnel and crowds.
- Each group officer is responsible for management of all required activities within the group.

The following is a list of groups and their duties that may be vital to a MCI operation.

Triage:

- Upon arrival and initial assessment of multiple patients or an MCI, crews should establish one or two person triage teams. These teams should utilize the department provided triage equipment and begin to assess patients using the START system. Triage teams should not become involved in complex treatment of patients. Each unit is equipped with an orange triage bag, the bag contains enough tags to triage 50 patients. The triage tags have the START system imprinted on the tag. The bag also includes color coded roles of ribbon to mark patients and to designate treatment areas.

- **NOTE on the START System:** The START system utilizes three criteria's to categorize victims:
  - Respiration > 30
  - Perfusion / Cap Refill > 2
  - Mental Status

Treatment:

- The treatment area should be well defined with distinct color coding reflecting the condition of the patients in each sub area. The treatment area should flow into the transportation area. The treatment group leader should assign those patients in need of transport and communicate their needs to the transportation group leader.
- Treatment must have adequate resources to treat different level patients. A patient staging or pooling area should be established near the treatment area and all ambulatory patients should be directed there to be evaluated.

Transportation:

- The transportation Group Leader is responsible for coordination between the Treatment Group, transport unit(s), and the hospitals. This Group Officer will in most cases need to secure a second radio channel. They are required to keep records of the number of patients transported, where the patients are being transported to, and who is transporting. It is imperative that the Transport Group works with all transport entity representatives to ensure smooth and orderly movement of the patients. The Transportation Group Officer must also coordinate between the area hospitals as to not overload any one hospital. Seminole Communications will provide all regional hospital status.

Transportation Staging:

- In a large MCI where the Fire Department would be responsible for the treatment and transportation of victims/patients, mutual aid from all available transport capable ambulances and rescues would be requested. In order to maintain a smooth transition of these transportation units entering the scene and leaving for hospitals, it is imperative that a Transportation Staging Group (level 2 staging) be created with the responsibility of holding units in staging until the Transportation Group requests them to the scene. This will be typically located one or two blocks from the scene with a direct path to the transportation staging area. Units from outside the immediate area should be given directions from their respective communications section to report to the transportation staging area and await orders or directions. This staging will allow the transfer of hospital directions and information to units that may not be familiar with the routes to hospitals in the Central Florida area. It will also facilitate a direct face to face when the radio

communications are incompatible or inoperable. **Remember in a MCI incident, each unit should be capable of transporting multiple patients.**

- Efforts should be concentrated on removing the most critically injured (red tags) first, however do not overload the treatment area with patients that will use all available resources. If during the movement of patients to the treatment area, crews find patients who have expired, they should be left until last or until a temporary morgue has been established.
-

Extrication:

- The Extrication Group is utilized in the multi-patient medical incidents and in situations that require physical extrication of trapped patients. In most cases, this will involve tower/ squad companies that specialize in the removal of trapped patients.
- The Extrication Group should advise Command of resources needed to complete the task at hand. This request should include the amount of manpower needed for litter bearers and any additional or specialized types of tools, machinery, transport vehicles, and lifting equipment.
- Persons who are assigned to the Extrication Group are responsible for locating the START triaged patients, removing them from the entanglement, and transporting them to the established treatment areas. This may require multiple units to be assigned as litter bearers. Coordination between the Extrication Group and the Treatment Group is critical. Treatment must have adequate resources to treat different level patients. A patient staging or pooling area should be established near the treatment area and all ambulatory patients should be directed there to be evaluated.
- In certain cases, personnel from the Treatment Group may have to begin and continue treatment of a patient while being extricated. Again, coordination between the Treatment Group, Extrication Groups and Command is critical.
- Large scale manmade and natural disasters may require activation of Technical Rescue Teams and Urban Search and Rescue teams. These teams have highly trained and skilled members with a variety of specialized equipment.

Other Considerations:

- **Hospital/ED Saturation levels:** This is the number of patients that each hospital can take and possible walking wounded. The ED level is available from Seminole County Communications or by the Medical Branch or Transport Group if one is established. **Ground Transportation:** Most patients will be transported to the hospital via ground ambulances. This requires the Transportation Group Officer to direct which unit will transport which patient. If the incident is of great magnitude, the Incident Commander may have to create a Medical Staging

Officer for ground transport units. Ground transports may include fire department resources, ambulances, and buses for the walking wounded.

- Incident Commanders should consider requesting EOC notification and request regional resources for onsite treatment areas when large scale incidents overwhelm hospitals. This may include shelter activation and on site hospitals.

3.24

Title: Fire Attack Considerations

Issue Date: April 7, 2016
Revision Date: January 1, 2017

Purpose: Risk associated with firefighting continues to increase as lightweight building constructions, open geometrical spaces and synthetic materials become more common place. These risk factors in combination with a wind driven event is known to change relatively safe working environments into untenable life threatening environments in seconds. Understanding the risk factors and means for employing firefighting strategy and tactics can reduce the hazards firefighters are exposed to.

General: Firefighting operations (opening doors, indiscriminate ventilation, delayed application of water) can contribute to fire growth and intensity. Strategy and Tactics examined to reduce risk of interior crews are not new. Firefighting practices effective in reducing risk associated with modern fire behavior should be considered "tools in the toolbox" and not a one size fits all. Every fire in every structure is different. Firefighters, company officers and command officers must implement strategies and tactics based on an effective scene size up and walk around 360, to ensure situational awareness and assist in development of effective fire ground IAP.

If you hear…

- Never ventilate…
- Never go inside…
- Always throw water from the outside…
- Never go over a basement fire…
- Never vertically vent…
- Everything you did in the past is wrong…

You aren't listening!

www.modernfirebehavior.com

Significant Factors	Fire Behavior Changes
Larger Homes	Faster fire propagation
Open home geometries –open floor plans and higher ceilings	Shorter time to flashover
Increased fuel loads	Rapid change in fire dynamics
New construction material	Shorter escape times
Failure time of windows and doors	Shorter time to collapse

decreased	
Energy efficient	Flashover and backdraft potential after doors windows opened

Decision should be relayed to responding personnel based on: What do you have? What are you doing about it? What do you need?

SLICE-RS is effective in providing a means for obtaining a situational awareness and employing effective and safe firefighting operations.

S- Size –up
L- Locate the fire (360 **TIC**)
I – Isolate the flow path
C- Cool from a safe distance
E-Extinguish
R-Rescue
S-Salvage

Wind Driven Events or Forced "Draught" Fires are defined as windows on the opposite side of the compartment or additional air is being fed to the fire from another source (other than window/door/vent opening). The hazards associated with wind driven events can take place with a minimum 10-20 mph winds. Wind driven events create air movement called a flow path, which is where superheated smoke and fire gases travel from high pressure to low pressure. Risk to firefighters is significantly increased when they are operating within this flow path.. A Flow paths can be vertical or horizontal.

- **Flow path** occurs in all structures regardless of wind or direction. Fire flows from high pressure to low pressure.
- **Wind is a factor.** Wind (or air) can significantly increase the thermal hazards of a fire in a structure. Communications will provide wind speed and direction on structure fires.
- **Smoke is Fuel.** A ventilation-limited (fuel rich) condition developed prior to the failure of the windows.
- **Venting does not always equal cooling.** Wind velocities within the structure exceeded 5 m/s (11 mph) due to the fire growth and the flow path that was created between the window opening and the open bulkhead door on the roof.
- **Avoid the flow path.** Thermal conditions in the flow path were often higher than 400 ºC (752 ºF) and were not consistent with firefighter survival.
- **Control the flow path.** Wind driven conditions with untenable thermal conditions cannot occur if there is no flow path through the structure. If the door to the stairwell on the fire floor is closed, it limits the spread of fire and heat will be limited and wind driven "blow torch" conditions will be prevented.
- **Use of PPV.** PPV fans could not overcome the effects of a wind driven condition. However when used in conjunction with door control, Wind Control Devices (WCDs), and Floor below nozzle (FBNs) (tactics that stop the wind driven condition) the PPV fans were able to maintain tenable and clear conditions in the stairwell.
- **Impact of WCDs (Wind Controlled Devices).** The WCDs reduced the temperatures in the corridor and the stairwell by more than 50%. The WCDs also completely mitigated any velocity due to the external wind. The WCD must cover the window opening completely to be effective.

The benefit of using a WCD, compared to using the apartment door or the stairwell door, is that the flow path is interrupted at the entry point. This improves all of the conditions along the entire potential flow path.

- **Impact of externally applied water.** In all cases, the water flows suppressed the fires. This demonstrated that a relatively small amount of water directly applied to burning fuels can have a significant impact.
- **Escape Routes** should be clearly identified and shielding options considered in every fire.

http://dev.fstartraining.org/Fact-Sheets/Fire-Fighting-Tactics-under-Wind-Driven-Fire-Conditions

5 Step Wind Driven Fire Action Plan

1. Wind speed as little as 10mph can cause life threatening interior operations. PPV operations provide little or no benefits to counteract wind.

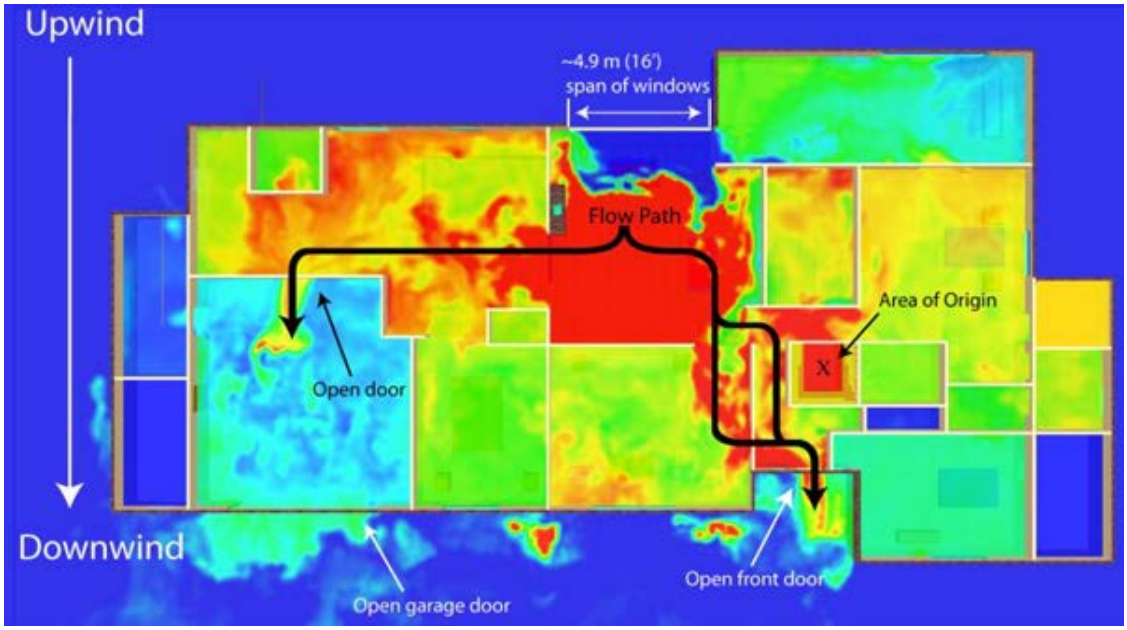
2. Responding chief officers and crews must recognize wind driven conditions before the call, at dispatch and throughout the operation. Wind direction and speed must be updated often. Incident Commanders may use handheld wind meters on scene to have most current local weather conditions.

3. As always, a 360 walk around should be performed. Identify the flow path and keep wind at your back when possible. Determination should be made if wind is pressuring or has the potential to pressurize the structure. If so, from which side. Use wind to your advantage**. Utilize TICs** to assess interior fire conditions.

4. Wind Driven conditions must be made known to all responding companies.

5. Consider exterior knock down from the burned side (pressurized side and wind to your back) prior to making entry. Crews performing search operations should also enter from the upwind, windward side or burned side. Avoid attack on downwind side.

Reading Smoke
Volume, Velocity, Density and Color are indications for fire location, flow paths and intensity of wind driven events.



Wind driven tactics

- Attack fire from the *upwind/burned* side
- Offensive operations from exterior position
- Control windows and doors - most basic
  - Anti-Ventilation tactic, close windows causing wind driven event and increase flow path risk.
- Indiscriminate ventilation may prove to be a critical error. Do not vent until water on fire.
- PPV – limitations in WDE, may prove useful in pressuring stairwells
- Door closest to the fire truck should not dictate line/stream placement.

Options 1 – Transitional Attack

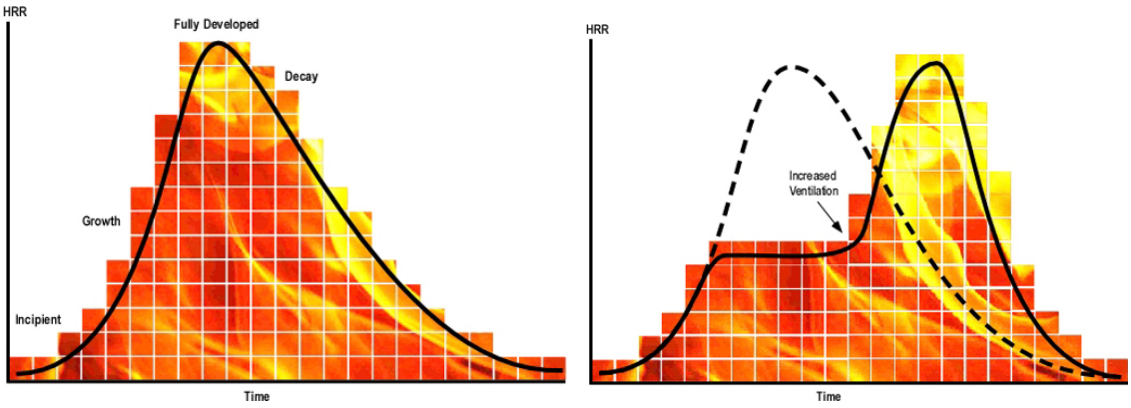
- "Take the punch out of it", "Hit it hard from the yard" or "Softening the target" (Slowing/Stopping advancement of fire spread)
- Ensure personnel are not operating inside (Proper coordination via command).
- Rescue operations must be coordinated with fire attack.
- Nozzle control and stream selection
- Options or "tools" based on your situational awareness and size up. Every fire is different.
- Smoke is fuel for fire spread.
- Offensive operation does not always mean we have to be inside.
- Aggressive initial defensive (exterior) attack then transition to offensive (interior) attack. Aggressive exterior attacks can be effective when water is applied inside windows, eaves and through ceilings.
- Ensure water supply established as soon as possible.

Option 2

- Attack from uninvolved side.
- Consider Flow Path
- Control Openings – Door Control
  - Doors are vents, not just entry.
- TICs shall be used to monitor interior temperatures at the ceiling. Short burst of a straight/solid stream application at the ceiling can quickly reduce

temperatures and decrease flashover risk.

Heat Rate Release associated with PPV in modern fire behavior.



Recommendation 1: When venting for fire, the attack line must be in place at the main body of fire.

As a firefighter, it is critical you understand what the flow path is and the results of being within the flow path.

Recommendation 2: By controlling the flow path and the amount of air entrained in the structure, you are limiting the amount of energy available for the fire to spread.

Recommendation 3: Stretch a charged houseline from the point of entry on the fire floor. Do not stretch dry hose lines to fire flow.

Recommendation 4; Do not crowd hallways or stairways. Conditions change rapidly.

Recommendation 5: Attacking the fire from the outside is acceptable as long as no crews are already inside operating and you are moving forward, ensuring proper communication via command.

Recommendation 6: Find a way to take the energy out of the fire. Attack the fire from the outside prior to moving in. Water does not punch fire, air and ventilation does. Ensure straight or solid streams are used without moving patterns such as O and Z. No fog pattern shall be utilized.

Recommendation 7: Combining defensive and offensive tactics while crews are inside is still a bad ideas and can result in injury.

4: SPECIAL HAZARDS OPERATIONS

4.1

Title: Hazmat Incidents

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To establish guidelines for the evaluation and safe handling of Hazardous Material incidents.

General: Seminole County has hundreds of facilities using and producing hazardous materials. It also has all major modes of transportation by which hazardous materials are transported including waterway, international airport, local and interstate highway traffic, and rail.

Definitions:

- Hazardous Materials (HazMat) – Any substance or material, in any form or quantity, which poses an unreasonable risk to safety, health or property.
- Release – Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other receptacles containing any hazardous material or substance waste or pollutant or contaminant).
- Response Actions – Any activity which is carried out in response to a threatened discharge or actual discharge of any hazardous substance, including but not limited to: investigating, monitoring, assessing, containing, cleaning up or disposing of hazardous substances.
- Placards – Diamond shaped signs (10- ¾ inches each side) that generally must be affixed to each side and end of vehicles carrying hazardous materials.
- Labels – Four inch diamond shaped stickers that are affixed to non bulk packages of hazardous materials.
- NFPA 704 – Marking system for fixed site facilities to indicate the dangers associated with various hazardous materials handled at a location.
- Emergency Response Guide (ERG) – Reference book available to assist in identifying hazardous materials.
- Material Safety Data Sheet (MSDS) – Facilities are required to keep this information for all hazardous materials handled and stored at the facility. MSDS can provide information on the physical and chemical properties of the material, the hazard associated, and the basic directions for response actions.
- Training Levels –
    - Awareness Level – Discover/Notify
    - Operations Level – Respond defensively. All field personnel are trained to this level.
    - Technician Level – Perform offensive operations to

mitigate a hazard involving hazardous materials. Personnel have received appropriate training and have been identified as Technician Level by their respective authority having jurisdiction.
    - Specialist Level – Support for Technician Level. Trained above the technician level and specialize in a particular field, i.e., WMD, Nuc/Rad, Research.
- Zone Identification –
    - Hot zone – Area where hazardous material is located. This area shall only be entered by personnel in appropriate PPE.
    - Warm zone – Transition area between the hot and cold zones. This area may be used for staging of rapid intervention crews or additional personnel and equipment.
    - Cold zone – Area beyond the range of potential contamination zone. This area may be used for Command and other support functions that do not require immediate access to the Hazard Area.
    - Area of Safe Refuge – The Safe Refuge Area is located in the warm zone just outside of the hot zone perimeter and adjacent to the contamination reduction corridor.
- Levels of Protection –
    - Level A – Total encapsulating, vapor tight garment constructed of materials that are resistant to the chemical (s) involved. This level requires the use of SCBA.
    - Level B – Non-encapsulating or encapsulating splash resistant garment, constructed of materials which are resistant to the chemicals involved. This level requires the use of SCBA.
    - Level C – Splash resistant garment constructed of materials which are resistant to the chemicals involved, with air purifying respirators.
    - Level D – Water repellent gown or coverall with safety glasses, gloves and boots or shoe covers.
- Bill of Lading – Document listing the products or merchandise carried by the truck. Kept in the cab within reach of the driver.
- Rail Consist – Document listing the hazardous materials carried in the train. Carried by the conductor.
- Air bill – Document listing the hazardous materials carried by air. Kept by pilot.

First Arriving Unit (Operations Level)

- The first arriving unit must consciously avoid committing itself to a dangerous situation and operate primarily in a DEFENSIVE manner. When approaching the incident, slow down or stop to assess any visible activity taking place. Evaluate effects of wind, topography, and location of the situation and route any other responding companies away from any hazards.
- A hazardous materials incident requires a more cautious

and deliberate size up than most fire situations. Avoid premature commitment of Companies and personnel to potentially hazardous locations. In many cases, evaluation by HazMat team members before committing is the safest approach.

- Establish Command upon arrival.
- Identify the chemical. Proper identification of material involved is essential to decide on safe tactics to handle any hazardous materials incident. Use placards, labels, container shapes and sizes, type of occupancy, NFPA 704 diamond, MSDS sheet, ERG (if unknown, use ERG Guide 111), or shipping papers.
- All information gathered shall be transmitted to the responding SHOT unit via radio. This should include the following (if available):
    - Name of material involved
    - Four digit UN number
    - Quantity involved
    - Type of release (explosion, leak, spill, broken container, etc)
    - Color of vapor or material
    - Whether the material is fuming or not
    - Any reaction with surrounding material
    - Any information provided by personnel on scene (plant management, responsible party, driver, etc). Detain this individual and have him report to the Command Post once established.
    - Any other information available that may be pertinent (a series of numbers and letters may be valuable to trained personnel)
- Initial responding crews shall not enter a vapor cloud or contaminated area or place themselves in a hazardous position or situation unless there is an immediate rescue need, the risk/reward analysis is favorable for both responder safety and victim viability, and the maximum amount of PPE available to responders is worn (minimum Structural Firefighting gear with SCBA). Consultation with incoming SHOT units via radio is encouraged prior to decision making. Ensure a charge hose line is in place and manned prior to attempting rescue.
- Determine hazard and evacuation zones as indicated in the Emergency Response Guide. If persons are in immediate danger, begin evacuation immediately. Ensure that no one enters the hazard zone until product is identified and the danger evaluated. Any member who is exposed prior to recognition of the hazardous material should be isolate until proper information is available.

Technician Level Units:

- Technician Level companies (HazMat Team) may provide OFFENSIVE measures within the hazard zone. The Company Officer of the first responding HazMat Units will assume HazMat Group.
- Identify and mark the hot zone, warm zone, and cold

zones. Communicate this information to all members operating on the incident.
- Remove individuals materials, cool affected containers, close valves (if indicated), plug or patch openings, upright containers, apply neutralizing agents, or any other advanced procedures as determined by HazMat Officer/Group Leader.
- Establish a Research Group as warranted. Ensure information obtained from the Research Group is passed on to command in a timely fashion.
- If the presence of a clandestine drug lab is suspected and the immediate need for rescue is absent, the scene will immediately be turned over to LEA. On scene technician level units may be assigned to support LEA.

Command Considerations:

- Assume command from first arriving unit or establish command if not already accomplished. Confirm appropriate Hazardous Materials apparatus are responding.
- Establish a Command Post (CP) in a safe location (upwind/uphill) that best supports the command functions. Command should allow enough distance and shielding from the hazards of the incident so the CP remains safe should the environmental factors or hazardous conditions change.
- Based on the initial size-up, information available, and recommendations from the HazMat Group Officer, command will formulate an action plan to deal with the situation. Assign a trained and knowledgeable hazardous materials team member to the Command Post for advisement, provided the team members absence does not negatively impact the operation.
- Confirm or initiate evacuation of the structure and area. If evacuation is not warranted, consider reverse 911 for appropriate sheltering and instructions in place. Establish an evacuation zone if required and assign resources to manage it.
- Assign a scene Safety Officer and a HazMat Group Safety Officer, Technician Level certified (if groups are established).
- Ensure EMS standby and transport is on scene.
- Establish a Rehab Group.
- Ensure that all proper notifications are made to the respective local, state and federal agencies as necessary (ex. State Warning Point, ECAP 3).
- Command must focus on confinement, containment, and/or control of the material in such a way as to save lives and/or prevent unnecessary exposure of on-scene or nearby personnel (including citizens, firefighters, law enforcement, and EMS) to the adverse effects of the involved materials. Objectives must also provide for the protection of uninvolved property and the environment.
- Assess the need for additional resources and request as needed.

Safety Officer Considerations:

- Make contact with a knowledgeable HazMat team member to thoroughly understand the hazards present.
- Ensure that the minimum number of personnel assigned to a mitigation team (Technical Level) is two. Prior to any mitigation efforts, an RIT shall be in place that is equally trained and in the same (or higher) level PPE.
- Ensure the proper PPE is being worn in and around the affected area.
- Establish and ensure vitals monitoring is in place.
- Ensure a HazMat Group Safety Officer, Technician level certified, is in place.

Decontamination:

- A Decontamination Group shall be established by command anytime a decontamination process is established.
- The Decontamination Group Supervisor (Technician Level) shall determine the proper type of decontamination procedures necessary based on the hazardous material (s) involved and inform Command.
- The two basic decontamination approaches include mass decontamination and technical decontamination (Decon):
    - Mass Decontamination involves use of copious amounts of water and is used to provide a rapid decontamination process that can handle a large group of people at one time.
    - Technical decontamination is a very methodical process that involves one or more people to decontaminate each person in need.
- Due to inclement weather or other factors, on-scene decontamination may not always be possible. In this situation, another suitable area shall be designated for the decontamination of personnel, apparatus and equipment.
- Local hospitals shall be notified if there is a likelihood of contaminated patients showing up at the hospital by POV, without the FD's knowledge. The hospital shall be informed of the material involved, precautions to be taken, and recommended decontamination procedures.

Rehab Group:

- Command shall establish a Rehab Group anytime members are engaged in mitigation efforts that require any form of decontamination.
- The Rehab Supervisor shall ensure the group is properly staffed to perform all required functions to include:
    - Vital signs taken and recorded for each member involved in the mitigation process before and after each entry.
    - Rapid transport capability
    - CERT support for extended operations

Termination:

- Incident Commander shall ensure that ECAP3 is notified, if appropriate and request their response to the scene.
- Prior to releasing a scene to a contractor or other entity, the Incident Commander shall confirm the credentials of the responsible party conducting the post emergency response are adequate and equipment required to mitigate the post emergency response is available.
- Prior to releasing units, a hot wash shall be conducted by the Incident Commander. The HazMat Group Officer shall inform crews of the chemical (s) involved, signs and symptoms of exposure and how to get treated should signs and symptoms of exposure occur.
- The Incident Commander or designee shall identify if any equipment or PPE should not be returned to the stations with the crews. The IC shall instruct personnel on how to obtain replacements.

4.2

Title: Flammable Gas Emergencies

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To establish guidelines for responding to incidents involving Natural Gas, Propane, or other flammable gasses.

General: Responding units may encounter significant natural gas and propane in a variety of situations. Each situation will present a unique set of challenges and hazards. The following guidelines will be applicable in the majority of situations, but should not replace good judgment and experience in dealing with any emergency incident.

Definitions:

- Combustible Gas Instrument (CGI)- A specialized instrument capable of detecting flammable gases. IDLH atmospheres relative to flammable gasses can only be determined by the use of CGI. CGI's are set to alarm at 10% of the LEL of common flammable gasses.
- Natural Gas- Natural gas is much lighter than air and will usually dissipate rapidly in the outside environment. Inside buildings, however, it tends to pocket, particularly in attics and dead space. The flammable limits are approximately 5% to 15% in air. Natural gas itself is non-toxic; however, it displaces oxygen and can result in asphyxiation if in a confined space. Natural gas will usually have an odorant added for detection purposes.
- Propane – Propane is 1-1 ½ time heavier than air, therefore, it will remain low. Since it will remain low, it will travel to potential ignition sources. The flammable limits for propane are approximately 2.5% to 9.5% in air. Propane will also have an odorant added to it for detection purposes.
- Lower Explosive Limits (LEL) – Lowest concentration (percentage) of a gas or vapor in air capable of producing a flash of fire in presence of an ignition source (arc, flame, heat). Concentrations lower than LEL are "too lean" to burn. Also called lower flammable limit (LFL).

First Arriving Units:

- First arriving unit should not be parked in blast zone.
- Establish Command on arrival and attempt to find a knowledgeable person and/or witness to the accident, to determine exactly what happened.
- Request appropriate HazMat resources if not already enroute.
- Initial isolation zones shall be established to ensure safety from accidental ignition and explosion (Refer to ERG).
- Approach the incident from upwind. Obtain wind speed/direction from communications and observe any on-scene indicators (trees, flags, etc). Relay this information to incoming units and Battalion Chief.

- Secure the scene of bystanders and tape off area with scene tape.
- Request immediate response of LEA for crowd, site worker control, evacuation and have traffic diverted or re-routed to avoid potential ignition sources and/or injury to response personnel and citizens.
- Burning flammable gas should not normally be extinguished, since this would change the situation from a visible hazard to an invisible hazard with explosive potential. Fires should be controlled by stopping the flow. Exposures should be protected with protection lines.
- Propane can be dispersed with hose streams, if necessary, to prevent it from traveling toward an ignition source. Care should be taken to avoid water runoff from entering or collecting in the area of the leak where crews will be operating to mitigate the hazard.
- Attempt to identify the gas company responsible for the utility and relay that information to communications, responding Battalion Chief and incoming HazMat units. Do not place crews in unnecessary danger to obtain this information.
- Control potential ignition sources.
- Place a charged hose line and large chemical extinguisher in an appropriate area to protect Hazardous Materials Team members while working on mitigation efforts. All crews in the immediate area will be dressed in full structural firefighting gear with SCBA. In the event of a gas fed fire, the primary objective is NOT to extinguish the fire, but to control flow of product.
- In gas leak situations within a building, evacuate all occupants. If the source is unknown or uncontrolled, the gas supply should be shut off at the meter. The meter will then be “locked out” until repairs are complete.
- Utilization of thermal imaging to determine product levels in tanks can be beneficial.

Special Considerations for leaks inside structures:

- Evacuate all occupants to a safe distance.
- If the source is known, isolate gas at the source if gas cock is present.
- If the source is unknown or uncontrollable, the gas supply should be shut off at the meter or tank.
- If there is no gas supply to the structure with odors present, look for other sources such as gasoline containers, portable propane cylinders, or dry p-traps in the plumbing system (especially floor drains) that allows the entry of sewer gases to collect in the structure.
- Immediately ventilate with natural openings (windows, doors, roof hatches, etc) and an intrinsically safe electric fan.
- Controlling of power to the affected structure or mechanical devices within the structure to prevent ignition sources is not advocated unless absolutely necessary, due to the potential

of generating arc's during the shut down process.

Command Considerations:

- Ensure the proper numbers of Special Operations Units are dispatched and responding.
- Command must focus on confinement, containment, and/or control of the gas in such a way as to save lives and property and prevent explosions or fire.
- Assign a Safety Officer preferably with Hazardous Materials training.
- **Ensure a risk/benefit analysis is conducted prior to engaging in rescue efforts to determine if operations will function in rescue mode or recovery mode.**
- Request a PIO respond, as these types of incidents pique the interest of the media.
- Ensure EMS standby and transport is on scene.

Safety Officer Considerations:

- The Safety Officer should be preferably trained and experienced in Hazardous Materials response. The initial Safety Officer, if not qualified, shall be transitioned to a HazMat Technician upon availability.
- Ensure responding crews are in appropriate PPE.
- Hearing protection is imperative in mitigating leaks associated with high pressure lines.
- Ensure ignition sources are controlled and appropriate utilities are locked/tagged out.
- Make contact with knowledgeable persons to ensure no potential unknown or unforeseen hazards exist or may arise from the operations, or from securing utilities, etc.
- Ensure that equally qualified Rapid Intervention Team is in place throughout the operation.
- Ensure charged hose line is in place where situation dictates.
- Provide adequate rehab and vitals monitoring for personnel where appropriate.

4.3

Title: Suspicious Substance/Powder

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To establish guidelines for responding to suspicious powder/substance incidents.

General: It is important to remember that weaponized agents can and will be airborne and not always visually apparent. Respiratory protection is of the utmost importance in responder protection. Maintaining control of any potentially contaminated civilians or responders is necessary in order to minimize the chance of secondary contamination and to ensure all potentially contaminated or exposed victims are properly managed.

It is necessary to realize that the intended target may be Public Safety Personnel!!

First Arriving Units:

- When approaching the scene, slow down to assess and observe the surrounding area for suspicious activities, items, and/or persons.
- Request LEA and Hazardous Materials Units if not already enroute.
- If explosives are suspected, follow EOD guidelines.
- If there are signs of acute chemical exposure, follow HazMat guidelines.
- If communications, LEA, or on-scene individuals advise of a credible threat (or location indicates high value target) and powder visible, don full structural firefighting gear with SCBA and evacuate building. Quarantine all potentially exposed individuals. Disturb as little as possible while in threat area and if the risk/benefit analysis does not support entry, none should be made until the arrival of the appropriate special operations personnel.
- Control the HVAC system if appropriate.
- Control access to the building and advise Command and incoming HazMat units of situation to include location of suspected threat, number and location of exposed individuals and nature of threat.
- Personnel having entered the building or area will be considered contaminated and undergo decon at the discretion of the HazMat Group. Do not remove SCBA/PPE until HazMat group deems safe to do so. Be mindful of cross-contamination possibilities.
- If Communications, LEA, or on-scene individuals advise of a powder or substance with no credible threat and location is not a high value target, don full structural firefighting gear with SCBA and recon that area. If powder or substance is explainable, advise Command and incoming units. If not readily explainable, evacuate the immediate area of threat (affected room or office), quarantine potentially exposed individuals, and advise Command and incoming HazMat units of findings.

Disturb as little as possible while in threat area and if the risk/benefit analysis does not support entry, none should be made until the arrival of the appropriate special operations personnel.

Command Considerations:

- Ensure the proper special operations personnel and equipment are dispatched and responding.
- Confirm LEA is responding.
- When approaching the scene, slow down to assess and observe the surrounding area for suspicious activities, items, and/or persons.
- Establish Command upon arrival.
- If explosives are suspected, follow Bomb Threats, Suspicious Package/Devices.
- If there are signs of acute chemical exposure, follow HazMat guidelines.
- Ensure exposed individuals are isolated and contained to await decon. Do not allow possibly exposed individuals to leave the scene, go POV to the hospital, or contact unexposed individuals.
- Once the area is evacuated, no fire service, law enforcement personnel, or civilians may enter the secure perimeter without the expressed permission of the Incident Command.
- If the situation warrants, make appropriate contacts (Health Department, FBI, etc). The HazMat group will advise what contacts are appropriate based on test results.
- Ensure EMS Standby and transport is on scene.
- Request a PIO respond, as these types of incidents pique the interest of the media.
- If responders become contaminated and HazMat sector deems decon is required, make arrangements for collection, transport and cleaning of affected gear. Arrangements for replacement items will also be needed.
- Responding units must consider any devices may have explosive potential. If threat has the possibility of being explosive, Unified Command and/or Special Operations Group shall ensure priority is given to minimizing blast exposure to responders during mitigation efforts.

Safety Officer Considerations:

- When approaching the scene, slow down to assess and observe the surrounding area for suspicious activities, items, and/or persons. Report any findings to Command and/or LEA.
- The Safety Officer should preferably be trained and experienced in WMD operations. If the initial Safety Officer is not qualified, the position shall be transitioned to a qualified individual upon availability.
- Make contact with the “knowledgeable/competent person” to ensure controllable hazards and utility concerns (HVAC) are addressed.
- If explosives are suspected, follow Bomb Threat/Suspicious Devices.
- If there are signs of acute chemical exposure, follow HazMat

guidelines.

- Ensure exposed individuals are isolated and contained to await decon. Do not allow possibly exposed individuals to leave the scene, go POV to the hospital, or contact unexposed individuals.
- Ensure that a Rapid Intervention Team is in place throughout the operation.
- Once the area is evacuated, ensure no fire service, law enforcement personnel or civilians enter the established perimeter without proper PPE and approval by Unified Command/Special Operations Group.
- Ensure proper rehab and rotation of crews is being conducted on long duration incidents.
- Ensure EMS Standby and transport is on scene.
- If responders become contaminated and HazMat deems decon is required, make arrangements (with Command) for collection, and cleaning of affected gear.
- Responding units must consider that devices may have explosive potential. If threat has the possibility of being explosive, Unified Command and/or Special Operations Group shall ensure priority is given to minimizing blast exposure to responders during mitigation efforts.

4.4

Title: Bomb Threats, Suspicious Packages/Devices

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To establish guidelines for responding to bomb threats, reports of suspicious packages or devices and post-blast incidents.

General: As in most multi-discipline emergencies, it is important to establish a Unified Command. LEA has primary responsibility for actions related to the handling and disposal of explosive devices. In the event of a bomb threat or suspicious package, Fire Department units shall serve in a support role to the lead LEA. The Fire Department has primary responsibility of typical fire department functions such as search and rescue, fire suppression, hazardous materials mitigation, and EMS.

"Bomb Threats, Suspicious Packages/Devices" shall include all of the following: Unknown packages, Suspicious Items or Packages, Improvised Explosive Devices, Incendiary Devices, Explosives, Explosive Chemicals, Shock Sensitive Materials, Pyrotechnics, Abandoned/Deteriorated Explosives, Ammunition, Acid Bottle Bombs, or any package suspected of containing any of the above.

It is necessary to realize that the intended target may be Public Safety Personnel!!

Definitions:

- Bomb Threat – Any written or verbal threat involving a hazard that may include an explosive device or an explosive chemical with no visible hazards.
- Suspicious Item or Package – An item or package that looks out of the ordinary, or out of place, and brings an elevated concern for Public Safety.
- Device in Possession – A hazardous item that has been deemed to be a "destructive device" by the Bomb Squad personnel.
- Time of Detonation – 15 minutes before and 15 minutes after the expected or threatened detonation time.
- Render Safe Procedures (RSP) – Announced by Command to advise all units that the Bomb Squad will be taking action against a hazard. This could involve the use of a disrupter (gunshot), counter charge explosive, etc.

First Arriving Units:

- When approaching the scene, slow down to assess and observe the surrounding area for suspicious activities, items, and/or persons.
- Responding units will park apparatus no closer than 1000 feet of the facility or device. Do not stage units in the "line of sight" of the hazard. When able, stage units in a departing direction of travel, away from the hazard.

- Officer In Charge will make contact with LEA/Unified Command if established.
- Discontinue radio and cell phone transmissions within 600 feet of the threatened facility or the visible device.
- If Communications, LEA, or on-scene individuals advise of a credible threat (or location indicates high value target), don full structural firefighting gear with SCBA and evacuate all civilians and non-essential personnel a minimum distance of 1000 feet. If the hazard is located inside a building, evacuate a minimum of three floors (the hazard floor, above floor, and the floor below). The minimum amount or personnel required for evacuation or other essential functions should be used to minimize risk to responders. If possible, evacuated civilians and Fire Rescue personnel should remain upwind and protected by hard cover.
- Fire Department personnel will not move, open, or disturb any potential hazards to confirm that a hazard does exist. Tactical decision making and mitigations efforts will be determined by Unified Command and the Special Operations Group (SOG). The SOG will be made up of various subject-matter experts.
- Always consider the possibility of secondary hazards, such as an explosive device or persons (suicide bombers), that have been put in place to harm First Responders.
- Responding units must consider that all potential devices could contain chemical, biological, radiological, nuclear, and physical (nails, shrapnel) hazards.
- No human life will be risked or put in jeopardy for the purpose of securing or preserving evidence or property.
- Fire Rescue personnel are to await for EOD response for locating identifying and analyzing suspicious packages/devices. Special operation units such as the Hazardous Materials unit may be tasked with assisting LEA with product identification and diagnostic evaluation. Other units may be tasked with activities such as evacuating, medical support.

Command Authority:

- Agency authority often changes throughout an alarm and Unified Command personnel shall have overall authority over all alarm mitigation efforts. Unified Command should establish a Special Operations Group (SOG) as soon as possible, made of personnel trained to the Technician level and/or subject matter experts (SME) in respective disciplines, to ensure seamless decision making throughout all phases of the alarm. For suspected explosive incidents the SOG could be made up of personnel such as HazMat Technician, Fire Suppression Unit, EOD, SWAT and/or Health Department (suspected biological agent) and FBI to name a few. Unified Command will steer alarm strategy and tactical priorities on information provided by the operational SOG.

Command Considerations:

- Ensure the proper Special Operations personnel and equipment are dispatched and responding. Confirm that Law Enforcement has the EOD team responding.
- When approaching the scene, slow down to assess and observe the surrounding area for suspicious activities, items, and/or persons.
- Always consider the possibility of secondary hazards, such as an explosive device or persons (suicide bombers) that may have been put in place to harm First Responders.
- Establish Unified Command upon arrival. The IC will establish a Command Post in conjunction with LEA. Placement of the Command Post shall take into consideration such factors as the size of the device, explosive capability, nature of the facility, and danger to personnel. Care should be taken to inspect the area of the Command Post for any possible secondary devices.
- Responding units will stage no closer than 1000 feet of the facility or device. Do not stage units in the “line of sight” of the hazard. When able, stage units in a departing direction of travel, away from the hazard.
- Discontinue radio and cell phone transmissions within 600 feet of the threatened facility or the device.
- Ensure all civilians are evacuated a minimum distance of 1000 feet. If possible, evacuated civilians and Fire Rescue personnel should remain upwind and protected by hard cover.
- Once the area is evacuated, no fire service, law enforcement personnel, or civilians may enter the established perimeter without permission of the Incident Command.
- Ensure EMS Standby and transport is on scene.
- Request a PIO respond, as these types of incidents pique the interest of the media.
- Do not permit media personnel to establish communication up-links with their mobile units transmitting in the direction of the hazard (radio energy could detonate the hazard).
- If the explosion occurs while on scene, conduct a PAR.

Safety Officer Consideration:

- When approaching the scene, slow down to assess and observe the surrounding area for suspicious activities, items, and/or persons. Report any findings to Command and/or LEA.
- The Safety Officer should preferably be trained and experienced in WMD operations. If the initial Safety Officer is not qualified, the position shall be transitioned to a qualified individual upon availability.
- Always consider the possibility of secondary hazards, such as an explosive device or persons (suicide bombers), that may have been put in place to harm First Responders.
- Ensure responding units have parked apparatus no closer than 1000 feet of the facility or device. Do not allow units to stage in the “line of sights” of the hazard. When able, stage

units in a departing direction of travel, away from the hazards.
- Discontinue radio and cell phone transmissions within 600 feet of the threatened facility or the device.
- Make contact with the “knowledgeable/competent person to ensure controllable hazards and utility concerns are addressed.
- Ensure all citizens and non-essential personnel are evacuated a minimum distance of 1000 feet. If possible, evacuated civilians and Fire Rescue personnel should remain upwind and protected by hard cover.
- Ensure that Rapid Intervention Team is in place throughout the operation.
- Once the area is evacuated, no fire service, law enforcement personnel, or civilians may enter the established perimeter without the expressed permission of the Incident Commander.
- Consider the use of hearing protection for all personnel on scene.
- Ensure proper rehab and rotation of crews is being conducted on long duration incidents.
- If explosion occurs while on scene, ensure a PAR is conducted.

Post-Blast Considerations:

- Evaluate the situation and request appropriate equipment.
- Verify response of EOD team (if not already on scene).
- Assess structural integrity of structure before entry (if device detonated in or near a structure).
- Direct rescue efforts to immediately remove the injured out of the blast site area prior to administering any medical treatment.
- Upon removal of the injured, only EOD personnel shall be permitted inside the secured area until deemed safe of secondary devices.
- Establish T3 (Triage, Treatment, Transport).
- Consider setting up a Triage system dependent on number of victims. If appropriate, injured victims will be moved to the Treatment Group.
- Establish the Treatment Group, if appropriate, upwind with a big enough area to accommodate a large number of casualties. This location should also interface with the Transportation Group.
- Take care not to move or disturb evidence. Evidence preservation, although important, does not take precedence over rescue.
- Be mindful that secondary devices may be present. If found, do not move, disturb, or contact in anyway. Relay findings to EOD team and resume staging 1000 feet from the device and behind cover. Secondary devices will be treated the same as primary devices.

4.5

Title: Radiological Response

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To establish basic guidelines for managing a radiological incident. A radiological incident is determined as any readings obtained above naturally occurring radiation.

General: Radiological emergencies can happen in a wide variety of locations. These sources can be found in medical facilities, building materials, containers/packages, recipients of nuclear medicine and possibly a form of terrorism. There are three factors that control the amount, or dose, of radiation received from a source. Radiation exposure can be managed by a combination of these factors:

- Time: Reducing the time of an exposure reduces the effect, proportionally.
- Distance: Increasing distance reduces dose due to the inverse square law. The farther away people are from a radiation source, the less their exposure.
- Shielding: The greater shielding around a radiation source, the smaller the exposure. Shielding simply means having something that will absorb radiation between you and the source of the radiation (but using another person to absorb the radiation doesn't count as shielding). The amount of shielding required to protect against different kinds of radiation depends on how much energy they have.
    - Alpha- A thin piece of light material, such as paper, or even the dead cells in the outer layer of human skin provides adequate shielding because alpha particles can't penetrate it. However, living tissue inside body, offers no protection against inhaled or ingested alpha emitters.
    - Beta- Additional covering, for example heavy clothing, is necessary to protect against beta emitters. Some beta particles can penetrate and burn the skin.
    - Gamma- Thick, dense shielding, such as lead, is necessary to protect against gamma rays. The higher the energy of the gamma ray, the thicker the lead must be.

First Arriving Units:

- Establish Command on arrival, and attempt to find the caller or knowledgeable person to determine exactly what happened.
- Command must consider both direct of radiation exposure and contamination. If there is no life hazard, rescue situation or fire, there is no reason to risk exposure of Fire Department personnel. Secure a perimeter, evaluate the situation and wait for the arrival of the Hazardous Materials Team.
- If entry of personnel is needed for rescue, it shall be limited to the absolute minimum number and time required for the urgent situation. These personnel will use full protective clothing and SCBA. Follow the concept of "Time-Distance-Shielding."

Tactical Considerations:

- Incidents with Fire:
  - Initiate normal tactical firefighting operations
  - Always approach from upwind
  - Do not ventilate
  - Minimize the use of water
  - Control water runoff-impound for disposal
  - Minimize exposure of personnel
  - Use full protective clothing with SCBA
- Rescue/EMS Incidents:
  - Remove patients quickly
  - Treat patients for medical problems/injuries
  - Alert hospitals to prepare for contaminated patients
  - Use full protective clothing and SCBA
  - Decontaminate vehicles used to transport

Treatment of Contaminated Patients:

- All contaminated patients should be placed in one treatment area.
- All treatment personnel should use SCBA and full protective clothing.
- Airway filtering (N-95 or similar particular mask) means should be used on the patient to limit inhalation/ingestion of airborne contamination.
- Bandage all open wounds as quickly as possible to prevent wound contamination.
- Removed clothing, watches, wallets, etc., must be placed in plastic bags or other appropriate containers, sealed and properly identified.
- A clean plastic bag or other clothing should be placed over the patients scalp hair to minimize the spread of contamination. Do not cover face.
- Much of the contamination on a patient's skin can be removed by wiping with a moist cloth or tape (put in plastic bag afterwards).
- Before transporting, all contaminated patients must be wrapped in blankets or sheets to completely cover them in order to limit the spread of contamination. Only the face should be left exposed.
- All contaminated patients should be sent to a single hospital or to as few as possible. Once contaminated, these hospitals could be out-of-service for some time.
- Where there are large numbers of contaminated patients, place as many patients as possible in each Rescue to minimize contamination spread to other rescues.
- Reuse of contaminated Rescues for contaminated patient transportation should be considered. If all available Rescues become contaminated, these vehicles can be out-of-service for long periods of time until they can be decontaminated.

- Before treatment personnel can be released from the scene, they must be checked for contamination and decontamination. All equipment used in patient treatment must also be checked and decontaminated. This evaluation will be conducted in the Decontamination Area.

Decontamination Procedure:

- All personnel (both fire and civilian) that were inside the Hot Zone must not be released from the Hot Zone until they have been surveyed with radiation detection instruments and decontaminated, if necessary.
- Contaminated personnel leaving the Hot Zone must pass through the Decontamination Area.
- All personnel reporting to the Decontamination Area will remain fully dressed in full protective clothing and SCBA.
- All contaminated clothing and equipment must be removed and held in the Decon area.
- Decon will be conducted by HazMat personnel.

Command Considerations:

- Ensure the proper Special Operations personnel and equipment are dispatched and responding.
- Confirm that LEA is responding.
- When approaching the scene, slow down to assess and observe the surrounding area for suspicious activities, items, and/or persons.
- Establish Command upon arrival.
- If explosives are suspected, follow EOD guidelines.
- If there are signs of acute chemical exposure, follow HazMat guidelines.
- Ensure exposed individuals are isolated and contained to await decon. Do not allow possibly exposed individuals to leave the scene, go POV to the hospital, or contact unexposed individuals.
- Once the area is evacuated, no fire service, law enforcement personnel, or civilians may enter the established perimeter without the expressed permission of the HazMat Sector.
- If the situation warrants, make appropriate contacts (Health Department, FBI, etc). The HazMat sector will advise what contacts are appropriate based on test results.
- Ensure notification is made to the receiving hospital as far in advance as possible prior to transporting contaminated patients there.
- Ensure EMS Standby and transport is on scene.
- Request a PIO respond, as these types of incidents pique the interest of the media.
- If responders become contaminated and HazMat sector deems decon is required, make arrangements for collection, transport, and cleaning of affected gear. Arrangements for replacement items will also be needed.

Notifications:

- Make notifications to ECAP 3.
- Issue a State Warning Point notification.
- If deemed necessary, Special Operations will notify Florida Bureau of Radiation Control.

4.6

Title: Emergency Response to Railroad Incidents

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: To establish procedures and precautions for railway incidents involving passenger trains, freight cars, railroad equipment, rail yards and right of way. Seminole County has approximately 20 miles of rail that carry freight and passenger trains through rural and populated areas. Several target hazards and neighborhoods are located adjacent to tracks.

General: Railway incidents can be as simple as a railroad tie burning, to multiple car derailment with multiple hazardous material releases or casualties Scene size may be large and require an Area Command approach. A disabled train could block several road/rail intersections, disturbing transports and other alarm responses. Materials and commodities carried in railcars are packaged for normal transit. Any incident may weaken packaging, mix materials resulting in unpredictable reactions. Rail passenger cars and locomotives are constructed to withstand extreme stress under all conditions. As a result, forcible entry and extrication are not easily accomplished.

Safety:

- Responding personnel shall wear appropriate PPE.
- Expect movement on any track, at any time.
- Tripping hazards are common in rail environments.
- Never stand closer than 30 feet from passing train. A fast moving train may pull person towards track and equipment falling off trains is not uncommon...
- Turning locomotive engine off or disconnecting cables does not ensure power supply is de-energized to locomotive or rest of train.
- Never disconnect electrical or pneumatic glad hands between cars. Cars do not have to have a locomotive coupled to be energized.
- Cutting into train cars may cut electrical wire or hydraulic lines; also, the cars are constructed of heavy gauge metal. It is better to access the interior of a passenger car through its designated cut through areas, windows by removing marked emergency exits or weather seal on non-emergency windows.
- Box cars may be filled with argon gas or other oxygen displacing gas and need to be off gassed prior to entry.

Tactical Considerations:

- Have Communications contact CSX, Sunrail and Amtrak representatives.
- Preplan railroad in first due just like a building. Several types of utilities, i.e., electrical line, gas pipe lines and communications conduit run along the CSX right of way.

- An Amtrak and Sunrail Safe Haven site is located at the Amtrak Sanford facility. These are areas of refuge for passengers during emergencies.
- Request Fire or LEA units for watch outs/flagmen to stop on coming trains approaching scene. Watch outs/flagmen to be sent 1 ½ miles in both directions with radio on Incident Command Tac. Maximum speed limit for rails thru Seminole County is 79 mph. At 70 mph a train travels 117 feet per second or 1 mile in 45 seconds.
- The universal stop signal for train emergencies is a hand signal with a flag by day and light by night. The flag/light is swung horizontally at a right angle to the track facing the train. A secondary method is to light a road flare and place it between the rails of all tracks in area. This will signal the engineers of any oncoming train to bring their train to a safe stop. The flares should not be allowed to self-extinguish or burn out during the length of the incident.
- Locate Emergency Cut off switch (Shunt) for locomotive engine. There are three; one on each side of locomotive above fuel tanks and one above where Engineer sits in locomotive. CSX Locomotives carry between 4000 – 6000 gallons of diesel fuel and Amtrak locomotives carry between 1000 – 2000 gallons of diesel. Sunrail locomotives carry up to 2200 gallons of fuel. **After shunt is tripped the engine will continue to run for several minutes!!!!**
- Mechanically cooled cars carry up to 500 gallons of diesel in saddle tanks.
- Rails in Seminole County run through several remote and wetland areas, this may delay response and require additional scene support.
- Ensure locomotives and rail cars are secured for purposes of emergency operations, i.e., hand brake, chocked, cribbed, etc.

First Arriving Units:

- Determine location, type and number of rail cars.
- Find closest railroad crossing number (located at all crossings). Sign will have DOT crossing number and mile post number; give both numbers to Communications.
- If Mass Casualty incident, begin START Triage. If incident is single person on train, contact dispatch for additional support to remove person from car.
- Coordinate with conductor and/or engineer to obtain paperwork and functionality of fire department. Fire department designee will be assigned to coordinate with conductor/engineer for function of all rail cars. For freight trains, locate Engineer or contact CSX Public Safety Coordination Center for Trains' Consist. This document will list all the rail cars and cargo in order from front of train to rear.
- If possible, keep passengers in cars until adequate sheltering is available. While passengers are on cars they are the railroad's responsibility.

- If there is fire involvement, use extinguishing agents to create a corridor for passengers to travel. Start with car nearest the fire.
- For passenger trains, the conductor will have a passenger list. If conductor cannot be found, call Amtrak Police 24 hour desk for passenger list to be released. If it is a Sunrail train, have their dispatch center called.
- Establish Safety Zone and determine whether to evacuate or shelter in place.
- Involved cars may need to be identified for the purpose of emergency scene operations, i.e., extinguishments, searches, etc. When directed by command to mark cars, use highly visible paint for marking purposes.
- Request assistance and additional equipment as needed to handle the emergency.
    - Ventilation and lighting in passenger cars will aid search. Lights around scene will improve safety.
    - Ladders will be needed to access passenger rail ~~car~~ cars lying on sides, and to assist passengers out of car and down to ground. Plywood may be needed to stabilize ground in sandy soils. Ladders will also be needed to remove passengers on backboards out windows of cars. For single level car, use roof ladder and use hooks to stabilize; and for bi-level cars use extension ladder and tie off with rope to equipment.
    - Stabilize equipment to minimize the potential for movement after a derailment; 4” x 4” cribbing will support 6,000 lb. per contact point.
- Determine access and egress points for additional resources.

4.7

Title: Confined Space
Above and Below Ground

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To establish guidelines for rescuing a victim in a confined space with limited ingress and egress, that may pose a safety hazards to personnel not specifically trained and equipped to perform the rescue.

General: Confined Space Rescues can happen in a wide variety of hazardous locations and unique space configurations, each with its own set of specialized challenges. For this reason it is important to have only personnel trained as Confined Space Rescue (CSR) Technicians to perform these specialized rescues with the proper equipment.

Definitions:

- Confined Space – an enclosed space large enough and so configured that a person can enter and perform assigned work; has limited or restricted means for entry or exit (eg., tanks, vessels, silos, storage bins, hoppers, vaults, and pits); is not designated for continuous human occupancy and has one or more of the following characteristics.
  - Contains or has potential to contain a hazardous atmosphere.
  - Contains a material that has the potential for engulfing an entrant.
  - Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section.
  - Contains any other recognized serious safety or health hazard (including fall, environmental, and equipment hazards).
- Entry- the activation by which a person passes into a confined space. Entry includes ensuring work or rescue activities in that environment and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space, trench, or excavation.

First Arriving Units:

- Establish Command on arrival and attempt to find a "knowledgeable/competent person" (site manager, foreman, etc.) or witness to the accident to determine exactly what happened. Locate confined space permit if applicable. Establish communications with the victim(s) as soon and as safely as possible to determine the status of the victim(s). Do this only from a safe location and not inside the confined space. Relay findings to responding Battalion Chief and Special Operations units.
- Try to determine the following victim information:

- Location and number of victims
- Mechanism of injury/illness
- Down time
- General medical condition
- Survivability profile (rescue or body recovery)
- Possible mode of retrieval needed (ladder, rope rescue, aerial truck)
- Degree of confinement

- An immediate assessment from outside the confined space for potential hazards present to rescuers should be done in short order and relayed to the responding Battalion Chief and special operations units.
- Key hazards to consider are:
  - What type of products/chemical are/were stored or being used in this space
  - Ingress/egress options and limitations
  - Mechanical hazards such as pumps, gears, and moving parts
  - Electrical hazards
  - Potential atmosphere air quality – toxic, explosive, deficient, All the above
  - Engulfment/ drowning potential
  - Structural stability of space
  - Current and incoming local weather conditions (heavy rains)

Mitigate emergent hazards only if it can be done safely from outside the space and you are certain it will not create additional problems.

- Some initial actions that can be of immediate benefit depending on the situation are:
  - Immediately introduce fresh air into the environment (do not use gas powered fans)
  - Placing a ladder
  - Consider Lock Out/Tag Out of power and mechanical devices, if appropriate.
  - Taping off area with scene tape and control by standers.
  - Establish and maintain access for special operations vehicles and Aerial trucks.
  - Remove debris from around access and the site
  - Establish and maintain visual and/or verbal contact with the victim, if possible, without making entry.
  - Deploy a charged hoseline if flammability is a concern.
  - Evaluate the ability to perform non-entry retrieval or victim self-rescue where possible.

Command Considerations:

- Ensure the proper special operations personnel and equipment is dispatched and responding. Typically 8-10 CSR Tech. level personnel are needed to safely accomplish

a Confined Space Rescue with a rescue rope component. Recognized special ops units are fully equipped and have trained personnel. Additional support units may be able to assist. Recall of trained personnel, additional resources and Mutual Aid request should be considered.

- Establish a Rescue Group Officer that is CSR Tech. level trained to run the technician operations and ensure that all needed groups are established and operating properly.
- Assign a Safety Officer preferably with CSR Tech. training.
- **Ensure a Risk/Benefit Analysis is conducted prior to engaging in rescue efforts (if possible) to determine if operations will function in Rescue Mode or Recovery Mode!!**
- Request a P.I.O respond, as these types of incidents pique the interest of the Media.
- Ensure that all hazards have been dealt with prior to allowing entry into the space.
- Ensure EMS standby and transport is on scene.

Safety Officer Considerations:

- The Safety Officer should be preferably trained and experienced in CSR operations. The initial Safety Officer if, not qualified, shall be transitioned to a CSRT upon availability.
- Ensure constant ventilation and metering is being conducted throughout the operation.
- Ensure vehicles and apparatus are not emitting CO into the scene.
- Ensure proper utilities have been controlled and tagged out.
- Make contact with the “knowledgeable/competent person” to ensure no potential unknown or unforeseen hazards exist or may arise from the operations or from securing utilities etc.
- Ensure that equally qualified Rapid Intervention Team is in place throughout the operation.
- Ensure the proper PPE is being worn in and around the space.
- Ensure charged hose line is in place where situation dictates.
- Ensure adequate Rehab and vital monitoring are in place.
- Ensure all rescuers are out of the confined space following victim rescue before demobilization of Command and safety structure.

4.8

Title: High Angle/Below Grade Rope Rescue Incidents

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To establish guidelines for rescuing a victim in an elevated or below grade environment with limited or difficult access, and that may pose a safety hazard to inadequately trained or equipped rescuers.

General: These incidents can occur in a wide variety of hazardous and unique locations, each with its own set of specialized challenges. For this reason, it is important to have personnel that are adequately trained and equipped as Rope Rescue Technicians to perform these specialized rescues.

First Arriving Units:

- Establish Command on arrival and attempt to find a "knowledgeable/competent person" (site manager, maintenance, etc.) or witness to the incident to determine exactly what happened.
- Try to determine the following victim information:
  - Location and number of victims
  - Mechanism of injury/illness
  - Downtime
  - General medical condition
  - Survivability profile (rescue or body recovery)
  - Possibly mode of retrieval needed (ladder, rope rescue, aerial truck)
  - Strongly consider use of aerial apparatus. Commonly, this method of rescue is the quickest and most efficient.
- An immediate assessment of the incident should be done to identify victim access problems and potential hazards present to rescuers, and relay findings to the responding Battalion Chief and special operations units.
- Key access problems and hazards to consider are:
  - How high is the victim
  - Access limitations (radio tower with pegs only, etc.)
  - Mechanical hazards such as antennas, gears and moving parts
  - Electrical hazards
  - Atmospheric air quality – toxic, explosive, deficient (if rescue is below grade)
  - Engulfment/drowning potential
  - Structural stability
  - Wasp/hornet/birds of prey nests in vicinity of victim

Mitigate emergent hazards or rescue only if it can be done safely from ground level or/outside the space if below grade and you are sure it will not create other problems!!

- Some initial actions that can be of immediate benefit depending on the situation are:
    - Introduce fresh air to the atmosphere if rescue is below grade (do not utilize gas powered fans)
    - Placing a ladder or aerial truck if safe access allows
    - Consider Lock Out/Tag Out of power and mechanical devices, if appropriate.
    - Remove all surface-trapped patients who are located in dangerous positions; i.e., directly under failed scaffolding which is hanging, positioned under broken out windows above, or a patient who has pulled themselves out of a sub-grade location but is close to the edge.
    - Establish and maintain access for special operations vehicles and aerial trucks.
    - Maintain victim contact if possible.

Command Considerations:

- Ensure the proper Special Operations personnel and equipment is dispatched and responding. Typically 8 -10 rope rescue tech. level personnel are needed to safely accomplish a technical rescue. Recognized special operations units are fully equipped and have trained personnel. Additional support units may be able to assist. Recall of trained personnel, additional resources and mutual aid requests should be considered.
- The Mode of Operation is determined by the Incident Commander and the Rescue Group Officer, as to the resources needed, how the team members are going to get the patient, what equipment they will use, and how many rescuers are going to get on the rope.
    - Critical Rescue Mode- when the patient is in a situation in which time becomes an important factor in the patients recovery (i.e., patient hanging from unstable/failing structures or submerged underwater in a confined space), the Incident Commander and Rescue Group Officer must quickly define a plan of action that will include the most important aspect of the operation: the safety of the team members.
    - Non-Critical Mode- When the patient is not injured and in no immediate danger. The patient is in a position that he cannot get down or out without assistance.
- Establish a Rescue Group Officer that is rope technician level trained to run the technical operations and ensure that all needed groups are established and operating properly.
- Assign a Safety Officer preferably with rope technician level training.
- Ensure a Risk/ Benefit Analysis is conducted prior to engaging in rescue efforts to determine if operations will function in rescue mode or recovery mode if applicable.
- Request a PIO respond, as these types of incidents pique the interest of media.
- Ensure that all hazards have been dealt with and/or are

understood prior to allowing access to the rescue site.
- Ensure EMS standby and transport is on scene.

Safety Officer Consideration:

- The Safety Officer should be preferably trained and experienced in rope rescue operations. The initial Safety Officer, if not qualified, shall be transitioned to a RRT upon availability.
- Ensure proper utilities and hazards have been controlled and tagged out.
- Make contact with the “knowledgeable/competent person” to ensure no potential unknown or unforeseen hazards exist or may arise from the operations or from securing utilities etc.
- Ensure that an equally qualified and equipped rapid intervention crew is in place and dressed out at or above the level of the rescue crew throughout the operation and that proper PPE is being worn in and around rescue site by all personnel.
- Ensure that access to the edge (below grade situations) is limited. All responders within 10’ of the edge or in an area that presents a fall hazard. Personnel shall utilize approved harness and anchor point.
- Ensure all personnel working in critical positions are Technician level certified.
- Monitor for adverse weather conditions moving into the rescue site, as evacuating or abandoning a high angle rescue can take a significant amount of time.

4.9

Title: Trench/Excavation Incidents

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To establish guidelines for rescuing a victim (s) in an engulfment type environment with limited or challenging ingress/egress that may pose a safety hazard to rescuers.

General: Trench/Excavation rescues can be a challenging, time consuming and dangerous operations that have resulted in the death of would-be rescuers. These types of incidents have proven to be high stress environments for first arriving units, due to fellow construction workers trying to save their friends. First arriving units must resist the inclination to jump into a potentially unstable environment without the proper shoring/stabilization equipment and resources in place. L.E.A. must be requested immediately for crowd/site worker control. For the above reasons, it is important to have only personnel trained as Trench Rescue Technicians to perform these specialized rescues with the proper equipment.

Definitions:

- Cave In – The separation of a mass of soil or rock material from the side of an excavation or trench, or the loss of soil from under the trench shield or support system, and its sudden movement into the excavation, either by falling or sliding, in sufficient quantity so that it could entrap, bury, or otherwise injure and immobilize a person.
- Entry – The action by which a person passes into a confined space. Entry includes ensuring work or rescue activities in that environment and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space, trench, or excavation.
- Hazardous Atmosphere – Any atmosphere that is oxygen deficient, contains a toxic or disease producing contaminant, or is potentially explosive. A hazardous atmosphere has the potential to be immediately dangerous to life and health.
- Rescue Area (or Hot, danger, or Collapse Zone) - An area surrounding the incident site (e.g., collapse structure or trench) whose size is proportional to the hazards that exist.
- Shoring (or Shoring System) – A structure as a metal hydraulic, pneumatic/mechanical, or timber shoring system that supports the sides of an excavation and is designed to prevent cave-ins.
- Spoil Pile – Is excavated soil that should be placed at least two feet from the hole being created.

First Arriving Units:

- Establish Command on arrival and attempt to find a "competent/knowledgeable person" (site manager, contractor, etc.) and/or witness to the accident, to determine exactly what happened.
- Try to determine the following victim information:

    - Location and number of victims
    - Mechanism of injury
    - Downtime
    - General medical condition
    - Survivability profile (rescue or body recovery)
    - Possible mode of retrieval needed (ladder, rope, aerial truck)
- An immediate assessment of the site for potential hazards and challenges present to rescuers should be done in short order and relayed to the responding Battalion Chief and special operations unit. Crews should minimize number of personnel in the rescue area to prevent additional cave-in. If possible, have one crew member make visual and/or verbal contact with the victim from the ends of the trench, not the sides. Stage non-essential personnel and equipment as far from the trench edge as possible.
- Key site hazards/challenges to consider are:
    - Depth of site and degree of engulfment
    - Ingress/egress options and limitations
    - Mechanical hazards such as pumps, gears, moving equipment
    - Underground electrical utility hazards
    - Water/sewage flooding present or potential
    - Secondary engulfment potential (spoil pile slide, lip collapse, wall slough in)
    - Current and incoming local weather conditions (heavy rains)
    - Heavy equipment and vehicle traffic still operating on scene

Mitigate emergent hazards and rescue only if it can be done safely from ground level, and you are sure it will not create other problems, such as additional collapse detrimental to the victims.

- Some initial actions that can be of immediate benefit depending on the situation are:
    - Stopping all heavy equipment and traffic from causing vibrations on site
    - Secure the scene of bystanders and tape off area with scene tape
    - Requesting immediate response of L.E.A. for crowd and site worker control
    - Throwing a rope to the victim (s) in case further engulfment occurs prior to rescue
    - Introduce fresh air into the atmosphere (do not utilize gas powered fans)
    - Placing a ladder
    - Requesting power/utility companies as needed
    - Lock out of power and mechanical devices as appropriate
    - Establish and maintaining access for special operations apparatus, trench trailer and aerial truck.

Command Considerations:

- Ensure the proper Special Operations personnel and equipment are dispatched and responding. Typically 10-15 trench rescue tech level personnel are needed to safely accomplish a trench rescue with a rope component. Recognized special ops units are fully equipped and have trained personnel. Additional support units may be able to assist. Recall of trained personnel, additional resources and mutual aid requests should be considered.
- Establish a Rescue Group Officer that is trench rescue tech level trained to run the technical operations and ensure that all needed groups are established and operating properly.
- Assign a Safety Officer preferably with trench rescue tech training.
- Ensure a Risk/Benefit Analysis is conducted prior to engaging in rescue efforts to determine if operations will function in Rescue Mode or Recovery Mode.
- Request a P.I.O response, as these types of incidents pique the interest of the media.
- Ensure that all hazards have been dealt with prior to allowing entry into the space.
- Ensure EMS standby and transport is on scene.

Safety Officer Considerations:

- The Safety Officer should be preferably trained and experienced in trench rescue operations. The initial Safety Officer, if not qualified, shall be transitioned to a TRT upon availability.
- Ensure constant ventilation and metering are being conducted throughout the operation.
- Ensure vehicles and apparatus are not emitting CO into the scene or creating vibrations that may cause additional collapse of the excavation site.
- Ensure proper utilities have been controlled and tagged out.
- Make contact with knowledgeable persons to ensure no potential unknown or unforeseen hazards exist or may arise from the operations, or from securing utilities, etc.
- Ensure that equally qualified Rapid Intervention Team is in place throughout the operation.
- Ensure the proper PPE is being worn in and around the space.
- Ensure charged hose line is in place where situation dictates.
- Provide adequate Rehab and vitals monitoring for personnel.

4.10

Title: Structural Collapse Rescue

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To establish guidelines for rescuing a victim(s) entrapped in potentially unstable or collapsed structures.

General: Structural Collapse Rescue incidents are typically a long duration event, depending on the magnitude of the collapse and the type of structure involved. Due to the potential instability of the structure, further collapse may occur if proper shoring/stabilization techniques are not put in place before disentanglement begins. Specialty equipment and personnel trained in structural collapse rescue shall be utilized for these types of calls.

First Arriving Units:

- Establish Command on arrival, and attempt to find a "knowledgeable/competent person" (site manager, foreman, etc.) and/or witness to the accident, to determine exactly what happened. Establish communications with the victim(s) as soon and as safely as possible, to determine the status of the victim(s) and degree of entrapment. Relay findings to responding Battalion Chief and Special Operations units.
- Try to determine the following victim information:
  - Location and number of victims
  - Degree of entrapment
  - General medical condition (ALS/BLS, Stable/Unstable)
  - Survivability profile (rescue or body recovery)
  - Special equipment needed (shoring lumber, airbags, spreaders, torches, etc)
- An immediate assessment of the stability of the structure, and the potential hazards present to rescuers and the patient should be done in short order and relayed to the responding Battalion Chief and special operations units.
- Key hazards to consider are:
  - Patient access limitations and challenges (patient trapped in unstable location).
  - Mechanical hazards such as moving equipment, sharp edges, impalement hazards).
  - Stored energy (collapsed structural components are usually under a load and may violently react when cut).
  - Electrical hazards (exposed wiring)
  - Flammable gas hazards (broken pipes from building damage).
  - Potential atmospheric air quality – toxic, explosive, deficient, all the above.
  - Engulfment/drowning potential depending on where

the patient is trapped.
- Current and incoming local weather conditions (heavy rain/winds) if incident is outside.

- Mitigate emergent hazards and perform rescues only if it can be done safely and not in an unstable environment, Initial actions that can be of immediate benefit depending on the situation are:
  - Gain access to patient, placing ladder if necessary.
  - Maintain visual and/or verbal contact with the victim if possible.
  - Lock Out/Tag Out of power, gas and water utilities.
  - Find a knowledgeable/competent person, site manager, foreman, etc if a construction site
  - Tape off area with scene tape and control by-standards and site workers
  - Establish and maintain access for special operations vehicles and aerial trucks, if needed
  - Immediately introduce fresh air into the environment if confined area or high heat conditions (do not use gas powered fans).

Command Considerations:

- Ensure the proper special operations units are dispatched and responding. Typically 10-15 Structural Collapse Tech. level personnel are needed to safely accomplish a technical rescue. Recognized Special Operations Units are fully equipped and have trained personnel. Additional support units may be able to assist. Recall of trained personnel, additional resources and Mutual Aid requests should be considered.
- Note: Squad 2 has on board shoring lumber and air struts for smaller size events not requiring Special Operations Trailer deployment (Double T shores, Raker shores, etc.).
- Establish a Rescue Group Officer that is structural collapse technician level trained to run the technical operations and ensure that all needed groups are established and operating properly.
- Assign a Safety Officer preferably with structural collapse tech. training and/or a good working knowledge of building construction.
- **Ensure a Risk/Benefit is conducted prior to engaging in rescue efforts (if possible) to determine if operations will function in Rescue Mode or Recovery Mode. Personnel <u>shall not</u> work under unstable loads without proper shoring.**
- Consider the response of a crane or other heavy equipment early in the incident, or commandeer one with a qualified operator if already on the scene of a construction site.
- Consider early need for advanced medical direction and the possibility of a surgeon for field amputation if patient is heavily entrapped and a life over limb situation exists.

- Consider the early request of state resources (USAR, LTRT, etc) for larger incidents.

- Ensure EMS transport is on scene.
- Request a P.I.O. respond, as these types of incidents pique interest of the Media.
- Have the building department respond with a structural engineer if possible.

Safety Officer Considerations:

- The Safety Officer should be preferably trained and experienced in structural collapse and/or have a good working knowledge of building construction. If the initial Safety Officer is not qualified, the position shall be transitioned to qualified personnel upon availability.
- Ensure the proper shoring and stabilization techniques are being used where structural instability exists.
- Continually reevaluate shoring and stability of the structure as the operation progresses.
- Ensure proper utilities have been controlled, locked out/tagged as needed.
- Make contact with the “knowledgeable/competent person” to ensure no potential unknown or unforeseen hazards exist or may arise from the operations, or from securing utilities etc.
- Ensure the proper PPE is being worn.
- All lifting of heavy debris shall be “cribbed as you go” or totally removed (crane) prior to working underneath or around the scene.
- Ensure proper rehab and rotation of crews is being conducted on long duration incidents.

4.11

Title: Industrial Machinery Incidents

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To establish guidelines for rescuing a victim involved in an incident involving Industrial Machinery.

General: These types of incidents can happen in a wide variety of industrial locations from farm equipment to processing/manufacturing plants. Specialized equipment is often needed to disentangle the victim .Trained Vehicle Machinery Rescue (VMR) Techs with specialized equipment should be called early.

First Arriving Units:

- Establish Command on arrival, and attempt to find a "knowledgeable/competent person" (site manager, foreman, etc.) and/or witness to the accident, to determine exactly what happened. Establish communications with the victim(s) as soon as safely as possible, to determine the status of the victim(s) and degree of entrapment. Relay findings to responding Battalion Chief and Special Operations units.
- Try to determine the following victim information:
  - Location and number of victims
  - Mechanism of injury
  - Degree of entrapment
  - General medical condition (ALS/BLS, Stable/Unstable)
  - Air transport considerations
  - Survivability profile (rescue or body recovery)
  - Special equipment needed (air tools, air bags, spreaders, torches, etc.).
- An immediate assessment of potential hazards present to rescuers and the patient should be done in short order and relayed to the responding Battalion Chief and Special Operations units.
- Key hazards to consider are:
  - Patient access limitations and challenges (patient stuck in a precarious location).
  - Mechanical hazards such as moving parts, gears belts, etc.
  - Stored energy – if mechanical system is jammed and under a load.
  - Electrical hazards
  - Potential atmosphere air quality – toxic, explosive, deficient, all the above.
  - Engulfment/drowning potential depending on where the patent is trapped.

- Current and incoming local weather conditions (heavy rains) if outside.

- Mitigate emergent hazards only if it can be done safely and you are sure it will not create other problems or further injury to the patient.
- Initial actions that can be of immediate benefit depending on the situation are:
  - Gain access to patient, placing a ladder if necessary.
  - Maintain visual and/or verbal contact with the victim is possible.
  - Consider Lock Out/Tag Out of power and mechanical devices, and the possible repercussions of such.
  - Ensure the person most familiar with the equipment is present during the extrication, to provide technical guidance on its operation and dismantlement information.
  - Always try extremity manipulation, unbolting of moving parts and the like before forcing and spreading.
  - Tape off area with scene tape and control by-standers.
  - Establish and maintain access for Special Operations vehicles.
  - Immediately introduce fresh air into the environment if confined area or high heat conditions (do not use gas powered fans).

Command Considerations:

- Ensure the proper Special Operations Units are dispatched and responding. Recognized Special Operations Units are fully equipped and have trained personnel. Additional support units may be able to assist. Recall of trained personnel, additional resources and Mutual Aid requests may be considered.
- Establish a Rescue Group Office that is VMR Tech. level trained to run the technical operations and ensure that all needed groups are established and operating properly.
- Assign a Safety Officer preferably with VMR Tech training.
- **Ensure a Risk/Benefit is conducted prior to engaging in rescue efforts (if possible) to determine if operations will function in Rescue Mode or Recovery Mode.**
- Consider early need for advanced medical direction and the possibility of a surgeon for amputation.
- Ensure that all hazards and lock out/tag has been dealt with.
- Ensure EMS transport is on scene.
- Request a P.I.O. respond, as these types of incidents pique the interest of the Media.

Safety Officer Considerations:

- The Safety Officer should be preferably trained and experienced in VMR operations. If the initial Safety Officer is not qualified, the position shall be transitioned to a VMRT upon availability.
- Ensure proper utilities have been controlled, locked out/tagged as needed.
- Make contact with the “knowledgeable/competent person” to ensure no potential unknown or unforeseen hazards exist or may arise from the operations or from utilities, etc.
- Ensure the proper PPE is being worn.
- Ensure proper rehab and rotation of crews is being conducted on long duration incidents.

4.12

Title: Water Rescue

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To establish guidelines for rescuing a victim(s) in a variety of water related incidents or environments that may pose a safety hazard to the rescuer.

General: Water related rescues can occur in a wide variety of hazardous locations, each with its own set of unique challenges. For this reason it is important to utilize properly trained and equipped rescuers to perform these technical rescues.

Safety: All personnel within 10 feet of a body of water shall wear an approved PFD (Personal Flotation Device). Any rescuer entering moving water will have a quick release harness and lifeline attached.

Definitions:

- Surface Rescue – Any incident where the victim IS NOT submerged.
- Dive Rescue Operation – Any incident where the victim IS submerged AND was last seen (by a verifiable witness) less than one hour prior to arrival of rescue units.
- Dive Recovery Operation – Any incident where the victim has been in the water for longer than one hour.
- Dive Team Member – Those Department members having scuba and specialized dive rescue training and identified as members of their agency's recognized "Dive Team", organized for the purpose of providing safe and complete water rescue services.

First Arriving Units:

- Establish Command on arrival and attempt to find a responsible party, caller, or witness to the accident, to determine exactly what happened and the specific location of the victim(s) if possible. Determine whether or not it is a surface rescue or dive operation and direct the responding units to the best point of entry for the body of water.
- An immediate assessment for potential hazards present to rescuers should be done and relayed to the responding Battalion Chief and special operations units. All personnel attempting a surface water rescue shall have a PFD and tendered tag line on prior to entering the water. Personnel should not attempt a sub-surface water rescue that is over their head without the proper SCUBA equipment and level of training. The first arriving Officer should consider waiting for the arrival of the dive team before committing personnel to the rescue, and concentrate on obtaining reliable witnesses.
- For surface water rescue the following order of execution should be considered:

- **Talk** – Talk victim into self rescue. If possible victim can be talked into swimming into shore or assist rescuers with his/her own rescue.
- **Reach –** If possible, reach the victim with whatever means possible (Ex. Pike pole, stick).
- **Throw –** Throw the victim a throw rope bag. The victim should grab the rope, but not tie it around themselves, and the rescuer will pendulum belay the victim to shore.
- **Row –** Boat based operations can be a safe and effective means of rescue with proper training and equipment.
- **Go –** Any time a rescuer is placed into the water to affect a rescue, it is considered to be a dangerous operation. Rescuers will be placed at extreme risk. Prior to placing a rescuer in the water, Command and the rescuer involved should consider the risk/benefit factor again. Either the IC or the Rescue Swimmer may call a Go/No Go. Ultimate responsibility for safety rests with the individual swimmer and it is the swimmer's responsibility and duty to refuse to enter the water or terminate operations if, in their judgment, conditions are unsafe, unfavorable or for any other reasons that swimmer deems reasonable.
- **Helo –** If the hazards associated with placing a rescuer in the water are too high, Command should consider the use of the SCSO or Coast Guard helicopters or other available helicopters.
- **Note –** The use of a helicopter for aerial reconnaissance should be considered and request should be made early for this resource warranted.

- If the victim was not witnessed entering the water or not struggling to survive or otherwise observed conscious in the water, the Officer shall not commit personnel to the water. The victim may have been in the water for a period of time and rescuers shall not make contact with floating un-witnessed victims. Wait for the arrival of the dive team.
- **Based on the conditions present and the hazards to rescuers or the risk benefit factor, Command will have to make the decision to operate in the Rescue Dive Operation Mode or Recovery Dive Operation Mode. If Command determines that operation will be run in Rescue Dive Operation Mode, rescue should begin quickly.** Remember that in cold water victims are not deceased until warmed.
- Key hazards and general considerations are:
  - Survivability (rescue or recovery)
  - Depth of water
  - Surface or sub-surface incident
  - Strong currents
  - Mechanical hazards such as pumps, gears unstable vehicle/vessel, moving parts
  - Electrical hazards

- Entanglement hazards
- Fuel/chemicals/blood in the water
- Hypothermic conditions

- Initial first arriving actions that can be of immediate benefit depending on the situation are:
  - Make contact with a reliable witness. Have the witness pinpoint exact location of the victim(s) or last seen location (use landmarks to reference the area), number of victims, time of accident, and obtain witness information (name, DOB, address, and phone number).
  - Accessing a vehicle in a lake/pond not over rescuers head, using PFD, tag line, center punch and seat belt cutter (above hazards must be considered). Determine if the vehicle was witnessed entering the water and if there are any signs of possible victim entrapment. When possible, work from the roof or trunk of the vehicle. There is always the possibility of the vehicles shifting or sinking further, which could pin the Rescue Swimmer/Diver under the water.
  - Shoreline sweep in water depths not over rescuers head, using PFD and tag line.
  - Commandeering a suitable and safe private watercraft prior to arrival of fire rescue watercrafts.
  - Identify launch points for incoming fire rescue watercraft.
  - Request alert for aerial recon and thermal imaging/night vision if applicable.

Command Considerations:

- Assume Command and ensure all above listed hazards have been considered and addressed.
- Ensure all personnel operating in and around water are in PFD's.
- Assign a Safety Officer, preferably trained and experienced in dive rescue operations.
- **Ensure a Risk/Benefit is conducted prior to engaging in rescue efforts to determine if operations will function in Rescue Mode or Recovery Mode. Incident Commander & Dive Team leaders may determine recovery mode assistance is needed if LEA is overwhelmed due to long duration incidents where risk is minimized.**
- Consider having a P.I.O respond, as these types of incidents pique the interest of the media.
- Assign a dive rescue tech. certified Rescue Group Officer for water rescue/recovery operations.
- When conducting dive rescue operations, a minimum of two dive units/boat units shall be requested.
- Consider Go/No Go criteria for entering the water.
- Ensure EMS standby and transport are available.
- Ensure accountability of personnel on and in the water.
- Consider the use of GPS capability for operations.

Safety Officer Considerations:

- The Safety Officer should be preferably trained and experienced in Dive Rescue operations.
- Ensure proper safety considerations/hazards listed above are being observed and adhered to throughout the operation.
- Ensure that equally qualified standby swimmer(s)/diver(s) are in place throughout the operation.
- Ensure the proper PPE is being worn in and around the water.
- Observe and control private watercraft from entering the area of an off-shore operation.
- Request additional resources through Command, as needed to ensure scene safety.
- Periodically re-access the scene for safety hazards and change in conditions.

Rescue Group Officer Considerations:

- The Rescue Group Officer should be trained in surface/subsurface water rescue operations.
- Ensure the swimmers/divers are assigned and briefed as to the action plan and any alternate plans.
- Determine if the event is a rescue or recovery operation.
- Consider all Go/No Go criteria.

Go/No Go Considerations:

- No SAR swimmer/diver shall be encouraged/ordered to enter the water if he/she does not feel fully qualified or confident in his ability at the time of the rescue.
- No SAR swimmer/diver will be placed in moving water without a quick release device on his/her tether.
- No night time recovery operations will be conducted without approval of the dive team officer and IC.
- Loss of voice communications will be evaluated on a case by case basis as criteria for termination of the dive.
- No diver will be put in the water without a good “last seen point” being established.
- The dive team will act in a rescue mode for a period of 1 hour from the time that the victim was last seen on the surface. It is understood by all members that time is of the essence while in the rescue mode; however, common sense must still prevail.

4.13

Title: USAR Marking System

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: Information gathered by search and reconnaissance personnel must be represented in a standardized fashion to ensure uniformity and clarity. The USAR marking system is identified and divided into 3 sections.

- Structure/Hazards Marking
- Search Assessment Marking
- Victim Location Marking System

The following activities should be performed prior to beginning search and rescue operations.

- Identifying buildings individually (by address, physical location, etc.).
- General triage to separate buildings that offer the highest potential for viable rescue opportunities.
- Hazard assessment and hazard marking of any building prior to search & rescue operations.
- Search and rescue marking of a building.

General: A standardized marking system to identify structures in a specific area and any hazards found within or near the structure. The structure triage, assessment and marking system is intended to be the National Standard system for evaluating, identifying, and marking buildings. It is designed to help identify, select and prioritize the buildings with the largest probability of success with respect to finding and rescuing victims.

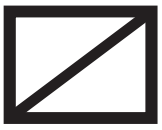
It is important that information related to building identification, conditions, hazards and victim status are posted in a standardized fashion. The theme of search & rescue must be to save trapped victims while minimizing the risk to the victim and the rescue forces.

Structure/Hazards Marking System:

- Structure hazards identified during initial size up activities and throughout the incident should be noted.
- A 2 foot x 2 foot square box is outlined at any entrance accessible for entry into any structure. Aerosol cans of international orange spray paint are to be used for this purpose.
- An arrow should be placed next to the 2’ x 2’ orange box indicating the direction of the safe entrance, unless the entrance is next to the orange box.
- It is essential to mark ALL normal entry points of a building to ensure that personnel approaching the building can identify that it has been evaluated and discern its condition.
- Put the date, time, hazardous material conditions and team or company identifier outside the box on the right hand side. This information should be made with lumber crayon or lumber chalk.
- All personnel must be aware of the possibility of, and look for other structure/hazard markings that may be on the inside of the building. Such as interior rooms, hallways, etc.

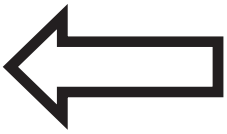
- Every time an assessment is performed throughout the mission a new TIME, DATE and ID entry will be indicated below the previous entry or a completely new marking box will be made, if the original information is not correct.
- The depiction of the various markings is as follows:

- Structure is accessible and safe for search and rescue operations. Damage is minor with little danger of further collapse.



- Structure is significantly damaged. Some areas are relatively safe, but other areas may need shoring, bracing, or removal of falling and collapsed hazards. The structure may be completely pan caked.

- Structure is not safe for search and rescue operations and may be subject to sudden additional collapse. Remote search operations may proceed at significant risk. If rescue operations are undertaken, safe haven areas and rapid evacuation routes should be created.

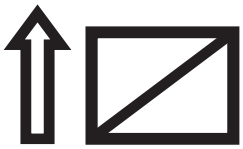


- Arrow located next to a marking box indicates the direction to the safe entrance to the structure, should the marking box need to be made remote from the indicated entrance.

- **HM** Indicates that HAZMAT condition exists in or adjacent to the structure. Personnel may be in jeopardy. Consideration for operations should be made in conjunction with the Hazardous Materials Specialist. Type of hazard may also be noted.

- The TIME, DATE, AND RESCUE TEAM ID, are noted outside the box at the upper right-hand side. This info is made with carpenter's chalk or lumber crayon. An optional method is to apply duct tape on the exterior of the structure and write the information with a grease pencil or black matter.

7/15/11 1310 hrs
HM – natural gas
FL-TF4



- The example indicates that safe point of entry exists above the marking (possibly a window, upper floor, etc). The single slash means the structure may require some shoring and bracing. The assessment was made on July 15, 2011, ay 1:10pm. There is an apparent indication of natural gas in the structure. The evaluation was made by FL-TF4 out of the State of Florida.

Search Marking System:

- A standardized marking system employed during and after the search of a structure for potential victims used in conjunction with the structure and hazards marking system.
- Search Markings must be easy to make, easy to read and easy to understand. To be easily seen the search mark must be large and of a contrasting color to the background surface. Orange spray paint seems to be the most easily seen color on most backgrounds and line marking or downward spray cans apply the best paint marks. Lumber chalk or lumber crayons should be used to mark additional information inside the search mark itself because they are easier to write with than spray paint.
- A large distinct marking will be made outside the main entrance of each building or structure searched. This “Main Entrance” search marking will be completed in two steps.
    - First, a large (approx 2’) single slash shall be made near the main entrance at the start of the search.
    - After the search of the entire structure has been completed a second large slash shall be drawn in the opposite direction forming an “X”.
- Specific information will be placed in all four quadrants of the Main Entrance “X” summarizing the entire search of the structure.
    - The left quadrant is for the rescue team identifier.
    - The top quadrant is for the date and time the search was completed.
    - The right quadrant is for any significant hazards located in the structure.
    - The bottom quadrant is for the number of “LIVE” or “DEAD” victims still inside the structure. Use a small “x” in the bottom quadrant if no victims are inside the structure.

- During the search function while inside the structure a large single slash shall be made upon entry of each room or area. After the search of the room or area has been completed, a second large slash shall be drawn in the opposite direction forming an “X”. The only information placed in any of the “X” quadrants while inside the structure shall be pertaining to any significant hazards or the number of “LIVE” or “DEAD” victims.

- A separate and distinct marking system is necessary to conspicuously denote information relating to victim location determinations in the areas searched.
- The search assessment marking system is designed to be used in conjunction with the structure and hazards evaluation marking system.
- An “X” that is 2’ x 2’ in size will be made with International Orange color spray paint. This X will be constructed in two operations:

- Single slash drawn upon entry to a structure or area indicates search operations are currently in progress. The time and TF identifier are posted as indicated.

- Crossing slash drawn upon personnel exit from the structure or area.

- Distinct markings will be made inside the four quadrants of the X to clearly denote the search status and findings at the time of this assessment.
- The marks will be made with carpenter chalk, lumber crayon, or duct tape and black magic marker.

FL-LTRT 500 **X** LEFT QUADRANT – Team identifier.

07/15/11
1400 hr
X TOP QUADRANT – Time and date that the personnel left the structure.

X RATS RIGHT QUADRANT – Personal hazards.

X BOTTOM QUADRANT – Number of live/dead victims still inside the structure.

2 – LIVE
3 - DEAD

- It is important that markings are made specific to each area of entry or separate part of the building.
- If no victims are found, it is noted with a “0” below.
- Situation updates are noted as they are available:
  - Previous search markings are crossed out; and

- New markings are placed below (or next to) their previous markings with the most recent information.

Structure Marking System:

- Begin by using orange spray paint or lumber crayon to draw a 2-foot box. Then use the box to alert subsequent rescuers to building conditions or earlier findings.

General Rescuer Safety Procedures:

- Basic rescuer safety equipment (hard hat, ropes, pry bar, first aid kit, etc).
- Be aware of safety and health risks around the disaster site.
- **Never work alone-** use the buddy system.
- Always have communication – radio, voice, or runners.
- Establish evacuation and entrapment signals.
- Assign a Safety Officer to the operation and EACH team.
- Review structure evacuation techniques before entering a structure.
- ALWAYS mark entry point where structure search begins.
- Follow safety precautions for lifting and moving objects.

Site/Personnel Safety:

- Emergency signaling and evacuation procedures must be understood and immediately recognized. Alerting devices shall be used to sound appropriate signals as follows:

    - Cease Operations All Quiet – 1 long signal (3 seconds)
    - Evacuate Area – 3 short signals (1 second each), followed by pause, repeated until all members are accounted for.
    - Resume Operations – 1 long and 1 short signal.

General Rescuer Methodology:

- Rescue the maximum number of victims, with the minimum risk to rescuers.
    - Priority with live victims, dead are noted and removed later.
    - Initially, rescue victims who are easy to get to, extricate, and evacuate.
- Size up EACH structure before entering.
    - Surround structure and check for both victims and safety problems.
    - Look for structure/search markings.
    - Look through windows, doors, and openings for victims and hazards before entering.

4.14

Title: Wide Area Search

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To establish guidelines for locating and rescuing victims lost and/or injured in rural/wilderness areas. Additionally, these guidelines can be used to effectively plan, manage and conduct search operations across a spectrum of search response incidents.

General: Wide Area Search incidents can occur in a wide variety of locations and may require specic resources, such as personnel trained in search management, PPE, mapping programs, all terrain vehicles (ATV), technical search equipment, K9Units, boats and aircraft.

Definitions:

- Wide Area Search – a search incident containing several elements; impacting a large geographical area, an unknown number of victims, an overwhelming of local resources, and requiring a variety of resources due to the varied types of search elements. Examples of W.A.S. are Hurricane Katrina, Space Shuttle Columbia disaster, and 1998 Tornadoes.
- Search and Rescue (SAR) – the systematic searching and providing aid to people in rural or urban areas in distress or imminent danger.
- Urban Search and Rescue (US&R) – Teams made of specialty personnel and equipment trained in the discipline of Wide Area Search. Florida Task Force 4 is the local Type II State US&R team.
- Recon-Triage, Structured and organized survey, preliminary and cursory check, immediate and continuous, incident driven and flexible, timely reporting of information.
- Search Segment – search area appropriately sized to achieve effective search. Often established Divisions are broken into smaller Segments to ensure adequate searching takes place. Divisions are lettered and Segments are numbered for identification purposes.
- 4 T's-Tasking (levels and types of searchers), Team (number and skill of searchers), Time (time allocated to complete the search assignment) and Technique (method of search).
- Hasty Search – fast paced search to locate and remove lightly trapped victims.
- Primary Search – quick search of structure, looking in, not going in.
- Secondary Search – physical search of every room of every structure.
- Unites States National Grid (USNG)- the standard geo-reference (GPS positioning) used when identifying points of reference/victim locations during Search and Rescue Operations.

Scene Considerations:

- It is important for responders to prepare and preplan areas prior to an incident involving a W.A.S. much like a fire preplan. This may be effective in establishing access points, Command Post locations and identification of hazards. Volunteers can also often overwhelm local resources requesting to assist in a wide area search. It is imperative only properly trained and adequate resources are used to aid in the search and rescue of victims. Untrained resources such as K9's or search managers can delay or hamper search efforts by providing inadequate or erroneous information. Search manager and Incident Commanders must utilize risk/benefit analysis on these types of incidents.

Special Considerations:

- Weather
- Daylight
- Terrain
- Special Transport and handling needs
- Animal Control and emergency veterinary services
- Access and transport times
- Communication
- Rehab
- Medical Standby
- Sun protection
- Rehab/food
- Bites and stings

First Arriving Unit:

- Recognize the incident as a Wide Area Search, establish Command, and attempt to find a "competent/ knowledgeable person" (witness of plane going down, property owner, etc.) to determine exactly what happened and gain as much information regarding the overall scope and complexity of the incident.
- Request additional resources.
- Start recon of accessible area. This should be completed in a structured and organized fashion to eliminate duplication in later phases of search operations.
- Identify access points to the scene/patients.
- Ensure PAR and RIT are established as necessary. Maintain team unity.
- Establish LCES (Lookouts, Communications, Escape Routes, and Safety Zones).
- Sketch a map based on Intel and established zones/boundaries.
- If Mass Causality Incident, begin START Triage.

Key Hazards to consider are:

- Patient access limitations and challenges (patient stuck in a precarious location).
- Mechanical hazards such as moving parts, gears, belts,

etc.
- Stored energy- trees down on power lines.
- Electrical hazards- power lines down in fields.
- Potential atmospheric air quality- Toxic, Explosive, Deficient, All the above. Often times during hurricanes natural gas lines are commonly found ruptured and open flowing.
- Drowning potential. Search next to moving rivers.
- Current and incoming local weather conditions (heavy rains, lightening).

Command Considerations:

- Confirm Intel, scope and complexity involving the incident and request activation of the Incident Management Team/EOC/IAP if long duration is expected.
- Confirm size of affected area and create maps (topographical, satellite, street level, GPS) of the area. It is imperative a master map may be established. This will provide a single place to record all known Intel including search areas active/completed, location of victims found/rescued and overall need to known information regarding the search area.
- Determine availability of local resources and request specialty personnel and equipment. It is imperative on site technology such as computers with mapping software, printers, satellite imagery, etc., is available on site.
- Establish Unified Command Post if not already completed and call for Mobile Command Unit.
- Establish recon teams as necessary to survey areas and provide Intel.
- Prioritize search areas based on population density, urgency (survivability) and occupancy.
- Establish geographical/physical boundaries.
    - Natural – streams, canals, rivers
    - Travel – road, trails, utility right of way, rails
    - Visible – fence lines and identifiable landmarks
- Divisions and segments should be established.
- Establish/Decide on the 4 T's. Ensure teams are diverse based on skill and resources.
- Ensure accountability is in place for all first responders and volunteers.
- Establish formal rehab and medical groups.
- Ensure documentation of incident activities. Incident Commanders should be aware ICS forms are available specific to Wide Area Searches. These forms can be useful in ensuring all pertinent information is gathered and/or disseminated to rescue personnel as well as overall management of the incident.
- Establish a decontamination area for search teams. Often times search team members can be exposed to a variety of hazards such as biohazards (blood, raw sewage), mud, bacteria, etc.
- Assign a Safety Officer.

- If scene is or becomes a potential law enforcement situation/investigation, ensure evidentiary issues are addressed with proper law enforcement; state and/or federal agency.

4.15

Title: Active Shooter Event

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: To establish a standard procedure for responding to active and/or post shooter incidents.

General: An active shooter is defined by the U.S. Department of Homeland Security as "individual(s) actively engaged in killing or attempting to kill people in a confined and populated area. In most cases, active shooters use firearms and there is no pattern or method to their selection of victims."

Active shooter incidents are primarily a law enforcement responsibility, however in order to effectively manage a crisis incident, the response of fire service, emergency medical service (EMS), hazardous materials, explosive ordinance device (EOD), coroner, public works and emergency management personnel will be required. These agencies will assist law enforcement personnel with the following functions: scene control, treatment and transportation of injured persons, accountability/evacuation of students and faculty, incident mitigation and long-term operations and recovery.

Definitions:

- Hot Zone - Areas of a known hazard, where the perpetrator(s) are actively causing harm, roaming free, or are engaged by law enforcement. IEDs may be present. Only law enforcement are to operate in designated hot zones.
- Warm Zone - A cleared area that has been deliberately searched by law enforcement, contains no identifiable threats, but has not been declared a cold zone. Firefighters and EMS personnel may be deployed for life safety operations only and shall be escorted by law enforcement personnel. More than one warm zone may be designated by law enforcement.
- Warm Corridor - A route that has been cleared and remains under law enforcement control for escorted entry and egress of first responders and victims.
- Cold Zone - Areas where there is normal risk due to geographic distance from the threat, or the area has been secured by law enforcement. The command post, staging areas, and medical triage, treatment, and transportation areas shall be located in the cold zone.
- SAVE (Swift Assisted Victim Extraction) Team – A rescue team that combines law enforcement and fire and rescue personnel into a task force to remove injured people from a mass casualty event, such as a school shooting, for immediate medical care after the threat has been neutralized or contained.
- T3 (Triage, Treatment, Transport) Area – Location in the cold zone for injured victims to be extracted to where they will be triaged using current medical protocols and transported to a designated facility.
- Casualty Collection Point (CCP) or "Hard Room" – Secured location in a forward area (Semi-Secured) designed to provide the fastest and most efficient medical interventions to stabilize "multiple" casualties until they can reach more definitive care. This is implemented if the S.A.V.E. team encounters a

large number of casualties in a general location that supersedes the team's ability to treat and evacuate immediately.

Basic Operational Approach

- **Encounter Prior to Law Enforcement Arrival:**
    - If fire rescue personnel encounter an active shooter(s) prior to law enforcements arrival, they shall immediately withdraw from the area. When withdrawal is not possible, seek hard cover/concealment and request an immediate or expedited police response. Crews should be aware of the difference between concealment and hard cover.
        - Concealment is an obstacle that hides your exact location but can be penetrated by ballistic weapons.
        - Hard cover is an area impenetrable to ballistics.
    - Hard cover is preferable if withdraw is not possible.
    - Communicate unit identity and location to law enforcement via the Seminole County Communications dispatcher.
    - When possible, provide the following information:
        - Number, location(s) and description of shooter(s)
        - Types of weapons in use (e.g., semiautomatic rifles, hand guns, explosives)
        - Number and location(s) of victims and hostages, if any
        - Communication method used by the shooters, if apparent (cell phones, radios)

- **Approach After Law Enforcement Arrival**:
    - If fire rescue arrives after law enforcement, they shall confer with them to gather information, alert incoming units as to the active shooter incident, designate staging areas, and coordinate operations as well as resource movement.
    - Fire rescue units shall stage in the cold zone, with due regard for safety and at the advice of law enforcement. They shall remain behind hard cover and out of the line-of-sight of any building that contains a shooter. Units shall use distance and shielding to increase safety.
    - Fire rescue and law enforcement personnel shall be briefed on the location of zones, interagency communications, and tasks prior to entering the warm zone.
    - Fire rescue members shall not operate inside the warm zone unless requested by law enforcement and they remain under their protection. This operation must be approved by on scene unified command.
    - Prior to entering to make rescues, all fire rescue personnel deployed within a SAVE team shall don protective gear to include ballistic body armor, helmets, and any PPE necessary to provide protection against biological universal precautions.
    - All SAVE team members shall equip any necessary tactical medical gear and victim extraction devices prior to making entry.
    - All escorts in and out of the incident location (for first responders, hostages, victims, etc.) will be provided by, and under the direction of, law enforcement personnel.

- All SAVE teams shall be comprised of anywhere from one (1) to three (3) fire rescue personnel and a minimum of four law enforcement escorts.

Response Level Considerations:

- Utilize Mass Casualty Multi Victim (IMS 3.23) guidelines in determining response level.
- Determine severity of situation, including the number of patients and types of injuries.
- A confirmed MCI will require dispatch to send out an EMSystem notification to surrounding counties and hospitals.
- Maintain accountability of response personnel.

Fire Rescue Operations:

- If law enforcement requests fire rescue to enter designated warm zones to address life safety and emergency medical concerns, a fire rescue chief officer will:
  - Define the threat to include number and location of shooter(s) as well as weapons (hand guns, rifles, grenades, IEDs, fire, etc.).
  - Identify the life hazard including number and location of victims, hostages, and trapped occupants.
  - Exchange information with law enforcement including building information, floor plans, protection systems, stairwells, elevators, HVAC and CCTV monitoring.
  - Consult and coordinate with law enforcement on the location of fire rescue resources in the cold zone.
  - Review and confirm agreed upon SAVE commands with law enforcement prior to entering warm zones.
  - Discuss entry and egress points of the warm zone with law enforcement.
  - Determine if there is a warm corridor established to and from the Cold Zone?
    - In the warm zone:
      - Are police officers at each entry point?
      - Are the elevators controlled?
      - Are the exit stairs controlled?
      - Are there designated areas of refuge?
      - Is there adequate protection in the warm zone(s) and corridor(s)?
  - Give fire rescue units specific direction on mission objectives and coordination.
  - Develop a communication plan.
  - Establish an Interoperable Command Channel.
  - Establish accountability procedures.
- Upon direction from the Incident Commander(s) and integration with law enforcement, fire rescue units will be escorted under protection from the cold zone to the warm zone via the safest method.
- Each SAVE team that is deployed will be assigned a number designation (SAVE Team 1, SAVE Team 2, etc.) and shall apply to the LE and FD

personnel in that team for the duration of the incident. In the event of an incident with a large number of patients, it may become necessary to replace the fire department component of the SAVE team with fresh personnel due to fatigue. Should this occur, the personnel in the replacement team shall assume the same team number designation as the LE team they are assigned to.

First Arriving Units: Since most active shooter events are Mass Casualty Incidents (MCIs) and primarily law enforcement driven, units should report to their designated areas ensuring they remain in the cold zone until instructed to do otherwise by Unified Command.

- **First Arriving Engine Company**
  - Report to staging
    - Prepare to make entry as SAVE Team

- **Second Arriving Engine Company**
  - Report to staging
    - Prepare to make entry as SAVE Team

- **First Arriving Rescue Company**
  - Report to staging
    - Prepare rescue for victim transport from warm zone to T3 Area

- **Second Arriving Rescue Company**
  - Report to staging
    - Prepare rescue for victim transport from warm zone to T3 Area

- **Third Arriving Rescue Company**
  - Report to T3 area
    - Assist with establishing T3 area
    - Prepare to transport patients to area hospitals

- **First Arriving Truck Company**
  - Report to T3 area
    - Establish T3 area
    - Consider setting up triage group

- **First Arriving Squad**
  - Report to T3 area
    - Assist in establishing T3 area
    - Consider setting up transport group

- **First Arriving Battalion Chief**
  - Establish Unified Command with LE
  - Consider additional alarms/resources
  - Evaluate the operational plan and adjust as needed

- **Second Arriving Battalion Chief**
  - Establish staging officer

- **TEC 1**

- Report to Unified Command Post
- Maintain incident command board and assist with accountability of personnel and units.
- Monitor additional radio TACs for greater alarm units

- **MCI Trailer**
  - Report to T3 area
    - Assist with Triage & Treatment of patients

Command:

- Unified command will be established in compliance with IMS 2.4.
- Unified command staff shall co-locate within sight, voice, and arm's distance of each other at an incident command post in the cold zone. Interagency operations will require collaboration and coordination.
- When possible, a liaison from the Institution or Business involved in the Active Shooter event should be present at the Unified command post.. This may assist in the obtainment of information pertaining to the facility or employees, as well as possibly providing additional resources.
- A communications plan shall be established and include an interoperability command channel and tactical channel, as per established Seminole County Communications guidelines.
- The incident objectives are civilian and first responder life safety first followed by:
  - Threat suppression.
  - Hemorrhage/airway control of victims.
  - Rapid Extrication of critical victims
  - Assessment and triage by medical providers
  - Transport of victims to designated hospitals.
  - Site management/investigation.

Operational Considerations:

- The Incident commander may form groups as necessary. Consideration should be given to creating groups as established in IMS 3.23.
- Utilizing the military concept of addressing the most life threatening wounds first, medical personnel will rapidly identify critical victims and address life threatening injuries. The primary focus will be on the identification, treatment, and removal of priority patients. In active shooter incidents, the most common injuries are severe bleeding and airway complications.
- Fire rescue will consult with law enforcement when establishing casualty collection points, triage and treatment areas, patient removal corridors, and exterior ambulance transport lanes. Speed in getting patients to a hospital is critical for patient survival.
- When fire suppression and protection systems have been tampered with, fire rescue and law enforcement can consult with building engineers to gain information on sprinkler and standpipe systems, the location of control and shutoff valves, the location of section valves, and the use of heating, ventilation, and air conditioning (HVAC) systems. The rapid restoration of fire suppression systems by fire rescue may take place in the warm zone(s) under law enforcement protection.

- During operations, a law enforcement officer may confront a fire rescue member to verify their identity. This is called a challenge situation. In this situation, the fire rescue member shall strictly adhere to the following procedures:
    - Comply with the command of law enforcement personnel.
    - Remain motionless (no sudden movement).
    - Do not turn your body unless instructed to do so by the challenging officer.
    - Verbally identify yourself as a member of fire rescue by rank, agency and name.
    - Await the command of law enforcement to resume current operations.

4.16

Title: Biological/ Medical Emergencies

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: This IMS guide contains information that is needed for developing a plan for first responders in the event of a public health emergency

General:
Most incidents involving biological agents will likely become noticeable through a public health emergency and will require the coordination of EMS responders, emergency room physicians, and Public Health Officials who notice the health effects of an exposure throughout the community.

Agency Responsibility

- Florida Department of Health (FDOH) – Seminole County Health Department.
- During a public health emergency, FDOH is the medical authority along with the Centers for Disease Control.
- Seminole County Emergency Management (SCEM)
- SCEM is the coordinating agency for Seminole County, should a public health emergency be declared within the County. SCEM would develop overall IAP's for the event.

Fire Rescue Sections/Branches

- Operations, Administration, Planning, Logistics, Intelligence and LEA.
- Branches will maintain situational awareness, in conjunction with Planning and Resource Management. Continuous monitoring and communication is necessary with local, state and federal agencies.
- PIO- any information statements or releases shall be coordinated through the FDOH Incident Management Team in coordination with the State Joint Information Center.
- Decon Team – may identify decontamination support to ensure a reasonable level of public safety.

EMS

- Triage, Treatment, Transport.

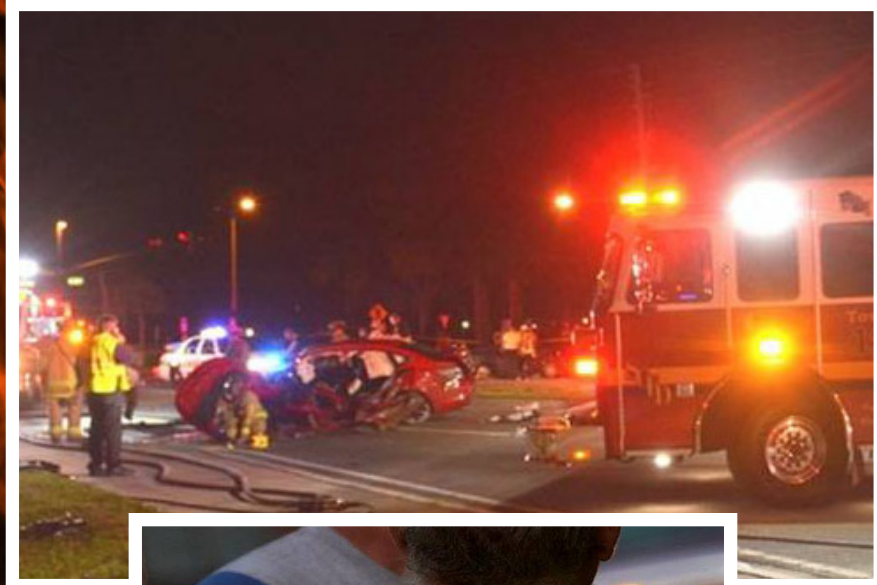
Law Enforcement/ Unified Command

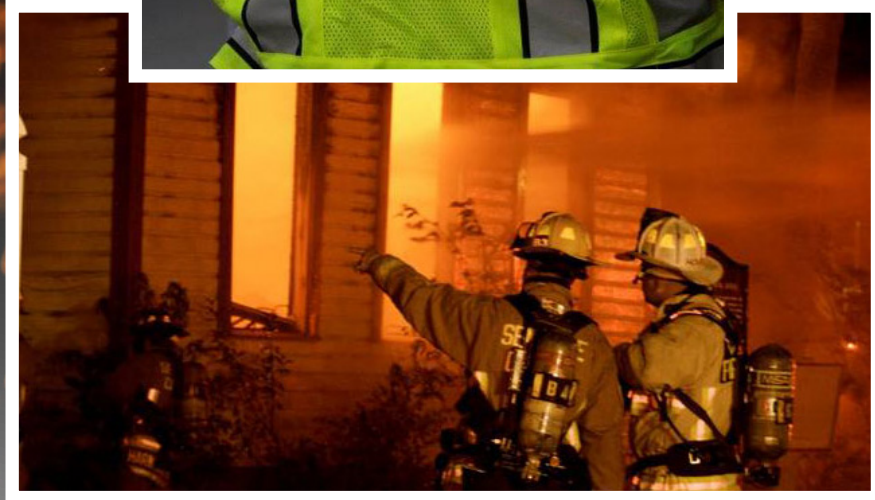
- Law Enforcement may be used to provide scene security and assist in isolation procedures.
- May also be necessary to establish cold zone perimeters.

Planning and Communication

- This is key to providing first response service in the event of a public health emergency. The following is offered as a format for assisting incident commander with developing a public health emergency response IAP.
    - Understanding Transmission – Understanding how the disease is spread will dictate protective measures
    - The use of Patient Isolation by PPE and Social Distancing – should be evaluated as a protective measure

- Proper PPE Procedures need to be identified with guidance from the FDOH. PPE supplies need to be evaluated, ordered and distributed as necessary. Ordering turnaround time needs to be considered for long duration events.
- Treatment and Transport Protocols to include pediatric patients should be determined with County Medical Director
    - A Rapid Identification Method of Potential Patients should be developed. A likely key maybe the patient interview and a review of presenting signs and symptoms during triage.
- Consider using cell phone communication verses radio transmissions after the initial call including hospital communication. Early notification to the receiving facility maybe critical to prompt and appropriate patient care.
- Establish scene control to ensure the safety of our personnel, proper communication with the patient and early notification of the receiving facility.
- Use Law Enforcement (LEA) as appropriate to provide scene security and assist in isolation procedures. Ensure they are issued proper PPE.
- A response guideline working document should be reviewed and revised as necessary advisements are received from the Department of Health and the CDC. These procedures are intended to establish a safe working environment for personnel and reduce the risk of exposure.
- Appropriate PPE and Decon Equipment should be readily in hand.
- Emergency Management activation to provide additional resources such as State Logistical Warehouse.
- Specific Donning and Doffing Procedures may need to be developed and personnel trained on procedures.
- Consider using specific transport units to transport patients meeting protocol parameters. It is suggested that these rescues are identified as R-1000, R-2000, etc.
- Consider developing Communications Screening Procedures using Emerging Infectious Disease Surveillance Tool in PROQA during cll processing.
- Develop Response Procedures specific to the biological agent to include
    - Patient identification during response
    - Identified at patient contact
    - Identified during transport
    - Develop specific guidelines for personnel to follow once a Dispatched Positive Response has been screened to include:
        - On Scene
        - Patient Contact
        - Preparing to Transport
        - Patient Transport
        - After Patient Transfer
        - Patient Refusal and Exposed Family Members/Acquaintances
        - Decontamination Procedure
        - Waste Disposal
- Address Environmental cleanup needs.
- Provide supplemental material from FDOPH or CDC as necessary.





5: SAFETY

5.1

Title: Policy Statement on Personal Safety

Issue Date: Jan. 1, 2017
Revision Date:

It is the goal of the Fire Chiefs of Seminole County to ensure all Fire Rescue personnel are aware they are responsible for their own personal safety as well as all of the members working with them. Each member is responsible for their own physical fitness and overall wellness to reduce injury and risk to themselves and others. The preservation of life, both civilian and firefighters is paramount.

The following Rules of Engagement serve as objectives for providing parameters for decision making and action, especially at incidents to minimize the potential for injury, illness or death of a firefighter. All officers and members are responsible for continually identifying and reporting unsafe conditions or practices.

* **DO NOT** risk your life for lives or property that cannot be saved.
* Extend **LIMITED** risk to protect **SAVABLE** property.
* Extend **VIGILANT** and **MEASURED** risk to protect and rescue **SAVABLE** lives.
* Go in together, stay together, come out together; maintain crew integrity.
* Maintain continuous awareness of your air supply, situation, location and fire conditions.
* Constantly monitor fire ground communications for critical radio reports.
* You are required to report unsafe practices or conditions that can harm you or others. Freeze, evaluate and decide.
* You are required to abandon your position and retreat before deteriorating conditions can harm you.
* Declare a May Day as soon as you **THINK** you are in danger.
* Communicate IN/OUT in IDLH environment.
* PPE

“EVERYONE GOES HOME!”

5.2

Title: Accountability and Personal Tracking Safety System

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: To provide an accurate and reliable means for the Incident Commander to track and account for personnel operating in or around emergency locations. This process will enhance the efficiency and safety of all operations conducted on the scene. It must be emphasized that all personnel are responsible for ensuring compliance with the Personal Accountability and Passport System (PAS).

General: The PAS and PASSPORT System is an established set of procedures used to effectively track and maintain the accountability of personnel operating on the emergency incident or high-risk operation(s) – including any applicable training exercise. The PAS shall be implemented on all emergency incidents when personnel are operating in a hazardous area, when using SCBA, or at the discretion of the Incident Commander. This system is utilized by other agencies in the region (Orlando, Lake County, Orange County, and Winter Park Fire Departments) which will work seamlessly, regionally.

Passport Equipment:

- Name Tags
  - Each person will be issued 6 name tags. Personnel shall store their nametags under the brims of their helmets when not in use. The tags shall be color coded as follows:
    - White – Chief Officers
    - Red – Lieutenants
    - Yellow – Firefighters
- Passports (Primary and Secondary)
  - The Primary Passport is carried on the underside of the officer's helmet brim. For rescue trucks, the Firefighter riding in the right seat will carry the passport.
  - The Primary Passport shall include the names of all currently assigned personnel to that unit. The Company Officer's nametag shall be attached to the top of the Passport, underneath the fixed (top) unit designator. The Driver Operator's nametag shall be placed under the Officer's nametag, and the Firefighter(s) nametag(s) below the Driver Operator's nametag.
  - The nametags of personnel remaining outside of the hazard area, such as vehicle driver/operators, shall be placed upside down on the passport.
  - The Secondary Passport shall be attached to the unit board inside the cab or passenger area of the vehicle. Secondary Passports for Battalion Chief Vehicles or other cars shall be maintained in a visible location.
  - The Secondary Passports shall be set up just like

the Primary Passport and used as a back-up if the Primary Passport is taken into the structure or hot-zone.

- Command Boards
  - The Accountability Board is a larger plastic board with Velcro attachments, used by the Accountability Officer to track the passports of individual units or unit designators for units assigned to the incident.

Crew Member Change:

- At the beginning of each shift it will be the Company Officer's responsibility to collect all personnel tags assigned to his/her unit and update the unit passport.
- Arriving crew members will be responsible for immediately updating the company PASSPORT as they arrive to duty. Arriving crew members will remove the name tag from the passport of the crew member they are replacing. Crew members going off duty will remove their name tag from the passport. **Passports must reflect those members presently assigned to the company, and only those members about to enter the hazard zone.** The person in charge of the unit will be responsible to make sure all passports are correct (i.e., primary and secondary).

USING PASSPORT WITH VELCRO

Type of Response	Action Taken
Single Unit Response -	Passports stay on unit.
First Alarm Response -	Passports go to Command or forward pumping engine until divisions are created.
Multiple Alarm Response -	Passports go to Command or designated unit until divisions are created.
Two Alarm or Greater - HighRise/Special Ops	Passports to go to Command Post, then to the appropriate division.

On Scene:

- Prior to every entry into a structure or Hot Zone the officer will advise that they are making entry and the number of personnel. "Engine 31entering the structure with 3 personnel". Additionally, when crews exit the structure they will advise that they are leaving the structure. "Engine 31 exiting the structure with 3 personnel." If a crew does not enter with all of their personnel (i.e., one person left at the pump panel), they shall announce "Engine 31 entering the structure with 2 personnel, one person at the pump panel".
- Once a Command Post is established, the Incident Commanders track personnel and their assignments by use of an Incident Command Board. The Incident Commander shall ensure accountability of personnel and assignments

(Benchmarks) are easily identified. Utilization of magnets, scene sketch and dry eraser markers/grease pencils allow Incident Commanders to have a “snap shot” of the scene and unit locations.

- The Passport System/ Accountability Board (unit/personnel tags) shall be used to track personnel accountability. These two tools will aid the Incident Commander in accountability on emergency incidents or high-risk operation(s), including any applicable training and/or in the event of a lost or trapped firefighter(s).
    - When tracking of personnel becomes too much for an Incident Commander, a Gatekeeper position will be established. The Gatekeeper will establish the position close enough to the primary point of entry for effective tracking of personnel. Company Officers will advise over the radio when entering/exiting the structure and crew size.
    - Personnel will enter the structure in a minimum of 2 personnel per team and will enter and exit as a team. Personnel should not be separated from their company or unit, unless approved by a Division/ Group Supervisor or Command. Therefore, personnel should enter and leave hazard areas, rehab, staging and other areas as an intact company.
        - All crews will go in together, stay together, and come out together.
        - Crews without a working radio will exit the structure.
    - Secondary alarm or higher/High Rise & Special Ops– Multi-story, high-rise and commercial incidents present only a minor modification in the standard approach to PASSPORT accountability. Initially passports will be placed on the Lieutenant side of the forward pumping engine until a formal Command Post is established. Once transfer of Command to a BC or higher is established, all crews reporting to the building will deliver their PASSPORTS to the Command Post. Command will be responsible for collecting the PASSPORTS of the initial companies as soon as possible (may use incoming crews reporting to the building to pick them up).

5.3

Title: Two In - Two Out

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To establish standard guidelines and procedures that will provide a safe working environment for interior fire attacks.

General: Two in Two out is a policy that has been initiated to improve firefighter safety while performing in hazardous areas. Although this policy was created for our safety, we must not disregard the safety and well being of our citizens. If upon arrival at the scene, members find an imminent life-threatening situation where immediate action may prevent the loss of life or serious injury, such action shall be permitted without Two Out/RIT established.

Definitions:

- IDLH Atmosphere – An atmosphere concentration of any toxic, corrosive or asphyxiate substance that poses an immediate threat to life or would cause irreversible or delayed adverse health effects or would interfere with an individual's ability to escape from a dangerous atmosphere.
- Incipient Fires – A fire in the initial or beginning stage that can be controlled or extinguished by portable fire extinguishers. However, it is the policy of Seminole County and cities that an attack line is deployed into all structures that has or could develop into an IDLH atmosphere.
- "Two In" – Requires that a minimum of two individuals, operating as a team in direct voice or visual contact, conduct interior fire fighting operations utilizing SCBA.
- "Two Out" – A minimum of two individuals who are properly equipped and trained must be positioned outside the IDLH atmosphere, account for the interior team(s) and remain capable of rapid rescue of the interior team. Two Out shall be replaced by a formal RIT team.

Procedures:

- The first arriving fire department personnel shall determine if the incident involves an IDLH atmosphere. At no time shall any personnel enter an IDLH atmosphere independently. Teams of a minimum of two SCBA equipped personnel shall be required for entry into such an atmosphere.
- In fire situations, it will be necessary for the Incident Commander or first arriving Engine Company Officer to determine if the fire is in the incipient stage. If so, a team of two firefighters may take action without a Two Out/RIT established.
- If the presence of an IDLH atmosphere has been determined and there are insufficient personnel to provide a Two Out/RIT on the scene, firefighters shall not conduct interior operations within the IDLH atmosphere. Once a Two Out/RIT is established, firefighters may begin operating within the IDLH atmosphere as long as two or more

additional firefighters with proper equipment are outside the IDLH atmosphere to serve as Two Out/RIT.

- Two Out/RIT crews will be responsible for maintaining the location of the interior crews and learning the layout of the building. They may be assigned other approved/assigned tasks and/or functions so long as these tasks and/or functions can be abandoned without placing any personnel at additional risk if rescue or assistance is needed.
- Portable radios and/or safety rope tethering is not acceptable as replacements for voice or visual contact. Radios will be used for fire ground communications, including communications between interior and exterior teams. They cannot however, be the sole tools for accounting for one's partner during interior operations. Team members must be in close proximity to each other to provide assistance in case of emergency.
- Until Two Out is established, operations outside the IDLH atmosphere shall commence immediately. Such operations include, but are not limited to: establishment of water supply, exterior fire attack, establishment of hot zone, utility control, ventilation, placement of ladders, forcible entry, exposure protection, and any other exterior operation deemed appropriate by the Incident Commander.

Two In – Two Out Exceptions:

- If upon arrival at a fire emergency, members find a fire in the incipient stage, extinguishment of such fire shall be permitted without Two Out/RIT established on scene.
- Extinguishment of outside fire such as dumpster, brush, vehicle shall be permitted without Two Out/RIT established.
- In the absence of clear signs or a report from a responsible person on the scene that people are in the structure, it will be the responsibility of the Company Officer to direct crews based on the information available. Any deviation from this guideline will be documented in the fire report.

5.4

Title: Rapid Intervention Team (RIT)

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: Due to the extreme hazards and exertion associated with rescuing a downed firefighter(s), Command shall establish a formal Rapid Intervention Team as resources allow.

General: Rapid Intervention Teams should consist of at least 1 company officer and 2 firefighters. The original Two Out may be incorporated into a RIT or be assigned another function once a formal RIT has been established. At some incidents, more than one RIT may be required depending on the size and accessibility of the structure. Other considerations for adding additional RIT teams include the complexity of the incident and having multiple entry points in use. RIT personnel shall be fully equipped with the proper equipment for the environment and the type of rescue they may encounter. RIT members need to be fully suited up in Personal Protective Equipment (PPE), including donned respiratory equipment (SCBA) for immediate entry into hazardous areas to rescue the downed firefighter(s). RIT will only be deployed with approval of the Incident Commander. Once RIT is deployed, the Incident Commander will assemble an additional RIT. Command should consider requesting an additional alarm to obtain fresh firefighters when a firefighter declares “MAYDAY.”

RIT Fire Ground Operations:

- Certain functions may be performed by RIT to improve fire ground safety. Personnel assigned to the RIT must not overexert themselves when performing fire ground tasks. Upon approval of the Incident Commander the following tasks may be performed by the Two Out or RIT:
  - Controlling utilities (Gas, Electric)
  - Ventilating a window(s) with coordination from inside crews or the Division/Incident Commander.
  - Throwing a ground ladder (secondary means of egress).
  - Pulling a charged safety line (not for fire attack).
  - Clearing egress openings of obstructions (cutting burglar bars, forcing doors).
  - Assisting in the placement of exterior lighting.

Recommended Equipment for the RIT Team (Structures with an IDLH):

- Portable Radio (minimum of 1 per RIT team member).
- Flashlight (1 for each RIT team member).
- Thermal Imaging Camera.
- Rapid Intervention Bag (1 per RIT Team)
- Search Rope Bag
- Tools necessary for the type of building construction/situation:
  - Haligan
  - Flat Headed Axe
  - Sledge Hammer

- Chain Saw
- K12 Rescue Saw for overhead doors/locks/bars.
- Ladder appropriate for height of elevated entry point.
- Consider utilizing two ladders placed together with misaligned rungs to carry all needed equipment at one time.

RIT Team Roles and Responsibilities:

- RIT Leader/ Officer
  - Monitor all radio transmissions; maintain an awareness of crew locations.
  - Survey the scene/structure to ensure they know the best access points and possible hazards.
  - Continually evaluate the progress of the fire and the need for firefighter rescue.
  - Evaluate the need for additional RIT teams due to access/size of the structure.
  - Evaluate for the types of tools/equipment that may be needed for the type of structure/entrapment involved.
  - Consider use of search lines/rope when attempting to rescue a trapped firefighter.
  - Limit the exertion and energy use of the team.
  - Pre-hydrate members by drinking fluids, and make efforts to stay cool.
  - Stay aware of interior team(s), locations(s).
  - Pull a charged safety line (not for fire attack).
  - Ensure the team is ready for rapid deployment with all of the necessary equipment.
- RIT Team Member
  - Gather necessary equipment for RIT team deployment.
  - Stay hydrated; do not exert yourself beyond what is necessary for needed tasks.
  - Evaluate the structure, fire conditions, egress points, and obstructions.
  - Monitor radio for pre-emptive information about the fire and crew locations.

RIT Team Deployment Considerations:

- Determine downed firefighters last known location from all available information sources.
- Determine resources immediately needed by the downed firefighter (i.e., SCBA Bottle, entanglement, injury).
- Search points to consider:
  - Tracing hose line into last known area.
  - Sight of missing firefighter's light.
  - Sounds of missing firefighter (SCBA/pass/radio/ect)
  - Finding missing firefighter tools, could be in proximity of Firefighter.
- Determine the quickest and safest route for removal. This may include the enlargement of an existing opening or the creation of a new one.
- Consider Aerial Device for extraction form upper floor windows.

5.5

Title: Emergency Evacuation Procedure

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To establish a procedure for immediate notification of all personnel of an unsafe condition, and initiate a rapid evacuation to a location of safety until such a time that scene stabilization is achieved.

General: This procedure is intended for use during operations where immediate evacuation of personnel is necessary due to a potentially dangerous or rapidly deteriorating situations (i.e., significant advancement of fire, building collapse, explosion, structural integrity issues, and hostile situations).

Initiating Evacuation

- When any Fire Department member on the scene of an emergency determines that there is an imminent danger to on scene personnel, notification shall be made to one of the following:
  - Incident Commander
  - Operations Section Chief (if established)
  - Safety Officer (if established)
- Upon notification, the receiving Officer will initiate the Emergency Activation Procedure.
- When the level of risk does not allot the appropriate time for Command notification, any member may declare **Emergency Traffic** over the established command channel, and request initiation of the Emergency Evacuation Procedure. Once emergency traffic is declared, only priority radio communications will be allowed.

Responsibilities

- Command
  - Upon notification the following actions will be taken as soon as possible to facilitate a successful evacuation.
  - Command will have the Communications Center initiate their Emergency Evacuation Procedures.
  - Direct exterior crews outside of hazard area to activate any “exiting assistance devices” available to assist crews in evacuation of area.
  - Conduct PAR as soon as possible to establish updated accountability.
    - If the PAR establishes personnel are unaccounted, Command shall declare MAYDAY.
- On Scene Units
  - When the Emergency Evacuation order has been initiated, the following actions shall be taken:

- **<u>All Engines and Aerials will sound ten (10) short blasts on their air horns.</u>**

- Communications Center
  - Upon Command's initiation of the Emergency Evacuation Procedure:
    - Activate the "Alert 2" tone for three seconds and announce, **" Seminole all units, Per Command Emergency Traffic….Evacuate.. Evacuate…Evacuate!!**
    - Ensure all per personnel continue to maintain emergency traffic protocol until the Incident Commander authorizes normal radio traffic to resume.
    - Monitor PAR check by Command and assure Command accounts for all assigned resources.

* Interior Operating Crews
  - Upon receipt of the Emergency Evacuation order, all crews will evacuate the area immediately.
  - Leave all equipment in place, other than what is necessary to safely exit the structure.
  - Upon exiting report immediate command assignment (Division/Group, etc.) out of the immediate hazard/danger zone.
  - Upon exiting crews will provide Command with their exit status via radio. Example: E35 out, Alpha side with 3.

Title: P.A.S.S Activation

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: To establish a standardized procedure for the activation and response to an on scene emergency involving a self-contained breathing air pack Personal Alert Safety System (PASS) activation. The PASS device is a redundant audible and visual alarm that assists in locating down or trapped firefighters.

General: The confirmed activation of a PASS device shall be treated as a true MAYDAY situation, MAYDAY procedures will be implemented/followed.

Procedure:

- During any operation in an IDLH environment involving the use of PASS devices, all personnel in the immediate vicinity on the scene shall acknowledge the activation of a PASS device (lasting for greater than five seconds).
- Anyone that hears a PASS device for five seconds or greater shall immediately declare emergency radio traffic PASS activation.
- Anyone hearing a PASS alarm should try and locate the alarm and communicate their findings to Command. NO crew shall enter an IDLH atmosphere to look for PASS activation without proper equipment and instructions from Command.
- After two verbal and or radio attempts to contact unit or personnel in the area where the PASS is activated, the Incident Commander will declare Emergency Radio Traffic PASS activation.
- The Incident Commander should refer to the MAYDAY emergency checklist and treat the PASS activation as a true firefighter down. At this time, the Incident Commander should conduct a PAR of all units on the scene.
- The activation of PASS device may occur while operating under a Division or Group activity. PASS activation in this situation should be reported directly to the Division or Group Leader that the effected firefighter is assigned and communicated to the Incident Commander.
- The Division/Group shall try to physically locate the audible alarm and determine which unit or personnel are unaccounted for in assigned area, then notify Command.
- Should the Division/Group Supervisor be unsuccessful in identifying the downed firefighter, the Incident Commander shall conduct a PAR of all on scene units.
- Rapid Intervention Teams (RIT) shall be assigned to the Division/Group Supervisor of that area affected until a Rescue Group is established.
- In the event a Division/Group Supervisor is in fact one of the downed firefighter, the next closest available Division/Group

Supervisor or Company Officer shall take charge of the rescue effort and coordination.

- The Incident Commander shall contact Communications and all scene personnel when there is a return to normal operational communications and the emergency condition has been cleared.
- Communications shall repeat the message over the on scene frequencies that the emergency traffic is cleared and all units/personnel should return to normal on scene operating procedures.

5.7

Title: Emergency Radio Alarm Activation

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: To establish a standard procedure for notifying personnel of an emergency condition due to an activation of the emergency button alarm on the radio system.

General: This procedure is intended to aid personnel in notifying the Communications Center, responding personnel, and the Incident Commander that a situation exists that presents an immediate hazard to the life safety of Fire Rescue personnel. This procedure is intended to allow personnel to make notification while operating any type of incident without communication interruptions. The emergency button activation will give the activator priority communications with the Communication Center.

Initial Activation

A unit or emergency worker may activate the emergency button on their radio in any of the following situations:

- Personnel have encountered a hostile situation and assistance is needed.
- Personnel have become lost or trapped while operating on a fire ground and need immediate priority communications.
- Any reasonable situation where excessive radio transmissions are preventing essential information from being transmitted and creating potential for personnel endangerment.

Personnel should try to provide all available information upon emergency activation when possible without endangering their personnal or crew safety. When personnel are unable to verbalize additional information communications will assume an emergency exists until information to the contrary is received.

Upon Emergency Button Activation the Communications Center shall quickly identify the type of incident the unit is operating on and respond according to the following guideline:

Non-Fire Call or Not Committed to a call

If a unit has activated their emergency button and not transmitted their request it shall always be assumed that they are in a situation that prevents them from doing so. In those situations it is essential that Communications and responding personnel use extreme caution in radio transmissions on any radio channel. The term “Engine 99” shall serve as the code word for assistance/ law enforcement.

Upon alarm activation the following actions will be taken respectively:

Communications Center

- Will hail the appropriate unit and request the unit to “advise for “Engine 99” responding

Unit with an activation

- Any response other than "No emergency Seminole, accidental" will be treated as a true emergency and Law enforcement will be notified.
- The following transmission would indicate that a situation exists that is unsafe and assistance is needed:

  Communications: Engine 15 can you advise for Engine 99 enroute?"

  Engine 15: "Seminole you can cancel Engine 99"

- The following transmission is the only response that will clear the declared emergency:

  Communications: Engine 32 can you advise for Engine 99 enroute?"

  Engine 32: "Engine 32 Seminole no emergency, accidental."

If personnel are unable to activate their emergency button because of a situation, any mention or request for "Engine 99" will signal an emergency.

When an emergency is confirmed, Communications personnel will make notifications in accordance with their standard operating guideline. Use of the 800 Mhz radio should be minimized due to the potential for on-scene radio scanning that could compromise crew safety unnecessarily.

Should an emergency button activation occur for a unit that is not on a call, Communications shall hail the unit and state:

"*Engine/Rescue XX can you advise your location for Engine 99*".

If possible, without endangering their crew safety personnel should try to give a location, even if not their exact location to get units in the general area. Again any statement other than "Seminole no emergency, accidental" shall be treated as a true emergency with immediate unsafe conditions for personnel.

Scenes with Established Command

Upon alarm activation the following actions will be taken respectively

Communications

- Upon hearing the alarm shall contact Command and advise them which unit's radio alarm has been activated.
- Communications shall monitor the channel and relay any information to Command that may be missed due to scene complexity or noise.
- At the direction of command, communications shall notify all units over all on scene frequencies when the emergency radio traffic has been cleared

Command

- Immediately declare "Emergency Radio traffic".
- Command shall then attempt to contact the unit and/or the Division/Group Supervisor of the unit with the activation.

- Two attempts over the radio or face to face shall be made to clear activation. If unsuccessful, Command will immediately conduct a PAR.
- If after two attempts no contact is made, the Rapid Intervention Team shall be deployed to the last known location of the unit.
- Once the emergency has been cleared, Command shall notify Communications and all units shall return to normal on scene operations.

Unit with Activation

- Any unit declaring an emergency shall provide Command with all appropriate information as indicated in the IMS Manual Section 5.8 “MayDay Operations”.

5.8

Title: MayDay Operations

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To establish a step by step procedure for emergency rescue in the event a firefighter becomes disoriented, incapacitated, trapped, or for any reason that would require emergency assistance to exit any hazardous or IDLH environment. While these procedures are primarily written around structural firefighting, they may be adapted for other types of firefighter rescue. One major goal is to initiate, maintain, and control incident communications. When a "MayDay" emergency occurs on the fire ground, it is critical that ALL members assigned to the incident including the tactical radio operator understand their role and responsibilities. This procedure defines the proven actions and communications needed to successfully mitigate a firefighter down emergency. All personnel should be intimately familiar with this procedure and those supporting which include:

5.4 Rapid Intervention Team
5.5 Emergency Evacuation Procedure
5.6 P.A.S.S Activation Procedure
5.7 Emergency Radio Alarm Activation
MayDay check list

General: The nature of firefighting places firefighters at risk of becoming lost or trapped, being involved in a structural collapse, running low on air without an obvious means of egress, and falling through a roof or floor. In these instances the toxic environment provides only a narrow window of survivability and rescue efforts are especially time sensitive. To ensure a safe and positive outcome, disciplines procedures must be utilized. These procedures increase the likelihood of a fast rescue, and greatly limit the possibility of additional firefighters needing assistance. Survival depends on a mix of predictable self-survival action by the lost firefighter and the Incident Commander.

Basic Self-Survival Responsibilities:

Note: The number one basic self-survival responsibility is to not get trapped, lost, or to run out of air. All crew members and company officers are responsible for maintaining situational awareness.

- All members entering the hazard zone must have proper Personal Protective Equipment, a portable radio, and personal rescue tools. All crews will consist of a minimum of two personnel and must remain intact. Crews will enter and exit the hazard zone together. Combining crews must be initiated by Command. Splitting of crews on the fire ground is prohibited. Crews must have an assignment and must be working under the direct supervision of a Division or Group Officer and/or Incident Command. **DO NOT FREELANCE!!!**

When to Declare a MayDay:

- Firefighters who find themselves lost or trapped must immediately use “MayDay, MayDay, MayDay” to announce their situation while they continue to attempt to find their way out. Firefighters should not delay notification of distress. Notifications should occur as soon as the Firefighter thinks he or she is in trouble. The longer you wait to tell somebody you are in trouble, the more you jeopardize yourself and the Rescuers lives.
- **IF YOU THINK YOU ARE IN TROUBLE, MOST LIKELY YOU ARE!**
- A firefighter must call a “MAYDAY, MAYDAY, MAYDAY” if he/she is in one of the following situations:
    - A member who is lost, disoriented, trapped, involved in a collapse, running low on air with no obvious means of egress, or has fallen through a roof or floor.
    - Firefighters who are not accounted for during a PAR after 3 attempts, to communicate both directly and by radio.
    - A Company Officer, Division or Group Officer, or other member who cannot account for an assigned firefighter who is operating in the hazard zone. This “MayDay” would generally occur following a PAR report that fails to locate or account for the suspected lost member.
    - By any member that witnesses or has confirmed that a firefighter is lost, unaccounted for, or in trouble.
    - The loss of communications, both directly and by radio with firefighter(s) or units operating in an IDLH atmosphere, after 3 attempts have failed to establish contact. (Initiated by IC)
    - Anytime a firefighter who feels he/she is in need of assistance to exit the structure for any reason.

Communicating the “MayDay”:

- As with any situation, good, organized and calm communications will greatly enhance the rescue effort. The presence of a MayDay may be communicated in many different ways including:
    - Firefighter radio initiated emergency
    - Activation of emergency radio button (EIB). Activation of the EIB button will immediately notify Communications of which radio is in alarm. Communications will hold this information until requested by Command.
    - Activation of PASS device
    - Negative contact during IDLH activities and PAR reports.
    - Communication Center perceived emergency and any missed communication during IDLH operations by the Incident Commander.

Note: The term "MayDay" will be reserved ONLY to report down firefighters. All non-emergency communications will be discontinued until the "MayDay" is resolved.

<u>At NO time will the downed or distressed firefighter be directed to change radio channels.</u>

- Unit specific assigned portables shall be used at all times (Rescue 48 should be using a Rescue 48 portable). All units using a spare portable radio shall notify Communications of what spare radio they are using once the radio is placed in service and again when placed out of service for accountability purposes.

Examples of calling a "MayDay":

- **Firefighter -** Calls in on the operating tactical channel, "MayDay, MayDay, MayDay, firefighter down."
- **Command –** Shall acknowledge the "MayDay". "Command to all units. A MayDay is in progress, emergency radio traffic." (Units shall stay off the radio unless critical information about the MayDay needs to be communicated).
- **Command –**"Command to MayDay, I copy your MayDay."

Note: After a report of a MayDay is received, strike an additional alarm.

LUNAR Report:

- The LUNAR report provides the following vital information for the Incident Commander to assist and or rescue the downed or distressed Firefighter. All personnel should memorize the **LUNAR** report acronym for giving an organized report of your situation.
- **<u>LUNAR</u>**
- **L – Location** (Where are you? Floor? Side? Quadrant?)
- **U – Unit** (What unit are you apart of? Are you alone?)
- **N – Name** (Name or Names of personnel affected)
- **A – Assignments** (Last assignment given by Command)
- **R – Resources** (Equipment you have and equipment you need. Do you need air? What's the quickest way to get resources to you?) Explain the details that created the MayDay.

Procedures:

- Firefighter initiating the MayDay should follow the below procedures:
  - Declare **"MayDay, MayDay, MayDay"**
  - Contact Command and provide information using the acronym LUNAR.
  - If unable to transmit due to radio traffic, press the portable's EIB (orange/emergency button) to capture control of the channel and receive priority transmission capabilities.
  - Manually activate your PASS device.
  - Turn on any flashlights and if trapped, point light

upward.
    - Attempt to remain calm and conserve air supply.
- Example - After the MAYDAY has been declared and acknowledged by Command:
    - **Command –** "Command to MayDay, give a LUNAR report."
    - **Firefighter –** "MayDay to Command, I'm located on floor 3, bravo-charlie corner. My unit is E-13 and I'm alone. This is firefighter Alfred Hitchcock. My last assignment was primary search of the 3rd floor. I have injured my leg and can't move. I still have about 15 minutes of air left."
    - **Command –** "Command to MayDay I copy your LUNAR report, remain calm, help is on its way. Conserve your air and manually activate your PASS device and point your light upward if you are trapped." (Note: for clear communication, firefighters may disengage their PASS to communicate.)
    - **Firefighter –** "May-Day to command emergency radio and PASS activated, I copy that help is on its way".

Conducting the Rescue:

- The Incident Commander shall remain in charge of the rescue effort when practical. If the MayDay occurs in an established division or group, Command may assign the rescue efforts to the Division or Group Leader. Conducting the rescue and maintaining support of the fire group operations require a **Command Team** approach, using the Communication Operators, the Command Technician, the Safety Officer and any other personnel on the fire ground that are needed at the Command Post. All fire ground personnel must be ready to report to the Command Post to assist with scene management.
- The use of a firefighter down check sheet is mandatory and will allow the commander to apply the appropriate steps and resources needed for a successful rescue. Keeping the Command Board accurate and up to date will greatly enhance the rescue efforts. Conditions may require a change in operational mode and a complete immediate and rapid evacuation of all personnel from the building.
- At this point in the operation, Command must revise the Incident Action Plan (IAP) to provide high priority rescue effort while supporting fire ground operations. The revision of the IAP may include the addition of hose lines, ventilation, back up RIT crews, laddering the building, and assigning additional crews to the rescue effort. Determine which operations should be continued, altered or stopped to best support the rescue and commit all required resources necessary to quickly locate and remove the missing or endangered firefighter(s).

Radio Channel Assignments:

- Once a MayDay has been declared, the Incident

Commander will remain on the originally assigned Command TAC channel along with the downed or distressed Firefighter and the RIT/Rescue Group. This channel will be considered the Rescue channel. All other units and personnel not involved with the rescue efforts will move to a new TAC channel to continue with fire ground operations. Example as follows:

- **Command –** "Command to E-11 (RIT), R11 and T-12. You will be my rescue group remain on 9-ECHO."
- **Command-** "Command to Safety (BC15). You will be my rescue group leader. You have E-11, R11, and T-12. Remain on 9-ECHO."
- **Command –** "Command to Tech 1 Standby to run fire ground operations on 9-Foxtrot."
- **Command –** "Command to E-12, E-13, R13,S2. Move to 9-Foxtrot, report your PAR and all communications to Tech 1."
- **Command –** "Command to Seminole. Have the first engine on the additional alarm report to the fire ground as RIT 2 – place them on rescue TAC."

Incident Commander:

- The Incident Commander shall upon receiving a "MAYDAY" distress call:
  - Initiate radio contact with the downed firefighter to determine problem, location, amount of air left, and equipment necessary to rescue the firefighter(s).
  - Deploy RIT immediately, and provide them with pertinent information.
  - Request additional alarm(s)
  - Ensure that the Command Staff and Division/Groups are established as needed:
    - Rescue
    - Safety
    - Gatekeeper
    - Outside
    - IC Aide
  - Initiate additional radio channels:
    - Incident Commander, the downed firefighter(s), and the RIT/Rescue Group will remain on the initial operating TAC.
    - Non- rescue related operations will be assigned to a new operational Command channel.
    - Staging will remain on a separate TAC
  - Assign one Rescue to each down firefighter to standby for transport. An additional Rescue will be required on the scene and remain ready to transport
  - Determine at what point rescue efforts shall be terminated.
  - As the situation escalates, the addition of a Gatekeeper and other Division Groups will be required.

Rescue Group:

- The rescue group will have a defined leader established by Command. The rescue Group Leader will be responsible for the physical activities needed to complete the rescue. These include:
  - Obtain pertinent information from the Incident Commander including the location and condition of the downed or distressed firefighter(s).
  - Determine and request additional necessary resources.
  - Selecting the best entry point to begin the rescue effort.
  - Direct RIT, Ensure the use of:
    - Thermal Imaging Cameras
    - RIT bags
  - Position hose lines as needed to protect rescuers' egress.
  - Maintain accountability for assigned crews
  - Monitor interior conditions and keep Command posted.

Safety Officer:

- The Safety Officer shall ensure that standard safe operating procedures are followed. It is imperative that he/she monitors the structural integrity of the building and fire conditions, and advises Command when interior forces should be withdrawn. The Safety Officer is usually the second in Chief Officer. Command may elect to pull the Chief Officer to the Command Post to assume management of the operational activities while the IC manages the rescue effort. A new Safety Officer must be assigned as soon as practical.

Outside Division:

- The firefighter(s) assigned the new operational channel will work closely with Command, but take charge of those units that are continuing to meet assigned benchmark activities. This includes: primary and secondary searches, water supply needs, additional hose line placement, utility control, ventilation, and management of the resources available in staging. Whoever is in control of the new operational channel will be responsible for activities and crews outside the structure that complement activities occurring inside the structure.
- The Outside Division shall:
  - Ensure that water supplies are adequate to supply hose line demands.
  - Ensure that air supplies are adequate, including spare bottles and filling station.
  - Ensure that high intensity lighting is placed at points of egress.
  - Ensure that all crews in rehab gear up with fresh air packs.

- Ensure that all boarded windows are uncovered, burglar bars are removed, and all doors are forced open.
- Ensure that adequate laddering to upper floors take place.
- Ensure that appropriate ALS equipment is staged and on scene Rescue(s) are not blocked in, if so, request additional transport unit(s).

Gatekeeper:

- The Gatekeeper shall position himself in a position where he/she may monitor personnel entering and leaving the structure. The Gatekeeper shall:
  - Maintain a list of personnel entering and leaving structure. This list shall contain:
    - Unit Number
    - Number of Personnel
    - Assignment
    - Tank pressure gauge reading(s)
    - Time entering the structure
    - Time exiting the structure
  - Monitor times inside the structure to ensure personnel do not exceed safe standards.
  - Ensure that personnel entering the structure are tasked by Command to do so.

IC Aide(s):

- The primary function of the IC Aide is to maintain radio contact with the downed firefighter once additional radio channels are established. Due to the critical nature of this assignment, other activities shall be limited. If an additional aide is available or radio contact is not available, IC Aide assignments may include:
  - Maintaining the Command Board
  - Maintaining the Command Work Sheet
  - Taping off an area for Command personnel
  - Monitoring other radio TAC's/cell phones

Rapid Intervention Team (RIT):

- General RIT guidelines are listed elsewhere in the IMS manual. When deployed, RIT shall:
  - Obtain appropriate information from the Incident Commander or Division/Group Supervisor.
  - Lead off with a tag line to ensure an exit path.
  - Utilize a thermal image camera if available.
  - Limit radio communications, but relay pertinent information to Command/Sector Officer.
  - Maintain an awareness of structural/fire conditions.
  - Maintain constant verbal communications with team members (stay together).

Company Officers:

- Shall ensure crew members:

- Follow direction (no freelancing)
- Limit radio communications
- Keep crews together

5.9

Title: Rehabilitation

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: To ensure the physical and mental condition of firefighters, working on emergency incidents, do not deteriorate to a point that affects the safety of each member or jeopardize the safety of the operation.

General: Every call, regardless of size, can require some type of rehabilitation; personnel must self regulate in the absence of a Command Officer. Once established, the Incident Commander (IC) will establish rehabilitation division or group when conditions indicate that rest and rehabilitation are needed for personnel operating at an incident scene. It also has the potential to detect undiagnosed conditions that could result in the loss of life. It shall be the responsibility of each jurisdictional Battalion Chief or their designee to ensure each agency's individual procedures pertaining to health and wellness and Worker's Compensation are followed should a firefighter not recover to the guidelines set forth in this document. This guideline meets and, in some instances, exceeds the recommendations of NFPA 1584 for firefighter emergency incident rehabilitation.

Levels of Rehab:

- Self Rehab – rehabilitation is considered to be "self–rehab" and continuous event beginning the day(s) before reporting to duty, and continued throughout the shift and on responses lasting less than 40 minutes.
- Structured Rehab – rehabilitation is necessary during complex or long duration incidents. These incidents will last over 40 minutes, or due to either incident type or environmental factors will require rehabilitation past the capabilities of scene resources.
- Depending on the type of incident, duration and environmental factors the "rehabilitation" process shall include some or all of the following:
    - Physical Assessment.
    - Revitalization (Rest, Re-hydration, and Passive/active Cooling and Warming).
    - Medical evaluation and treatment when necessary.
    - Documentation and accountability.
    - Release from rehab or further treatment when necessary.

Initiating Rehab:

- Self Rehabilitation
    - Should be initiated by each member as needed, while operating on short duration calls, training and daily station duties. Self Rehabilitation includes:
        - Proper physical and mental preparation for job function.
        - Proper rest, hydration and nutrition.

        - Maintaining a level of physical conditioning to allow for safe and effective operations.
        - Discourage use of excessive caffeine and energy drinks.
- Structured Rehabilitation
    - Shall be initiated for large scale or complex incidents where the change for extreme fatigue exists, such as:
        - Incidents exceeding 40 minutes in duration with an intense work load.
        - Level A or Level B Chemical Protective PPE is worn. Potential for responders utilizing more than one SCBA cylinder.
        - Adverse environmental conditions (heat or cold related)
            - Climatic conditions where heat stress index >90 F
            - Climatic conditions where wind chill index < 30 F
    - Any incident that meets the criteria of a "Structured Rehab" shall have a Rehabilitation Group established and a designated Rehab Officer.
    - Depending on availability, Command should consider requesting specialized Rehab Units or CERT to respond to augment on scene units.

Rehabilitation Assessment Parameters:

- Personnel entering Rehabilitation should spend the necessary time to be assessed/released by the Rehab Officer and classified as follows:
    - Immediate Treatment – Any personnel initially presenting with the following conditions shall be treated immediately in accordance with the current Seminole County EMS Practice Parameters.
        - Chest Pain
        - Shortness of Breath
        - Dizziness or Headache
        - Nausea and or vomiting
        - Obvious Injury
        - Changes in gait, speech or behavior
        - Changes to alertness and orientation
    - Continued monitoring – evaluation in rehabilitation as follows:
        - Blood Pressure
        - Respiratory Rate
        - Heart Rate
        - Body Temperature.
        - Pulse Oximeter reading
        - COHb Levels
- Release from Rehab Parameter
    - Personnel may not leave until released by the Rehab Officer after meeting <u>all</u> the following requirements:
        - Systolic blood pressure below 160 mmHg.
        - Diastolic blood pressure below 100 mmHg.

- Respiratory Rate <12 or >20.
- Heart rate <110.
- Body Temperature >97F or <100.6F
- Acceptable COHb levels
    - Over 12% moderate CO inhalation
    - Firefighters with a reading of >10% but <15% shall be given the opportunity to breathe ambient air for a minimum of 5 minutes prior to repeating CO assessment.
    - If level is still >10%, the firefighter will be treated in accordance with Seminole County EMS Practice Parameters.

- Whenever a responder is transported due to chest pain, cardiac problems, respiratory problems, or altered mental status, consider the possibility that the symptoms may be exacerbated by HCN toxicity and forward that information to hospital staff. These symptoms may be signs of “Cyanide Toxicity/Poisoning” and consider treating with a Cyanokits under the appropriate Seminole County Practice Parameters.
    - Time in Rehab
        - Personnel should be assigned to Rehab for a minimum of 20 minutes, during which they will be assessed and provided mean for hydration.
        - Due to the amount of variables involved, some personnel will need more time to meet the parameters than others. After the 20 minutes, personnel not meeting the release parameters shall be reassessed at 10-minute intervals, and vitals documented.
        - If after 1 hour in Rehab vital signs are still outside the parameters, Command shall be advised. In multi agency incidents, Command will make notification to the appropriate agency for conflict resolution if needed.

Command/Responder Responsibilities

- Incident Commander/Officer’s
    - Ensure a rehab plan that addresses available adequate resources that are able to provide needed relief and appropriate level of rehab.
    - Establish Rehab Group as outlined on any incident as warranted.
    - Identify the need for established Rehab units or CERT response early on if not already CAD dispatched.
    - Appoint a Rehab Group Supervisor.
    - As a minimum, a Paramedic approved to perform under the current Seminole County Practice Parameters shall be assigned, a Lieutenant/Paramedic should be utilized when possible.
    - For Incidents involving CERT response, a Rehab Group Supervisor shall still be designated to assist in patient evaluation.
    - Assign units to assist Rehab Group Supervisor as

needed.
    - Communicate all requests for units from Rehab directly with the Rehab Group supervisor.
    - Provide personnel status reports to agency Command staff for any personnel that may need additional treatment prior to returning to shift, or operations.
- Rehab Group Supervisor/ Rehab Staff
    - Establish Rehab area in an area uphill, upwind of the incident. When available utilize available resources to shelter crews from environmental elements.
    - Ensure Rehab area allows for both Rehab and Treatment when needed, (Rescue units should be considered for Treatment area's when available).
    - Provide thorough assessments, and document findings on each person on Rehab tracking sheet.
    - Provide initial assessments and follow up assessment to personnel entering/in Rehab to assess overall health and ability for release from Rehab.
    - Request additional resources as needed to continue timely and thorough patient assessment.
    - Any personnel needing treatment shall have the appropriate patient care report completed as outlined in the Seminole County Practice Parameter.
    - Advise Incident Commander of any refusal to participate in rehab.
    - Communicate the need for further treatment/transport of personnel directly to Command.
        - Personnel refusing transport shall not be released from Rehab, and Command shall be advised in the appropriate manner of circumstance. It will be the responsibility of Command to contact the appropriate Agency contact for further direction.
- Crews reporting to Rehab
    - Report to Rehab as directed by Command.
    - Crews shall enter and exit Rehab as a crew, unless otherwise directed by Command.
    - Remove bunker gear completely to allow maximum cooling of body.
    - Assist Rehab personnel in proper documentation and information gathering to ensure proper assessment.

5.10

Title: Air Monitoring at Fire Scenes

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: OSHA standards define IDLH (Immediately Dangerous to Life and Health) atmospheres as those with unacceptable levels of toxic vapors, flammable atmospheres, and oxygen deficient or enriched atmospheres. The overhaul phase is when many of those deadly fire gases are at peak levels. Proper air monitoring will ensure firefighters are wearing the proper PPE per the conditions. Firefighters are routinely educated in the hazards associated with inhalation of toxic gases, but due to the lack of any "visible" threat, combined with the added weight of PPE involved, firefighters are removing our SCBA prematurely or not wearing them at all.The atmosphere must be declared safe through the use of air monitoring equipment.

General: Firefighter deaths and injuries have been greatly reduced due to our better understanding of the respiratory dangers we encounter and their effect on our bodies. One area in which we have definitely seen improvement is that of protecting ourselves from the numerous toxic atmospheres encountered during firefighting. The use of positive-pressure self-contained breathing apparatus, mechanical ventilation, and air quality monitoring should be more common at incidents where respiratory hazards may exist.

Procedure:

- All Personal Protective Equipment, including SCBA, shall be worn during the attack and initial overhaul phase of all structural fires. Personnel should continue to wear all PPE until the IC advises the atmosphere has been declared as safe.
- In a large commercial structure with large floor areas or multiple floors (malls, high-rises) the building may be declared safe in sections with use of atmospheric monitors.
- Once there are no visible contaminants, atmospheric monitoring should begin. This should be done with hand held monitor for Carbon Monoxide (CO), Hydrogen Cyanide (HCN), Oxygen, and Flammable limits (LEL). These devices should be utilized by a trained member of the interior overhaul crew or someone assigned by the Incident Commander. It is preferable to use multiple meters on large structures.
- If after several minutes of monitoring a work area, there is no alarm by the monitor, the IC may certify the atmosphere as safe and authorize the removal of SCBA. Continuous monitoring of the work area must continue as long as personnel are present.
    - Recommended Levels:
        - Oxygen > 19.5% or <23.5%
        - Flammable Level <10%
        - Carbon Monoxide <35 ppm
        - Hydrogen Cyanide <4.7 ppm meters do not read below 5
        - Hydrogen Sulfide < 10ppm

- If air monitoring equipment is not available, personnel shall remain in SCBA protection.
- Fires outside structures including dumpster fires, trash fires and vehicle fires will require the use of full PPE, including SCBA, until no visible products of combustion are left and the area has been cleared with meters. Brush fires would be excluded from this provision.
- If at any time, during overhaul, personnel experience any type of irritation or smell strong odors that could be related to a hazardous atmosphere, the use of SCBA shall be required regardless of monitor readings. Also, if the meter readings fall outside of the **recommended levels,** ventilation must be resumed, preferable, with an electric fan.
- If particulate matter is seen in the structure that overhaul is being conducted in, a particulate mask must be worn.

5.11

Title: Emergency/ Non Emergency Response Procedures

Issue Date: Jan. 1, 2017
Revision Date:

Purpose: To establish guidelines and criteria to insure expeditious arrival of responding units while providing a reasonable level of protection from harm to the community and fire service personnel.

General: While initial response levels are based on the information available to the call taker at the time of dispatch, the vehicle operator/apparatus officer must ultimately determine the appropriate, safe response level based on variables that may be unknown to those that are dispatching the alarm. Factors such as traffic congestion, road construction and weather related factors may warrant altering the response level from what was originally assigned at the time of dispatch.

Unit Response

- The closest appropriate unit will respond emergency with lights and sirens as required. Vehicles traveling together in close proximity may respond cautiously with lights and sirens even when the response type indicates that only the first due apparatus is to respond emergency.
- The balance of the response assignment shall respond non-emergency without lights, opticom or siren with normal flow of traffic, obeying all speed laws and intersection control devices (traffic lights, stop signs, etc).
- When the first unit arrives on the scene, the officer shall direct as expeditiously as feasible, whether or not the balance (or specific units included within the balance) of the assignment continue response non-emergency, upgrades to emergency, or are canceled. When a Chief Officer is assigned to the alarm, the first due company shall “recommend” resources required and response mode.
- The assigned Chief Officer may respond non-emergency with normal traffic flow or at their discretion respond emergency. They may upgrade, downgrade or cancel response assignments as they deem appropriate.
- Units departing fire stations on non-emergency response assignments may use traffic control preemption devices (where provided) to safely expedite their entry onto roadways.
- When the Communications Center establishes a reasonable expectation that a true emergency exists, assigned units will be directed to respond in emergency mode.

Patient Transport

Patients shall be transported non-emergency unless the patient presents with an emergency medical condition as defined in Seminole County EMS Practice Parameters. Patients assessed as having an emergency medical condition may be transported emergency, consistent with the minimum established guidelines for emergency response (below).

- EMERGENCY MEDICAL CONDITION – Florida Statute 395.002(9) – A medical condition manifesting itself by acute symptoms of sufficient severity, which may include severe pain, such that the absence of immediate medical attention could reasonably be expected to result in any of the following:
  - Serious jeopardy to patient health, including a pregnant woman or fetus.
  - Serious impairment to bodily functions.
  - Serious dysfunction of any bodily organ or part.

In an effort to minimize any associated risks, all emergency responses shall be in accordance with, but not limited to the following minimum established guidelines:

- The driver of the vehicle or officer shall sound the siren and/or horn when reasonably necessary to warn pedestrians and other drivers of the vehicle's approach.
- When units dispatched are approximately the same distance or response time from the emergency scene, the unit dispatched first will respond emergency.
- Emergency Vehicles shall not exceed the posted speed limit by more than 10 mph, and then only when weather and road conditions safely permit.
- Emergency Vehicles, when proceeding through intersections with a Green Light, shall not exceed the posted speed limit.
- Emergency Vehicles shall come to a complete stop at all Red Lights, Stop Signs, and Uncontrolled Railroad Crossings. Prior to proceeding through the intersection or over railways, emergency vehicle drivers shall visually account for all lanes of traffic.
- Emergency Vehicles shall slow and not exceed the posted speed limits set for active school zones or construction safe speed zones when responding through these high hazard areas. Emergency Vehicles shall also come to a complete stop when approaching a School Bus Loading/Unloading and Construction Flagger's Stop Sign and only proceed with caution once clearance is given and assured.

- **When traffic conditions require emergency vehicles to travel into oncoming or opposing traffic lanes it shall be done as a last resort, with no other alternate route.**
    - **The maximum speed shall not exceed 20 mph.**
    - **Use extreme caution when approaching blind turns or lanes.**
    - **Complete stop required at controlled intersections regardless of light status.**
- When Emergency Vehicles must use turn lanes to approach controlled intersections, they shall come to a complete stop before turning or proceeding straight through the intersection regardless of light status.
- Road surface conditions, weather conditions, and any other variables that may adversely impact the safe transport of personnel and equipment, the motoring public or pedestrians should be determining factors for Emergency Vehicle Drivers to consider foremost when responding emergency.
- Under Florida Law, drivers and operators of vehicles may be held accountable for their driving actions or inactions; While Florida Law may hold the vehicle operator solely responsible for accidents or negligence, company officers are responsible for the safety of the crew and are responsible for compliance with these guidelines.

5.12

Title: Emergency Radio Procedures

Issue Date: May 1 , 2014
Revision Date: January 1, 2017

Purpose: To establish guidelines for uniform emergency radio procedures by all personnel.

General: These procedures are intend to minimize the impact of system problems, high call volume or other factors that can affect the efficiency of radio communications. The parameters outlined below describe the actions to be taken during various situations. While a difficulty with radio communications within the County is infrequent, the following procedures are intended to prepare personnel in the event they occur. Personnel should be prepared to act accordingly should any of the procedures be implemented.

Normal Radio Procedures

- During normal operations personnel responding to alarms will utilize the 800 MHz radio system in conjunction with MDC's to update their unit location and status based on predetermined parameters.
- Tactical radio channels will be assigned based on the type of alarms, call volume and channel availability.
- During normal operations personnel will provide the required scene reports, radio marking, and status updates utilizing common terminology, radio etiquette and brevity.

Emergency Radio Procedures

The following parameters outline three (3) operating modes in regards to radio procedures. Each is intended to ensure operational availability of the system. When any of the situations are declared all personnel shall strictly adhere to these-parameters to ensure system effectiveness.

- Priority Radio Traffic- Shall be instituted when unusual circumstances create an obstacle to conducting routine radio and telephone operations in the ECC, such as severe weather, high call volume, radio or telephone system problems, or other situations which exceed the functional capacity of the ECC.

  When priority radio procedure are in effect, unit and ECC radio transmissions will be reduced to the following:

  - Alarm related status changes (i.e. First unit on scene, with patient, transporting, and clear the hospital will continue to be broadcast.
  - Non- Alarm related status changes (i.e in quarters, on the air) will not be transmitted.
  - Field units will delay any non-essential requests to ECC whether via landline or radio until normal operations resume.
  - Use of Channel 9I (9 India) may still be used primarily for reports between units and staff that are of a non-emergency nature. 9I should not be used when in Failsoft.

- Emergency Radio Traffic- The term, "Emergency Traffic", will be utilized to temporarily

suspend all radio traffic on a channel due to an actual emergency occurring on the scene.

Emergency Traffic is used to clear the working tactical channel of all radio transmissions except those transmissions that are vital to the safety and welfare of personnel on scene. All other transmissions will hold or be self-directed to another channel.

No acknowledgement will be necessary from communications or field personnel. When vital information has been relayed and the situations listed above no longer exist, the authority which instituted "Emergency Traffic" will initiate a resuming of normal radio traffic with ECC.

- LZ Radio Traffic- Just prior to landing and/or takeoff requested Medical air transport units will announce "LZ RADIO TRAFFIC ONLY". Activation of this procedure is meant to signify to ground crews to cease normal radio traffic during the landing or takeoff of the aircraft in case an emergency occurs.

System Failure

Failsoft (Partial System Failure)

Failsoft is a mode of operation which occurs when the radio system is not able to perform trunking functions but is capable of operating as a conventional repeater type system. All mobile and portable radios which normally operate in the Public Safety "9" channel group (Channels 9A thru 9O) are individually programmed to automatically revert to a designated conventional radio channel. The Failsoft mode is indicated by the word "Failsoft" appearing on both the portable and mobile radio displays accompanied by an intermittent tone. Regardless of which channel in the "9" group is selected via the channel selector on the radios, all communications are made on the single pre-programmed channel.

The following guidelines shall be observed when the radio system is operating in Failsoft mode:

- All personnel shall limit radio traffic during Failsoft mode due to single channel operations. – Priority Radio Traffic will automatically be in effect if the system is in Failsoft mode.
- Patient reports to hospitals should only be conducted by telephone.
- Personnel should limit avoid any unnecessary radio traffic, to maintain the open channel for emergency transmissions.
- Because the radios may automatically revert back to the trunking system once the problem is rectified, units should return to their "normal" assigned radio channel, understanding they still remain on a single channel until the system once again becomes functional.
- ECC has the ability to utilize and assign an additional "Command Channel" during Failsoft should the need arise personnel will be directed to the appropriate talk group.

Note: Since FAILSOFT is an indicator of a failure in the home base trunking system the use of radios outside of Seminole County radio system (e.g. Orange County FD, Winter Park FD, talk-around, etc) are not affected by this condition and should work normally.

Failsoft System Testing

Under the direction of the Communications Program Manager the Seminole System Technology and Radio Shop Manager will test the system at 6 month intervals. The intended schedules of tests are as follows.

- In the month of May just prior to Hurricane season.
- In the month of November upon completion of Hurricane season.

The exact time, duration and parameters will be coordinated with all the appropriate Public Safety Answering Points (PSAP) within Seminole County, and may vary if the demand of the system warrants. During any test of the system, ECC will conduct a roll call of units from the Battalion Chief level down to ensure countywide system operability, and familiarity with the system limitations and operations.

As part of the test the Communications Center will direct a select group of units to the secondary Fail-soft channel to ensure familiarity of the units, and ensure proper operation of the channel.

Complete System Failure

While a complete failure of the 800mhz is unlikely, personnel must be prepared especially if operating on scene. A complete system failure will be indicated by an intermittent beep every few seconds, and the display will read out of range on the display.

If units are not operating on scene, all personnel shall immediately switch their radios to Zone 16 - Channel 16E-8TAC93.

- All communication, including dispatch will be transmitted over Channel 16E-8TAC93. Priority Radio Traffic will automatically be in effect if the system is in Complete System Failure mode.
- In the event a significant event occurs the ECC will assign Channel 16F-8TAC94 as the "Command Channel"

Personnel operating on scene with multiple units and experience complete radio system failure shall immediately switch their radios to the talk around channel "9 P T/A3".

- Use of the Talk Around channel is limited to a roughly 1 mile range, and should allow personnel to complete operations with communications.
- Priority Radio Traffic should still be used as calls in close proximity may experience bleed over.

System Ineffectiveness/Dead Spots

While operating on scene of large, complex type building (ie Hospitals or mall type's structures) personnel may experience dead spots or areas of poor reception. When personnel are unable to operate within the designated 800hz channels personnel shall function as follows:

- When possible prior to utilizing the Talk Around channels, on scene personnel will notify ECC. ECC will notify the responding or appropriate Battalion Chief.
- When possible one person on scene shall remain on the primary channel and monitor talk around and provide regular updates to responding units and ECC.
- Personnel will switch back to the primary channel and provide Communications with a situational report as soon as possible.
- All occurrences of system ineffectiveness will be reported through the chain of command for investigation and corrective action when possible.

6: FIRE/CAUSE INVESTIGATION

6.1

Title: Fire Cause Investigation and Determination

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To establish standardization guidelines for units within the Seminole County and Cities fire response system in regards to the investigation of the cause and origin of fires. This information is to clarify the roles in determining the cause and origin of a fire, for arson investigation, and as guidance to Seminole County's First Response System personnel when contacting the municipal fire investigator, State Fire Marshal's Office and the Department of Agriculture.

General: This guideline shall be followed by responders within the First Response System of Seminole County. It shall be the responsibility of each jurisdictional agencies designee to ensure each agency's individual procedures are followed for the protection of life and property and the safety of all emergency responders. Where the term Incident Commander is utilized, it shall mean by the Incident Commander or his/her assigned designee.

Investigation Required:

- Every fire occurring in Seminole County shall be initially investigated by the Incident Commander to attempt to determine an origin and cause of fire.
- If the fire cause is readily obvious as not an arson fire and the fire does not meet criteria of subsections below, the Incident Commander shall ensure the appropriate documentation of the cause and circumstances of the fire on the FIFRS and no further follow up with a municipal or state investigator required.
- If the Incident Commander determines that the circumstances regarding the cause of fire are:
  - Suspicious
  - The cause is not readily determined by their initial investigation
  - The fire has a projected direct dollar loss exceeding $1,000,000.00
  - Proximate to another criminal activity
  - The fire involves a civilian death, or an injury likely to result in death.
  - A firefighter injury requiring hospitalization or treatment by a physician at a medical facility.
  - Any fire in a religious occupancy or building.
  - Any fire is a state owned or state leased space.
  - Any fire in which there is a significant economic impact to the area/region.
- Request the jurisdictions fire investigator through communications.
- If the jurisdications investigator is unavailable to respond, the State Fire Marshall shall be contacted via Dispatch for structure fires or vehicle fires. The Department of

Agriculture shall be contacted via Dispatch for wildland fires.

Scene Custody:

- If an investigator is to respond to the scene to conduct an investigation, custody of the scene shall be maintained by the Incident Commander unless alternative arrangements are approved by the responding investigator. In order to accomplish these objectives, the Incident Commander should:
    - Establish a security perimeter using fire line tape or a Gatekeeper.
    - Control access into the scene through the security perimeter.
    - May be required to assist with on scene documentation.
- Department of Agriculture – law functions using the "Open Land Doctrine" because there is no expectation of privacy for most wildland fire operations. Therefore, maintaining the chain of custody is not critical in the prosecution of wild land arson. With that in mind, continue scene security until the arrival of the Department of Agriculture Law Enforcement investigator may not be necessary if clearance is provided by a Department of Agriculture investigator via a phone consultation.

Scene Observation and Overhaul:

- Firefighters should observe and mentally note evidence at the scene, such as:
    - Fire patterns and multiple fire locations
    - Trailers, ignitable liquids or other unusual fuel distribution (e.g., piles of newspapers and/or furniture pushed together).
    - Broken windows and doors, indications of forced entry and distribution of broken glass and debris.
    - Any other unusual items or the absence of normal contents or structural components.
- Recognize threats to evidence and its movement, removal, contamination or destruction from any of the following sources:
    - Overhaul activities that destroy fire patterns
    - Salvage activities that involve moving or removing physical evidence.
    - Moving knobs, switches and controls on appliances and utilities.
    - Personnel walking through scene
- Protect evidence by:
    - Limiting excessive fire suppression, overhaul and salvage.
    - Covering items or areas containing evidence objects with tarpaulins.
    - Obtaining names, addresses and telephone numbers from victims and witnesses.
    - Preserving transient evidence such as show prints

and tire impressions.

Witnesses:

- If civilian witnesses are present on the scene and may potentially leave prior to an investigator responding, the Incident Commander shall collect, or ask local Law Enforcement to collect their name, address, vehicle tag and contact information along with a brief description of the witness and a written statement, if deemed appropriate.

Local Law Enforcement Assistance:

- Local law enforcement shall immediately be contacted when:
  - It is apparent that a crime is in progress.
  - A crime, other than arson, has occurred at the scene of the fire.
  - A civilian death or firefighter death has occurred.
  - A civilian injury that is likely to result in death.
  - A civilian or firefighter significant/critical injury.
  - That immediate law enforcement intervention is required to ensure the apprehension of a potential perpetrator.
  - Evidence may be subject to destruction unless intervention occurs.
  - Firefighting or civilian personnel may be in danger.

Safety During Investigation:

- Responding fire investigators shall report to the Incident Commander upon arrival to the scene.
- Prior to entering any structure to conduct a fire investigation, fire investigator shall receive a safety briefing and clearance from the Incident Commander as to safety of the investigation environment.

State Fire Marshall Investigator Requests:

- Response Availability – On Call 24 hours
- Field Requests – SFM requests shall come from the Incident Commander or the jurisdiction's fire investigator, through Seminole County Communications Center. The Incident Commander or the jurisdiction's fire investigator may request a telephone consultation or a SFM detective to respond to the scene.
- No response Documentation – Should the jurisdiction's fire investigator or the SFM not be able to respond or elects not to respond, document appropriately on the FFIRS Incident Report. Include in both reports the SFM detectives name and case number.

Department of Agriculture:

- Response Availability – 0600 -2000 hours Monday through Friday. Available after hours and weekends for evidence collection or if a suspect is being detained.
- Field Requests – Department of Agriculture Law Enforcement requests should come from the IC, through

Seminole County Communications Center. The IC may request a telephone consultation or an Ag Law investigator to respond to the scene.

- No response Documentation – Should the Department of Agriculture not be able to respond or elects not to respond, document appropriately on the FFIRS Incident Report. Include the Department of Agriculture Law Enforcement Investigators name and case number.

6.2

Title: Fire Scene Injury and Fatality Guideline

Issue Date: December 31, 2011
Revision Date: January 1, 2017

Purpose: To clarify reporting and notification as required in the event of a civilian fatality or a civilian injury likely to result in death, or a firefighter fatality. Outline initial scene guidelines when an injury or fatality occurs as a result of a fire or on a fire scene.

General: Information on notification requirements to the Office of the State Fire Marshal can be found in Florida Administrative Code 69A-61, Rules of the Bureau of Fire and Arson Investigation, and Florida Administrative Code 69 A-62, Firefighter Employment Standards.

Injuries:

- Civilian injury likely to result in death
  - Notify local LEA Enforcement
  - Notify the jurisdiction's fire investigator
  - Notify the State Fire Marshal Investigator
  - Notify SFM on all significant burns
  - Firefighter Injury requiring hospitalization or treatment by a physician at a medical facility
  - Notify the local jurisdiction's fire investigator
  - Notify State Fire Marshal Investigator
  - Notification to the State Fire Marshal's Firefighter Safety and Health Section within 4 hours of occurrence through the Seminole County Communications Center

Fatality:

- Civilian Fatality
  - Notify local Law Enforcement
  - Notify the jurisdiction's fire investigator
  - Notify the State Fire Marshal Investigator
- Firefighter Fatality
  - Notify local Law Enforcement
  - Notify the jurisdiction's fire investigator
  - Notify the State Fire Marshal Investigator
  - Notification to the State Fire Marshal's Firefighter Safety and Health Section within 4 hours of occurrence through the Seminole County Communications Center

Scene Management:

- All fire service personnel are reminded to:
  - Observe the fire and scene conditions
  - Exercise scene safety
  - Preserve the fire scene

When a Fire Scene is a Crime Scene:

- Any fire scene with a civilian death, civilian injury likely to result in death, a firefighter death, or firefighter injury likely to result in

death
- The Incident Commander, jurisdiction's fire investigator, or SFM determines the fire is of a suspicious nature or intentionally set
- Emergency Medical Personnel shall follow the procedures outline in Seminole County protocols

Responsibilities of Investigative Agencies:
- Local Law Enforcement Agencies are charged with the responsibility of establishing the manner and cause of death for every unattended death that occurs within its jurisdictional boundaries. An unattended death is one in which it does not occur under the direct supervision or treatment by a properly licensed medical doctor authorized to practice medicine within the State of Florida.
- The SFM's investigators are charged with investigating cause and origin, as well as notification of other state and federal agencies.
- Depending on the circumstances of a fighter fatality or serious injury, there may be multiple investigations of the same incident conducted by different agencies for a variety of purposes.
- The parallel investigations may include any of the following:
    - A Law Enforcement and medical examiners cause and manner of death investigation.
    - A criminal investigation directed toward any criminal actor of an incident involving the operation of a vehicle.
    - An origin and cause of a fire
    - A code compliance investigation
    - A regulatory investigation conducted by a state and/or federal authority for occupational safety and health.

Line of Duty Death:
- In the event of a firefighter Line of Duty Death (LODD) or injury that is likely to result in death, the Incident Commander should initiate a process to ensure that the immediate area is isolated, secured, and the appropriate individuals are notified to respond.
- The primary objective at this time is to preserve any physical evidence that could be important to the investigation. This shall commence one the fire scene is declared under control.
- The Incident Safety Officer (ISO) should be assigned as an interim LODD Investigation Team Leader until additional qualified personnel can be assembled at the scene.
- The ISO should request additional resources as needed to assist in securing the scene until additional LODD Investigation Team members arrive.
- In a LODD, the remains and PPE shall not be moved until approval is received from the State Fire Marshal's Office and local law enforcement.
- All PPE/fire related equipment shall be secured for evidence, subsequent examination and testing.
- Isolate the scene – the scene of the incident should be secured and guarded: only those individuals who have a specific reason to enter should be allowed inside the perimeter.

- Impound Evidence – All items that could have a bearing on the investigation should be impounded and protected until they can be turned over to the investigation team. In the case of a fire fatality, items such as protective clothing shall be considered evidence as part of the investigation and extremely important.

Appendix 1

Title: Post Incident Gross Decontamination

Issue Date: June 30, 2019

Revision Date:

Purpose: The purpose of this SOG is to establish a safe and effective practice for removing toxic substances and particulate from personnel, equipment and the fire protective ensemble after exposure to products of combustion. These procedures will aid in reducing possible carcinogenic exposures and subsequently have potentially both short and long term positive health impacts.

General: All members of Seminole County Fire Department and municipal Fire Departments shall protect themselves and their coworkers' health and safety by adhering to the following procedures.

Contamination:

1. Contamination is the exposure to chemicals (to include carcinogens), radioactive or biological material on personnel or physical material (equipment, structures, vehicles, etc…).

2. Contamination occurs when a foreign substance gets on, or in, clothing, equipment or the body (via absorption, ingestion, inhalation, etc…). Contamination implies these substances should be avoided because of their potential negative health effects.

3. When personnel are exposed to environments that can potentially contaminate their clothing, equipment or selves' (skin, lungs, etc…) the presumption should be that they have been contaminated. Some examples of hazardous environments or considerations are:

- Interior operations in environments where any amount of smoke is present. This includes potentially ANY duration of time. The smell of products of combustion indicates a potential exposure.
- Personnel should be cognizant that an exposure to products of combustion does not require visible smoke; inhalation and absorption of low doses, in the part per million (ppm) range or microscopic amounts, have a potential carcinogenic effect.
- Command Officers should always strive, when possible, to organize the scene and situate the command post in such a way to eliminate exposure.

- Exposures can, and are likely to, occur during exterior operations when in proximity to products of combustion such as:

    1. Vehicle fires

    2. Brush fires (trash, tires, fertilizers, pesticides, insecticides and unknowns)

    3. Trash/Dumpster fires

    4. Driver/Engineer performing pumping operations

    5. Incident Commanders (where there is exposure to the command post)

    6. Safety Officers

    7. Un-deployed Rapid Intervention Crews

    8. Crews assigned to an exterior exposure line

    9. Unintended exposure of any personnel due to significant wind shift, scene dynamics or complications

Gross Decontamination Post Fire On Scene

Decontamination (Decon) may be necessary for exposed or contaminated civilians and/or emergency responders. There are two types of Decon:

1. Emergency/Gross Decon

2. Technical/Secondary Decon

The Decon process described in this SOG strictly refers to an immediate Gross Decon following exposure to productions of combustion. This procedure shall be systematic and orderly.

The Gross Decon process shall be utilized for all fires where Personnel Protective Ensembles (PPE)are worn and exposed to products of combustion. This shall include, but not be limited to, brush fires, vehicle fires, training fires and/or any other emergency or non-emergency incidents where the combustion process occurs.

The marking of formal isolation or control zones (as shown below) may not occur at every fire incident. All personnel should be aware that isolation or control zones still exist. Research has shown modern day fires produce harmful toxins (which may include Polycyclic Aromatic

Hydrocarbons (PAH), Volatile Organic Compounds (VOC), Carbon Monoxide (CO), Hydrogen Cyanide (HCN), and numerous other gases, chemicals and toxins. It is important to remember that many of these toxins are colorless and/or odorless gasses and will not be visible. To limit the amount of exposure and the subsequent required Decon, consider apparatus placement and approach during any fire attack. Personnel can greatly reduce the amount of exposure by performing a fire attack from the upwind position, when possible, and utilizing the reach of the hose stream.

The following zones shall be defined on all fire type incidents:

- Hot Zone:
  - Any area with high risk.
  - Any area within the immediate perimeter of any fire or products of combustion (which include smoke and soot).
- Warm Zone:
  - The area between the hot and cold zone.
  - The area not in the immediate vicinity of any fire or products of combustion.
  - Gross Decon and cleaning of the body shall be located in the warm zone.
- Cold Zone:
  - Any area without risk.
  - Any area outside of the hot and warm zone, ideally uphill and upwind.
  - Rehabilitation (Rehab) shall be located in the cold zone.

Procedures:

Personnel shall be ready at all times to implement these protective procedures. Personnel may find it beneficial to assemble and maintain a personal "Go-Bag" with a clean uniform that can be accessed after any incident where they've been exposed to harmful substances. Recommended items could include: the department approved uniform or jumpsuit, socks, clean footwear, hat, towel, sun protection, etc.

The individual assigned to oversee Gross Decon shall ensure that the apparatus tank water or any water used in the Decon process is from a clean municipal (hydrant) water source and is not from a stagnant or potentially contaminated water source.

A. Gross Decon Setup: Generally, Gross Decon should be set up by the first arriving suppression apparatus closest to the incident where products of combustion exist. It shall be the Driver

Operator's responsibility to establish and oversee the Gross Decon area and process. Where resources are sufficient, it is beneficial for Command to assign an additional crew to oversee the Decon Process. The Gross Decon area shall be designated by deploying an approved Decon Hose Line and marking the nozzle location with a green (or if available an alternative colored) traffic cone. If the Safety Officer is assigned, they shall assure Gross Decon is established.

The Decon Hose Line(s) shall include an in-line pressure regulator with a garden style hose and nozzle. This set up can be facilitated using a 2-½" to ¾" reducer. This garden hose setup is preferred as it will provide a flushing with sufficient flow but lower water pressure which better eliminates the possibility of embedding particulate / toxins further into fabric. It is also easier to control water flow and direction while performing the Gross Decon process. To facilitate Gross Decon of multiple personnel, additional Decon Hose Lines from other nearby suppression apparatus can be used.

B. Gross Decon Process: All fire personnel that were exposed to products of combustion shall perform Gross Decon prior to entering Rehab or leaving the incident scene. After exiting the Hot Zone, it is recommended that crews remain on air, when possible, and report directly to the designated Decon Hose Line(s).

Those members with the lowest air supply should be decontaminated first and as a rule, personnel are to remain on-air until Gross Decon is complete, again when possible. Maintaining crew integrity, they shall assist each other in rinsing off debris and products of combustion in a systematic and thorough manner from the collar-line down; being mindful of higher potential collection points such as the armpit and groin areas. Personnel shall be careful to not saturate the inner lining of the PPE. The goal is to keep the PPE operationally dry on the interior but rinsed as clean as possible on the exterior. Soft bristle scrub brushes and department-approved soap/cleaner may be used to facilitate the cleaning process. Follow NFPA 1851 and the manufacturers' recommendations when cleaning PPE.

After rinsing the exterior portion of the PPE, personnel may go off-air and begin to doff their PPE. Depending on the extent and length of the fire, all PPE, other than bunker pants and fire boots, shall be left in a prepared Drop Zone. If a formal rehab area is not established due to a quicker knock down and/or demobilization, a Drop Zone would not necessarily be needed.

The Drop Zone shall be located in the warm zone. The Drop Zone shall be remote and downwind of Rehab due to off-gassing PPE. Placement of tarps or salvage covers is suggested to designate this area. Next, personnel shall move away from the exposed gear and towards the Cold Zone and use department-approved wipes for a gross cleaning of their head, neck, face, hands and any other exposed areas as deemed necessary. The use of running water (a hose bib for instance) with department-approved soap/cleaner if available, for those same body areas is an optional method for on-scene gross cleaning. This should not be considered a substitute for a thorough “Shower within the Hour”.

Personnel must resist the urge to consume food or hydrate until the Gross Decon process is completed and they have entered a clean Rehab area (The Cold Zone).

C. Reporting to Rehab: Personnel that report to Rehab shall first go through the Gross Decon process. Once in Rehab, personnel shall lower their bunker pants to allow for rapid cooling and increase the distance between off gassing contaminated gear and their groin and respiratory system.

D. Reporting for Re-Assignment: When crews are called from Rehab back into operations, they shall report ready for assignment as requested. If any new assignment involves further exposure to products of combustion (i.e. Overhaul, Secondary Search, retrieving hose lines, etc.), the crew shall then go back through the Gross Decon process as stated above.

E. Release from the Scene: To keep the cab of the apparatus as clean as possible and to avoid transferring toxins and harmful products back to the fire station, it is extremely important to perform Gross Decon prior to leaving the incident scene.

Once released by command and prior to leaving the scene, it is recommended that all PPE be bagged at the scene using department-approved bags that are at least 6mil thick. The bag opening will be twisted and taped (or otherwise) closed, then "goose-necked" (folded over on itself, and twisted and taped (or otherwise closed) a second time). This procedure will greatly minimize any off-gassing in the apparatus cab.

Units returning to quarters for full personnel decon are still available for dispatch to high priority calls. If a unit is dispatched to another call which requires crews to wear turnout gear while returning to quarters, the members of the crew shall open the plastic bag containing their gear and don it. If this happens the crew members must complete the fire decon procedure again after removing their gear.

Decontamination of the helmet will follow the same objective as all PPE for Gross Decon, when cleaning the helmet; it's acceptable to carefully wash the exterior to remove any heavy particulate. However, when cleaning the interior do not saturate any fabric, including the liners with water. Any interior cloth pieces should be wiped down with department-approved wipes.

All other equipment (SCBA packs and cylinders, tools, radio straps, etc.) will be thoroughly cleaned using water and any available department-approved cleaner (unless specified below). Soft bristle scrub brushes should be used. Radios shall be cleaned using appropriate techniques, refer to equipment's manufacturers guidelines. Once the gear is cleaned, it may then be loaded into the apparatus cab. Ideally, no potentially contaminated equipment will be stored in the apparatus cab.

Personal Protective Equipment Exchange at the scene:
Personnel who have gone through the Gross Decon procedure, shall have their hood swapped according to the established agency Hood Swap Policy. These exposed PPE components shall be properly cleaned by an ISP or by Extractor /Washer before being placed back into circulation.

Post Fire Decon at the Fire Station

It is highly recommended that all personnel exposed to the products of combustion, or any potentially harmful chemical (or biological) toxins, complete a full Personal Decon as soon as possible after the exposure. Individual agencies are encouraged to adopt policies regarding full personal decon procedures.

It is recommended that the following occurs as soon as possible upon arrival at the fire station:

- Perform a more thorough decontamination of equipment (radio, tools, fire hose, etc…) following NFPA 1851 and manufacturers' recommendations.
- Perform a more thorough decontamination of PPE (helmet, bunker gear, SCBA, etc…) following NFPA 1851 and manufacturers' recommendations.
- Perform a thorough decontamination of the apparatus cab.
- Return apparatus to a state of readiness.
- Take a "shower within the hour" of being exposed to any products of combustion.
- Change into clean station uniform wear.
- Units that have been approved to go out-of-service shall go available according to department policy.

Maintaining Readiness: All personnel shall ensure their assigned unit has a clean apparatus cab. The potential for secondary exposures during routine apparatus use is high and must be limited. To aid in reducing secondary exposures, apparatus cabs shall be cleaned and decontaminated at a minimum on a monthly basis; more often may be necessary due to call load.

Post Fire - At the Scene: Fire Investigators

The Fire Investigator's duties, often places them in a "post -fire", chemical laden, hazardous environment. Protection is just as vital and important with this fire service position. They must adhere to respiratory and personal protective clothing requirements to protect against exposure to and possible contaminates at fire scenes. It is strongly recommended that all investigators wear SCBA or respiratory masks to protect their airway. The minimum recommendation is utilization of P100/VOC combination filter half mask. During investigation if possible, this should also include atmospheric monitoring for CO, HCN, O2, VOCs and formaldehyde to reduce exposure to these substances. Once the investigation of any fire is completed, the Fire Investigator should undergo the Gross Decon procedures per appropriate Department policy/ protocol. They should also follow Personal Decon procedures and "shower

within the hour", at home or (preferably) at a fire station in close proximity to the fire scene. The goal is to prevent any transfer of contaminates from the fire scene to their homes and utilization of the department-approved soap to maximize Personal Decontamination.

Command Worksheet

Command Board 1

STAGGING

GROUPS	WOODS TRUCK	READY RESCUE	TANKER	INVESTIGATOR
LG WOODS TRUCK	COMMAND 1	REHAB 1	UTILITY COMPANY	PIO

	CK	IN	OUT
PRIMARY			
WATER ON FIRE			
WATER SUPPLY			
SAFETY ESTABLISHED			
2 OUT / RIT			
VICTUMS LOCATED			
VENTILATION ESTABLISHED			
UTILITIES CONTROLLED			
FIRE EXTENSION			
SECONDARY			
REHAB ESTABLISHED			
FIRE UNDER CONTROL			
FIRE OUT			
IDLH AIR MONITORING			
SPRINKLERS CONTROLED			
STANDPIPE CONNECTED			

REHAB

Command Board
EMS Incident

STAGGING	COMMAND 1	TANKER	MCU 1	LANDING ZONE	LEVEL 2 STAGGING
	GROUPS	MCI	MCU 2	LEA	PIO

	CK	IN	OUT
# OF VICTUMS			
ALL VICTUMS ACCT. FOR			
HOSPITALS CONTACTED			
TRIAG GROUP			
TREATMENT GROUP			
TRANSPORT GROUP			
STAGGING			
AIR TRANSPORT			
ALL PATIENTS TRANSPORT			
SAFETY			
2 OUT / RIT			

REHAB

Command Board
Special Hazard

STAGGING	COMMAND 1	MAP UNIT	PUMPOFF TRAILER	TANKER	RIGGING TEAM
	GROUPS	DECON TRAILER	TRENCH TRAILER	SHORING PLACED	PIO

	CK	IN	OUT
EVACUATION			
ZONES ESTABLISHED			
AIR MONITORING			
PRODUCT IDNETIFYED			
LEAK STOPPED			
DECON ESTABLISHED			
ID PPE			
2 OUT /RIT			
ENTRY TEAM			
SAFETY ESTABLISHED			
FIRE OUT			
IDLH AIR MONITORING			
PATIENTS EXTRICATED			

REHAB

Seminole County & Cities *Incident Management System*

Confined Space Rescue Incident Command Checklist

- ❑ Request appropriate Confined Space Rescue Capable units while responding
- ❑ Establish Command and Rescue and/or Operations Groups
- ❑ Make contact with competent/knowledgeable person on scene to get the details
- ❑ Confirm number, location and condition of victims
- ❑ Declare type of rescue mode (Immediate, Delayed, Recovery)
- ❑ Confirm if any mechanical, electrical or structural hazards.
- ❑ Create an I.A.P. (incident action plan)
- ❑ Request additional needed resources for extended operations
- ❑ Control Scene access with scene tape and LEA
- ❑ Shut down unnecessary apparatus/equipment to reduce exhaust fumes
- ❑ Establish dedicated Rescue Group comm. channel (talk around) if needed
- ❑ Assign a Safety Officer With CSR Tech. qualifications
- ❑ Assign a qualified Rapid Intervention Team
- ❑ Request a P.I.O. (big media event)
- ❑ Monitor for adverse weather conditions moving in
- ❑ Have EMS Transport on standby
- ❑ Atmospheric Monitoring
- ❑ Ensure less than 10% LEL before entering

Benchmarks:

- ❑ Command Established
- ❑ Air Quality Monitoring
- ❑ Safety Established
- ❑ Rescue Group Established
- ❑ R.I.T. Established (with equal certification)
- ❑ Ventilation Established
- ❑ Rescuers Entering Confined Space

Seminole County & Cities *Incident Management System*

Industrial Machinery Rescue Incident Command Checklist

- ❑ Request S-2 for pneumatic hand tools and specialty cutting equipment (torches etc)
- ❑ Establish Command and Rescue and/or Operations Groups
- ❑ Make contact with competent/knowledgeable person on scene to get incident details
- ❑ Request the most knowledgeable machine operator stay at the Command Post or with the Rescue Group
- ❑ Confirm number, location and condition of victims
- ❑ Declare type of rescue mode (Immediate, Delayed, Recovery)
- ❑ Ensure hazards such as moving parts, gears, belts, conveyors etc, and power sources are Identified, controlled and locked out.
- ❑ Ensure crews are conscious of *"Stored Energy"* - if mechanical systems are jammed
- ❑ Create an I.A.P. (incident action plan)
- ❑ Assign a Safety Officer With VMR Tech. qualifications if possible
- ❑ Assign a qualified Rapid Intervention Team if crews are operating in a hazard area
- ❑ Have EMS Transport on standby
- ❑ Consider early request for response of Trauma Surgeon if amputation is necessary
- ❑ Request a P.I.O. (big media event)
- ❑ Monitor for adverse weather conditions moving in if in an outdoor environment

Benchmarks:

- ❑ Command Established
- ❑ Safety Established
- ❑ Rescue Group Established
- ❑ R.I.T. Established (if needed)
- ❑ All Utilities and Hazards Controlled
- ❑ Lock Out/Tag Out established
- ❑ Victim Access/With Patient
- ❑ Victim(s) Extricated

Incident Management System

Seminole County and Cities

Safety Officer Worksheet

Safety Officer's Name_____

☐ Command to broadcast designation of Safety Officer over operating channel

☐ Obtain brief report of situation from Command

☐ Confirm accountability system is being followed

☐ Confirm appropriate number of RIT resources is in place for type of hazardous situation/atmosphere entered

☐ Ensure proper safety equipment is being used by personnel working in hot zone or hazard area

☐ Ensure hazard control zones have been established

☐ Ensure safe techniques are being utilized to complete the task at hand

☐ Determine rehabilitation needs as indicated by weather conditions and/or type of operation

☐ Ensure rehab is not set up in a hazard area

☐ Ensure proper air monitoring on IDLH scenes

☐ Perform periodic walks around the incident to determine if any of the below hazard exist:

	Y/ N
1. Signs of Structural Collapse	☐ ☐
2. Collapse Zone	☐ ☐
3. Signs of Flashover	☐ ☐
4. Utility Hazards	☐ ☐
5. Chemical/Explosion Hazards	☐ ☐
6. Exposure Hazards	☐ ☐
7. Trip/Angle Hazards	☐ ☐
8. Traffic Hazards	☐ ☐
9. Apparatus Placement	☐ ☐
10. Other _____	☐ ☐
11. Other _____	☐ ☐

Mayday Emergency Checklist

- [ ] Initiate immediate **emergency radio traffic** and repeat "**Mayday-Mayday-Mayday"**
- [ ] **Deploy RIT,** establish an additional RIT (consider more teams)
- [ ] Direct lost personnel to **manually activate PASS devices**
- [ ] **"Talk" lost firefighters out** detailing:
  - **L Location** (floor, side, quadrant)
  - **U Unit** (what unit you are part of)
  - **N Name** (name or names)
  - **A Assignment(s)** (last assignment by command)
  - **R Resources** (equipment needed to assist in removal, what happened i.e. Collapse, fall, entrapment, or lost, and what amount of air left)
- [ ] Assess whether increased **ventilation** will help or hinder rescue operation
- [ ] **Increase extinguishment capability** (additional hose lines, master streams, etc.)
- [ ] Continue to **assess risk level** for rescuers and terminate rescue if too dangerous
- [ ] **Ladder the building** at multiple points

Rescue

- [ ] Obtain appropriate information from the Incident **Commander or Division/Group Supervisor**
- [ ] **Lead off with a tag to ensure an exit path**
- [ ] Use Thermal Imagers, RIT bags
- [ ] Limit radio communications to pertinent information
- [ ] Position hose lines to protect rescue and egress
- [ ] Maintain accountability
- [ ] Monitor fire conditions/hazards

Command

- [ ] Rescue
- [ ] Gatekeeper
- [ ] Safety
- [ ] Outside
- [ ] Command Tech/ IC Aide
- [ ] Initiate additional radio channels
- [ ] Command Tech/ IC Aide and firefighter in distress will remain on operating tac
- [ ] IC and critical personnel assigned to rescue will operate on a rescue tac
- [ ] IC and dispatch will operate on a command channel
- [ ] Conduct a rapid PAR
- [ ] All other units will adhere to emergency radio traffic

Safety

- [ ] Crews in only with **safety tag lines** attached
- [ ] Place **high intensity lighting** at entrance/exit points
- [ ] **Monitor** all **sides of the building** noting any movement in **windows**

Incident Management System
Seminole County and Cities PIO Worksheet

PIO:_____ ***Date***:_____

Type of Call:_____

Incident Times

1st Unit Dispatched:_____ 1st Unit On-Scene_____

Total Units Utilized:_____ Total Personnel On-Scene:_____

Other Agencies Assisting (FD's Red Cross, LEA, etc.) _____

Scene Information

Location:_____

Jurisdiction: Seminole County / City:_____

Firefighter Injury / Deaths: _____ Citizen Injury / Deaths: _____

Patient(s) transported : Adult(s)_____ Child(ren)_____

Loss / Damage to Property Estimates: _____

Cause / Origin: _____

PR Message:_____

Investigative Information

Agency Investigating: _____ Investigator:_____

Additional Notes

Seminole County & Cities *Incident Management System*

Rope Rescue Incident Command Checklist

- ❑ Request appropriate Rope Rescue Capable units while responding
- ❑ Establish Command and Rescue and/or Operations Groups
- ❑ Make contact with competent/knowledgeable person on scene
- ❑ Confirm number, location and condition of victims
- ❑ Declare type of rescue Mode (Immediate, Delayed, Recovery)
- ❑ Confirm if any mechanical, electrical or structural hazards
- ❑ Create an I.A.P. (incident action plan)
- ❑ Request additional needed resources for extended operations
- ❑ Establish dedicated Rescue Group comm. channel (talk around) if needed
- ❑ Assign a Safety Officer With Rope Tech. qualifications
- ❑ Confirm a qualified Rapid Intervention Team has been established
- ❑ Control scene access with scene tape and LEA
- ❑ Request a P.I.O. (big media event)
- ❑ Monitor for adverse weather conditions moving in
- ❑ Have EMS Transport on standby

Benchmarks:

- ❑ Command Established
- ❑ Safety Established
- ❑ Rescue Group Established
- ❑ R.I.T. Established
- ❑ Rescuers on Rope
- ❑ Victim Access/With Patient
- ❑ Victim(s) on the ground
- ❑ All rescuers on the ground

Incident Management System
Seminole County and Cities

Safety Officer Worksheet

Safety Officer's Name_____

☐ Command to broadcast designation of Safety Officer over operating channel

☐ Obtain brief report of situation from Command

☐ Confirm accountability system is being followed

☐ Confirm appropriate number of RIT resources are in place for type of hazardous situation/atmosphere entered

☐ Ensure proper safety equipment is being used by personnel working in hot zone or hazard area

☐ Ensure hazard control zones have been established

☐ Ensure safe techniques are being utilized to complete the task at hand

☐ Determine rehab. needs as indicated by weather conditions and/or type of operation

☐ Ensure rehab. is completing the Rehabilitation Officer Worksheet

☐ Ensure proper air monitoring on IDLH scenes

☐ Perform periodic walks around the incident to determine if any of the below hazards exist:

Considerations	Y	N
1. Signs of Structural Collapse	☐	☐
2. Signs of Flashover	☐	☐
3. Utility Hazards	☐	☐
4. Chemical/Explosion Hazards	☐	☐
5. Exposure Hazards	☐	☐
6. Trip/Tangle Hazards	☐	☐
7. Traffic Hazards	☐	☐
8. Other: _____	☐	☐
9. Other: _____	☐	☐

Seminole County & Cities *Incident Management System*

Structural Collapse Rescue Incident Command Checklist

- ❑ Request appropriate Structural Collapse Rescue Capable units while responding
- ❑ Establish Command and Rescue and/or Operations Groups
- ❑ Make contact with competent/knowledgeable person on scene to get the details
- ❑ Confirm number, location and condition of victims
- ❑ Declare type of rescue mode (Immediate, Delayed, Recovery)
- ❑ Identify any electrical, gas or structural instability hazards.
- ❑ Create an I.A.P. (incident action plan)
- ❑ Request additional needed resources for extended operations Trench Trailer (USAR)
- ❑ Control Scene access with scene tape and LEA
- ❑ Perform Structural Triage if multiple structures or multiple occupancy structure
- ❑ Establish dedicated Rescue Group comm. channel (talk around) if needed
- ❑ Assign a Safety Officer With Structural Collapse Tech. qualifications if possible
- ❑ Assign a qualified Rapid Intervention Team
- ❑ Request a P.I.O. (big media event)
- ❑ Monitor for adverse weather conditions moving in
- ❑ Have EMS Transport on standby

Benchmarks:

- ❑ Command Established
- ❑ Safety Established
- ❑ Rescue Group / Structural Triage Group Established
- ❑ R.I.T. Established
- ❑ All Utilities Controlled
- ❑ Structure Stabilized/Shored
- ❑ Rescuers Entering Structure
- ❑ Victim Access/With Patient
- ❑ Victim(s) removed
- ❑ All rescuers accounted for

Seminole County & Cities *Incident Management System*

Trench-Excavation Rescue Incident Command Checklist

- ❑ Request appropriate Trench Rescue Capable units during response
- ❑ Establish Command and Rescue and/or Operations Groups
- ❑ Make contact with competent/knowledgeable person on scene to get the details
- ❑ Confirm number, location and condition of victims
- ❑ Declare type of rescue mode (Immediate, Delayed, Recovery)
- ❑ Confirm if any mechanical, electrical or other utility hazards.
- ❑ Check for the possibility of secondary cave in-collapse
- ❑ Create an I.A.P. (incident action plan)
- ❑ Request additional needed resources for extended operations
- ❑ Control scene access with scene tape and LEA
- ❑ Eliminate unnecessary vibrations/exhaust fumes (shut down traffic, heavy equipment)
- ❑ Establish dedicated Rescue Group comm. channel (talk around) if needed
- ❑ Assign a Safety Officer With Trench Tech. qualifications
- ❑ Assign a qualified Rapid Intervention Team has been established
- ❑ Secure scene, deny entry
- ❑ Request a P.I.O. (big media event)
- ❑ Monitor for adverse weather conditions moving in
- ❑ Have EMS Transport on standby
- ❑ Request support equipment (i.e., backhoe, super vac, additional shoring, etc.)

Benchmarks:

- ❑ Command Established
- ❑ Safety Established
- ❑ Rescue Group Established
- ❑ R.I.T. Established
- ❑ Rescuers in Excavation
- ❑ Victim Access/With Patient
- ❑ Victim Removed

Seminole County & Cities *Incident Management System*

Water Rescue Incident Command Checklist

- ❑ Request appropriate Water Rescue Capable units while responding
- ❑ Establish Command and Rescue and/or Search Groups
- ❑ Make contact with caller/witness on scene to pinpoint incident location
- ❑ Confirm number, location and condition of victims
- ❑ Declare type of rescue mode (Immediate, Delayed, Recovery)
- ❑ Confirm if any fuel, snag or biohazards are present in water
- ❑ Create an I.A.P. and Start a dive work sheet for subsurface rescue operations
- ❑ Request additional resources for extended operations and/or a second boat
- ❑ Control Scene access with LEA and initiate a "Unified Command"
- ❑ Establish dedicated Rescue Group comm. channel (talk around) if needed
- ❑ Assign a Safety Officer With Dive Rescue qualifications
- ❑ Assign a qualified Rapid Intervention Team (back up divers) if entering the water
- ❑ Request a P.I.O. (big media event)
- ❑ Monitor for adverse weather conditions moving in
- ❑ Have EMS Transport on standby

Benchmarks:

- ❑ Command Established
- ❑ Safety Established
- ❑ Rescue Group Established
- ❑ R.I.T. (back up divers) Established with equal certification
- ❑ Rescuers Entering the Water
- ❑ Victim Located/With Patient (if applicable)
- ❑ Victim(s) removed (if applicable)
- ❑ All rescuers accounted for
- ❑ Operational Mode changed to Body Recovery (if applicable)
- ❑ Rescuers Exiting Water