

# Volume II Fire Operations



FIRST EDITION / SEPTEMBER 2014

Superstition Fire & Medical District

# Superstition Fire & Medical District

## *Declaration of Ideals*

### Our Mission

- ❖ Preserve Life
- ❖ Protect Property
- ❖ Add Value to Our Community

### Our Vision

To be the premier fire district in the state of Arizona.

### Our Values

- ❖ Responsive
- ❖ Professional
- ❖ Innovative

### Our Ideals

#### Excellence

- ❖ We are committed to the delivery of high quality and timely emergency and non-emergency services.
- ❖ We place a high value on the quality of life and actively promote programs that enhance community health, and safety.
- ❖ We conduct ourselves professionally. We believe our performance and attitude are essential to earning our citizens confidence and trust.
- ❖ We believe that prudent management of the community's resources demonstrates our respect for the citizens whose monies support this organization.
- ❖ We have respect for the community, the organization, each other, and those we serve.

#### Workforce

- ❖ We are united in our efforts to support, respect, and encourage individual talents and contributions.
- ❖ We are committed to building a workforce that is representative of the community we serve. We place a high value on equal employment opportunity and a work environment free from discrimination.
- ❖ We place a high value on individual responsibility and accountability. We recognize self-discipline as the cornerstone of organizational success.
- ❖ We are committed to education, training, and employee skill development. We encourage actions which keep employees motivated and competent.
- ❖ We are committed to maintaining as safe a working environment as possible given the hazardous nature of the duties we perform in service to our community.
- ❖ We value open communication and sharing of ideas. We encourage ideas that improve our member's health, safety, and wellness.
- ❖ We are committed to a positive and productive labor/management process.

#### Elected Officials

- ❖ We recognize the importance of the process which elected the Board of Directors.
- ❖ We recognize the importance and the difficulty of the Board of Director's job.
- ❖ We are committed to supporting the Board of Director's efforts in reaching policy decisions that establish the District's goals and direction.



The Superstition Fire & Medical District is community owned and operated for the sole benefit of the citizens we serve. We encourage and value citizen input and participation.



# Superstition Fire & Medical District

## *Code of Conduct*

The following list of directives represents the personal conduct standards for members of Superstition Fire & Medical District (SFMD).

### **Professionalism**

Every member of the Superstition Fire & Medical District is expected to conduct him or herself in a highly self-disciplined manner and is responsible for his/her conduct in a positive, productive, and mature way.

### **ALL Members Shall:**

- ❖ Follow all operational manuals and written directives of the SFMD.
- ❖ Use their training and capabilities to protect the public at all times, both on and off duty.
- ❖ Treat with respect the public and District employees regardless of race, gender, religion, color, national origin, age, marital status, or disability.
- ❖ Work competently in their positions to cause all organizational programs to operate effectively.
- ❖ Always conduct themselves to reflect positively on the organization.
- ❖ Supervisors will manage employees in an effective, considerate manner; subordinates will follow instructions in a positive, cooperative manner.
- ❖ Obey the law.
- ❖ Communicate with one another as to activities, suggestions, problems, and status of their respective units, companies, station facilities, and shift.
- ❖ Always act in a manner that creates good order within the organization.
- ❖ Keep mentally and physically fit to perform the essential functions of your positions.
- ❖ Be concerned and protective of each member's welfare.
- ❖ Observe the work hours of their position.
- ❖ Operate safely and use good judgment.
- ❖ Be careful with district equipment and property.

### **ALL Members Shall Not:**

- ❖ Engage in any activity that is detrimental to the organization.
- ❖ Engage in a conflict of interest with the district or use their position with the organization for personal gain or influence.
- ❖ Fight.
- ❖ Remove, damage, or tamper with another member's personal property or the property of the Superstition Fire & Medical District.
- ❖ Abuse their sick leave.
- ❖ Steal.
- ❖ Display potentially offensive or sexually suggestive materials at all district facilities.
- ❖ Use alcoholic beverages, debilitating drugs, or any substance that could impair their physical or mental capacities while on duty.
- ❖ Engage in any sexual activity while on duty.
- ❖ Use personal cell phones, photo/electronic communication devices, music devices, while driving fire apparatus, responding to or at emergency incidents, or at public events/appearances.



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	<b>201.01: Command Procedures</b>	
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## Purpose

In order to effectively manage members and resources and to provide for the safety and welfare of members, we will always operate within the ICS at the incident scene. This guideline identifies the actions to be employed in establishing command and all components of the Incident Command System (ICS). General

## Command Procedures

- A. Assign the responsibility for Command on a certain individual through a standardized system, depending on the arrival sequence of members, companies, and Command officers.
- B. Ensure that a strong, direct, and visible Command will be established from the onset of the incident.
- C. Establish an effective incident organization defining the activities and responsibilities assigned to the Incident Commander (IC) and the other individuals operating within the ICS.
- D. Provide a system to process information to support incident management, planning, and decision making.
- E. Provide a system for the orderly transfer of Command to subsequent arriving officers.

## Responsibilities of Command

The IC is responsible for the completion of the tactical objectives. **The Tactical Objectives (listed in order of priority) are:**

1. Remove endangered occupants and treat the injured.
2. Stabilize the incident and provide for life safety.
3. Conserve property.
4. Provide for the safety, accountability, and welfare of personnel. This priority is ongoing throughout the incident.

The ICS is used to facilitate the completion of the Tactical Objectives. The IC is the person who drives the command system towards that end and is responsible for building a Command structure that matches the organizational needs of the incident.

**The Functions of Command** define standard activities that are performed by the IC to achieve the Tactical Objectives.

## The Eight Basic Functions of Command

The Functions of Command include: *(Fire Command Second Edition)*

- 1. Assume, confirm, position command**  
Quickly establish and confirm a single IC and place that individual in the most effective initial – command position.
- 2. Situation evaluation “size up”**  
Size up is a systematic process consisting of the rapid, yet deliberate, consideration of all critical incident factors.
- 3. Initiate, maintain, and control the communications process.**

#### **4. Deployment management**

To provide and manage a steady, adequate, timely stream of appropriate resources.

#### **5. Identify strategy/Develop an Incident Action Plan (IAP)**

Use a systematic method to make basic strategy decisions, and to develop and initiate a tactical incident action plan.

#### **6. Incident organization**

Develop an effective incident organization using the ICS to decentralize and delegate geographic and functional responsibility.

#### **7. Review, evaluate and revise**

Confirm that the current incident action plan is achieving the tactical priorities of the incident and adjust the plan as needed.

#### **8. Continuing, transferring, and terminating Command**

Provide the required duration of command necessary to complete the tactical priorities, to standardize how command is transferred or upgraded.

The IC is responsible for all of these functions. As Command is transferred, so is the responsibility for these functions. The eight functions provide a beginning/middle/end for operations.

### **Establishing Command**

The first fire unit to arrive at the scene of a multiple unit response will assume command of the incident. The initial IC will remain in Command until it is transferred or the incident is stabilized and Command is terminated.

One or two company responses that are not expected to escalate beyond the commitment of these companies do not require a formal activation of the ICS (on-scene report with the assumption of Command). The first arriving unit or officer will, however remain responsible for any needed Command functions.

Examples would include:

- Special-duty assignments.
- Any EMS call requiring only one or two companies.

The first arriving Fire District unit initiates the command process by giving an initial radio report.

The **Radio Report** will include:

1. Unit designation of the unit arriving on the scene.
2. Incident Address
3. A brief description of the incident situation, (i.e. building size, occupancy, Hazmat release, multi-vehicle accident, etc.)
4. Obvious conditions (working fire, Hazmat spill, multiple patients, etc.).
5. Brief description of action taken.
6. Declaration of strategy (for structural fires: offensive or defensive).
7. Any obvious safety concerns.
8. Assumption and identification of Command.
9. Establishment of an IRIC
10. Announcement of initial accountability location.
11. Any additional resource needs (Upgrade)
12. Staging location (if applicable)

## **Examples:**

For an offensive structure fire -

“Engine 261 is on scene at 975 S. Royal Palm. We have a large three story apartment complex with a working fire on the second floor of building B. E261 is laying a 5” supply line and is making an offensive attack to the second floor for search and rescue and fire attack. E261 will assume Royal Palm Command – Command will be mobile. IRIC is established; initial Accountability will be at E261; upgrade to a Working Fire Response”.

For an defensive structure fire -

“Engine 261 is on scene at 2400 W. Apache Trail. We have a medium-sized warehouse fully involved with exposures to the east. E261 is laying a 5” supply line and attacking with a deck gun for exposure protection and advancing a handline to the exposure for search/rescue/fire control. We are defensive on the warehouse and offensive in the east exposure. E261 is assuming Apache Trail Command - Command will be mobile. IRIC is established; initial Accountability will be at E261; upgrade to a 1<sup>st</sup> Alarm with Level Two staging one block east.

For an E.M.S. Incident -

“Ladder 263 is on scene at 7445 E. US 60 with a multi-vehicle accident – heavy damage. We have a total of three patients – two Immediates and one Delayed. Balance this to a 2&1 Medical, launch two helicopters and upgrade our ambulance to Code 3. Ladder 263 will assume US 60 Command.”

## **Radio Designation**

The radio designation "**COMMAND**" will be used along with the geographical location of the incident (i.e. "Apache Trail Command", "US 60 Command"). This designation will not change throughout the duration of the incident.

## **Modes of Command**

The first arriving unit or member to assume Command of an incident has several options depending on the nature of the situation. If a Chief Officer, member, or other unit without tactical capabilities (i.e. staff vehicle, no equipment, etc.) arrives on scene first, the establishment of Command with the implementation of the ICS should be a top priority. At most incidents, the initial IC will be a Company Officer. The following options outline the Company Officer's initial tactical options and modes of Command.

## **Nothing Showing - Investigative Mode**

These situations where no problem is visible generally require investigation by the initial arriving company while other units remain in Level 1 staging. Usually the officer should utilize a “Mobile Command” and go with their company to investigate.

## **Fast Attack Mode**

Situations that require immediate action to stabilize; and requires the Company Officer's assistance and direct involvement in the attack. In these situations the Officer has established an offensive strategy and the Company Officer assumes Mobile Command and goes with the crew to provide the appropriate level of supervision. Examples of these situations include:

- A. Transitional fire attacks
- B. Coordinated offensive fire attacks (especially in marginal situations).
- C. Critical life safety situations (i.e. rescue) must be achieved in a compressed time.
- D. Any incident where the safety and welfare of fire fighters is a major concern.
- E. 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. The Fast-Attack - Mobile Command

mode should not last more than a few minutes and will end with one of the following:

- A. Situation is stabilized. (i.e. incident problem is solved) by fast offensive action.
- B. Command is transferred from the fast-attack officer to a later arriving company/command officer.
- C. The Transitional Attack is complete and Command gives instructions to other units on the scene.
- D. For whatever reason the situation is not stabilized; the fast-action company officer moves to the exterior to assume a stationary command position. They would then be in "Command Mode".

### **Command Mode - Stationary Command Post**

Certain incidents, by virtue of their size, complexity, or potential for rapid expansion, require immediate strong, direct, overall Command. In such cases, the first- arriving IC will assume command and, from the very beginning, stay out of the hazard area in a stationary exterior-command position. The IC must remain there until the incident is terminated or command is transferred. Effective resolution of major events requires a strong, focused, and effective Command from the very beginning.

If the IC assumes a Command Mode, the following options are available with regards to the assignment of the remaining crew members.

- A. The officer may "move up" a crew member within his/her Company and place them into action with two or three members. One of the crew members will serve as the acting Company Officer and must be provided with a portable radio. The collective and individual capabilities and experience of the crew will regulate this action.
- B. The officer may assign his/her crew members to work under the supervision of another officer. In such cases, the officer assuming Command must communicate with the other officer.
- C. The officer may elect to assign his/her crew members to perform staff functions to assist Command with other duties such as assuming Accountability or Customer Service Sector, gathering reconnaissance information from witnesses or responsible parties, etc.

The IC assuming Command has a choice of modes and degrees of personal involvement in the tactical activities, but continues to be fully responsible for the Command functions. The modes identified are guidelines that assist the Commander in planning his/her actions.

### **Transfer of Command**

Command is transferred to improve the quality of the Command organization. When Command is transferred it should trigger upgrades in the Command structure. The following guidelines outline the transfer of Command.

- A. The first Fire District member arriving on the scene will automatically assume Command. This will normally be a Company Officer, but could be any Fire District member up to and including the Fire Chief.
- B. The first arriving Officer should assume Command of the incident following Transfer of Command procedures.
- C. The second arriving Command Officer should report to the Command Post, to assume the Support Officer position. The first arriving Senior Staff or On-Duty Chief should report to the Command Post and assume the role of Senior Advisor. The IC, Support Officer and Senior Advisor together constitute the Command Team.
- D. Assumption of Command is discretionary for Assistant Chiefs and the Fire Chief.

In certain situations, it may be advantageous for the first arriving IC (i.e. Company Officer) to transfer Command to the next Company ON THE SCENE. This is indicated when the initial commitment of the first arriving Company requires a full crew (i.e., high-rise or an immediate rescue situation) and another Company or Command Officer is on the scene. When a Chief Officer arrives at the scene at the same time as the initial arriving Company, the Chief Officer should assume Command of the incident.

"Passing Command" to a unit that is not on the scene creates a gap in the Command process and compromises incident management. To prevent this "gap", COMMAND WILL **NOT** BE TRANSFERRED TO AN

OFFICER WHO IS **NOT** ON THE SCENE. It is preferable to have the initial arriving Company Officer continue to operate in the Fast-Attack mode until Command can be transferred to an arriving on-scene unit.

Should a situation occur where a later arriving Company or Command Officer cannot locate or communicate with Command (after several radio attempts), they will assume Command and announce their assumption of Command and initiate whatever actions are necessary to confirm the safety of the unaccounted crew.

### **Transfer Details**

- A. The Officer assuming Command will communicate with the person being relieved by radio or face-to-face. Face-to-face is the preferred method to transfer Command.
- B. The person being relieved will brief the Officer assuming Command indicating at least the following:
  1. General situation status:
    - a. Incident conditions (fire location and extent, Hazmat spill or release, number of patients, etc.)
    - b. Sectors established
    - c. Incident Action Plan.
    - d. Completion of the Tactical Objectives.
    - e. Safety considerations.
  2. Deployment and assignments of companies and personnel.
  3. Requests for additional resources.
- C. The person being relieved of Command should review the tactical worksheet with the Officer assuming Command. This sheet provides the most effective framework for Command transfer as it outlines the location and status of personnel and resources in a standard form that should be well-known to all members.

The arrival of a ranking Officer on the incident scene does not mean that Command has been automatically transferred to that Officer. Command is only transferred when the outlined Transfer of Command process has been completed. The person being relieved of Command will be assigned to the best advantage of the Officer assuming Command.

A ranking Officer may elect to have a subordinate continue the role of IC. In cases where an individual is effectively commanding an incident and satisfactory progress is being made to bring the incident under control, it may be desirable for that person to continue in an active Command role. The ranking Officer must determine that the IC is completely aware of the position and function of operating companies and the general status of the situation. In these cases, the arriving ranking Officer may assume supportive roles within the Command structure. The ranking Officer will assume responsibility for the incident by virtue of being involved in the Command process.

### **Additional Considerations**

The response and arrival of additional ranking Officers on the incident scene strengthens the overall Command function. As the incident escalates, the IC should use these Command Officers to fill needed Sector, Branch, and Section positions to strengthen the overall Command structure.

Lighting, enhanced communications equipment, supplies and access to responsible parties and reference items, along with isolation from outside distractions will make Command more effective. A vehicle which provides appropriate work space for the IC and staff personnel should be procured as quickly as possible to assist the Command Team. A Command Post in a vehicle equipped for this purpose is a priority at all working incidents.

Company and Command Officers should eliminate all unnecessary radio traffic while responding, unless such communications are required to ensure that Command functions are initiated and completed. This requires the initial IC to give a clear on-the-scene report and continue to give updated progress reports as needed.

Chief Officers and Staff Personnel should report directly to the Command Post to notify the IC of their

availability to assume support roles. These personnel should park their vehicles in a location that does not restrict access to the scene and report to the Command Post for assignment.

The IC is responsible for managing the incident. The Fire District empowers that individual (the IC) with the authority to turn his/her decisions into actions (formulate a plan and assign companies). Simply stated, the IC outranks everybody. If a higher ranking Officer wants to affect a change in the management of an incident, he/she must first be on the scene of the incident and then utilize the Transfer of Command procedure.

### **Support Officer**

The incident scene is often a dynamic, intense, and exciting place. As the incident grows into and past the requirements of a first alarm assignment, the IC can become overwhelmed with information management, assigning Companies, planning, forecasting, calling for additional resources, talking on the radio, and fulfilling all the other functions of Command. In these cases, the IC should utilize the next arriving Command Officer as a Support Officer. If the IC is not overwhelmed, they may choose to assign the second Command Officer to an operational sector.

### **Roles and Responsibilities of the Support Officer**

- A. Define, evaluate, and recommend changes to the plan.
- B. Provide direction relating to tactical priorities, specific critical fireground factors, and safety.
- C. Evaluate the need for additional resources.
- D. Assign logistical responsibilities.
- E. Assist with the tactical worksheet for control and accountability.
- F. Evaluate the fireground organization and span of control.
- G. Other duties as necessary.

### **Senior Advisor**

The Senior Advisor will normally be the On-Duty Chief, the Operations Deputy Chief, or the highest ranking Officer in the Command Post. The Officer serving as "Command" and Support Officer would focus on the completion of the tactical priorities, the strategic and tactical plan and the other components of the incident. The Senior Advisor's focus is looking at the entire incident and its impact from a broader perspective and providing direction, guidance to the Command Team. In this role the Senior Advisor is essentially acting as the overall IC.

### **Role and Responsibilities of the Senior Advisor**

- A. Review and evaluate the plan, and initiate any needed changes.
- B. Provide on-going review of the overall incident (THE BIG PICTURE).
- C. Review the organizational structure, initiate change or expansion to meet incident needs.
- D. Initiate Section and Branch functions as required.
- E. Provide a liaison with other city agencies and officials, outside agencies, property owners and/or tenants.
- F. Other duties as necessary.

In order to maintain continuity and overall effectiveness, the Senior Advisor and Support Officer must be in the Command Post with the IC.

When a Support Officer and Senior Advisor are supporting Command in the Command Post there are three people performing the functions of Command. They are working as a team to enhance the Command process and make the functions of Command more effective. The Officer assigned to communicate directly to Companies, Sectors, or Branches will use the radio designation "Command", and should be the only member of the Command Team talking on the tactical radio channel.

### **Command Structure**

It is the responsibility of Command to develop an organizational structure by sectorizing and delegating and using standard operating procedures to effectively manage the incident scene. The development of the organizational structure will normally begin with deployment of the first arriving Fire District unit and continue throughout the incident depending on its size and complexity. The Command organization should develop at a pace that matches the tactical priorities of the incident. In order for the IC to manage the incident, he/she must first be able to direct, control, and track the position and function of all operating Companies. Simply put, this means:

Large scale and complex incidents = Big Command organization.

Small scale and "simple" incidents = Little Command organization.

A. The IC should have more people working than commanding.

B. The basic configuration of Command includes three levels:

**1. Strategic Level**

Overall direction of the incident.

**2. Tactical Level**

Objectives assigned to sectors.

**3. Task Level**

Task objectives assigned to companies.

**The Strategic Level**

Involves the overall Command of the incident. The Command Team is responsible for the strategic level of the command structure. The Strategic Plan defines the incident strategy as well as where and when resources will be assigned to the incident. This plan is the basis for developing a Command organization, assigning all resources and establishing Tactical Objectives by priority. The Strategic Level responsibilities include:

**Offensive or Defensive**

A. Determining the appropriate strategy.

B. Establishing a strategic plan for the incident.

C. Setting priorities.

D. Obtaining and allocating resources.

E. Predicting outcomes and planning.

F. Assigning specific objectives to tactical level units.

**The Tactical Level**

Directs activities toward specific objectives. Tactical Level Officers include Sector Officers, who are in charge of grouped resources. Tactical Level Officers (Sector Officers) are responsible for specific geographic areas or functions, and supervising personnel assigned to the sector. A sector assignment comes with the authority to make decisions and assignments, within the boundaries of the overall plan and safety conditions. The accumulated achievements of Tactical Objectives should accomplish the Strategic Level goals.

**Command Structure - Basic Organization**

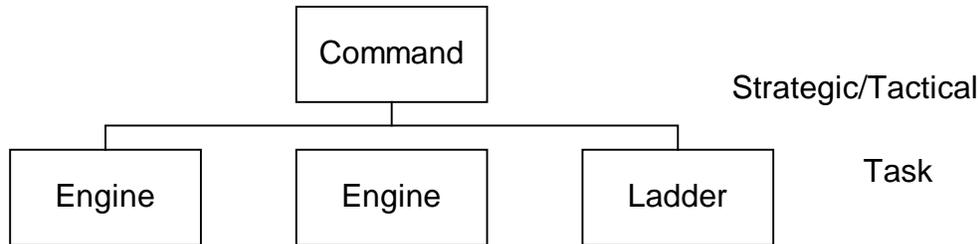
**The Task Level** refers to those activities normally accomplished by individual companies or specific personnel. The task level is where the work is actually done. Task level activities are routinely supervised by Company Officers. The accumulated achievements of Task Level activities should accomplish Tactical Objectives.

**Examples:**

The most basic Command structure combines all three levels of the Command structure. The Company Officer on a single engine response to a dumpster fire determines the strategy and tactics, and supervises the crew doing the task.



The basic structure for a "routine" incident, involving a small number of Companies, requires only two levels of the Command structure. The role of Command combines the strategic and tactical levels. Companies report directly to Command and operate at the Task Level.

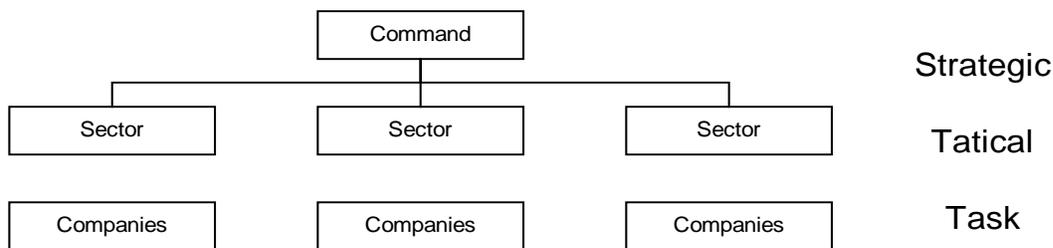


**Sector Officers**

Complex emergency situations often exceed the capability of one Officer to effectively manage the entire operation. The IC should group companies to work in sectors. Sectors reduce the span of control to more manageable smaller sized units. Sectors allow the IC to communicate principally with Sector Officers, rather than multiple, individual Company Officers, thus providing an effective Command structure and incident scene organization. Generally, sector responsibilities should be assigned early in the incident, typically to the first Company assigned to a geographic area (North Sector) or function (Ventilation Sector). This early establishment of sectors provides an effective Incident Command organization framework on which the operation can be built and expanded.

As sectors are implemented, Command continues to operate at the strategic level, determining the overall strategy to deal with the incident.

**Basic Incident Command Organization**



**Command Structure - Sectors, Basic Operational Approach**

Normally, at this type of incident, a company officer can effectively supervise his/her own crew and direct and coordinate the efforts of one or two additional companies assigned to his/her sector. As operations expand in complexity and size, and as additional chief officers become available, the IC should assign them to relieve company officers and assume sector responsibilities.

The use of sectors in the Command organization provides a standard system to divide the incident scene into smaller subordinate Command units or areas.

The number of sectors that can be effectively managed by the IC varies. In fast moving complex operations,

a span of control of no more than five (5) sectors is indicated. In slower moving less complex operations, the IC may effectively manage more sectors.

Where the number of sectors exceeds the span of control the IC can effectively manage, the Incident Organization should be divided to Branches. Each Branch is responsible for several sectors and should be assigned a separate radio channel.

Sector procedures also provide an array of major functions which may be selectively implemented according to the needs of a particular situation. This places responsibility for the details and execution of each particular function on a Sector Officer.

When effective sectors have been established, the IC can concentrate on overall strategy and resource allocation, allowing the Sector Officers to manage their assigned units. The IC determines strategic goals and assigns tactical objectives and resources to the sectors. Each Sector Officer is responsible for the deployment of resources at his/her disposal in order to complete the Tactical Objectives assigned by the IC. Sector Officers are also responsible for communicating needs and progress to Command.

Sectors reduce the overall amount of radio communications. Most communications within a sector will be conducted in a face-to-face manner between Company Officers and the Sector Officer. This process reduces unnecessary radio traffic and improves our ability to transmit critical radio communications when needed.

The safety of firefighting personnel represents the major reason for establishing sectors. Each Sector Officer must maintain communication with assigned Companies to control both their position and function. The Sector Officer must constantly monitor all hazardous situations and risks to personnel. The Sector Officer must take appropriate action to ensure that companies are operating in a safe and effective manner.

#### **Command Should Assign Sectors Based on the Following Factors:**

- A. Situations which will eventually involve a number of Companies or functions, beyond the capability of Command to directly control. Command should initially assign sector responsibilities to the first Companies assigned to a geographic area or function until Chief Officers are available.
- B. When Command can no longer effectively manage the number of Companies currently involved in the operation.
- C. When companies are involved in complex operations (Large interior or geographic area, hazardous materials, technical rescues, etc.)
- D. When companies are operating from tactical positions which Command has little or no direct control over (i.e. out of sight).
- E. When the situation presents special hazards and close control is required over operating companies (i.e., unstable structural conditions, hazardous materials, heavy fire load, marginal offensive situations, etc.).

When establishing a sector, the IC will assign each Sector Officer:

- A. A radio designation (Rescue Sector, East Sector, etc.)
- B. Tactical Objectives (“Protect exposures to the east”)
- C. The identity of resources assigned to the sector (“You have E261 and E262 assigned to you”)
- D. An Accountability Location (“Your Accountability will be at E264”)

#### **Sectors Will Be Regulated By The Following Guidelines:**

- A. It will be the ongoing responsibility of Command to assign sectors as required for effective emergency operations; this assignment will relate to both geographic and functional sectors.
- B. Command will advise each Sector Officer of specific Tactical Objectives. The overall strategy and plan should be also provided, so the Sector Officer has an idea of how his/her assignment fits in to the overall incident.
- C. The number of Companies assigned to a sector will depend upon conditions within that sector. Command will maintain an awareness of the number of Companies operating within a sector and

the capability of that Sector Officer to effectively direct operations. If a Sector Officer cannot control the resources within the sector, he/she should notify the IC so that sector responsibilities can be split or other corrective action taken. In most cases five (5) Companies represents the maximum span of control for a Sector Officer.

- D. Sectors assigned to specific operating areas will be designated by directions (East Sector, North Sector, etc.). Where incidents in odd geographic locations or areas where roads are not plotted in a grid fashion (Gold Canyon), it may be confusing to assign directional designations to sectors. An alternate use of Sector A, B, C, or D may be used (see page 28). Sector "A" or "A" Side would refer to the front of the building and the other sectors would be labeled in a clockwise order around the building.

In multi-story occupancies, sectors will usually be indicated by floor numbers (Sector 5 indicates 5th floor). In some cases the floor sector identification may be subdivided into geographic areas such as "Sector 5 East" or "Sector 5 West" depending on size, stairwells and access.

- A. Functional sectors will be identified by the function (Salvage Sector, Safety Sector, Ventilation Sector, etc.).

Sector Officers will use the sector designation in radio communications (i.e. "Salvage Sector to Command").

Sectors will be commanded by a Sector Officer. Sector Officers can be Chief Officers, Company Officers, or any other Fire District member designated by Command.

In some cases, a Sector Officer may be assigned to an area/function initially to evaluate and report conditions and advise Command of needed tasks and resources. The assigned Officer will proceed to the sector, evaluate and report conditions to the IC, and assume responsibility for directing resources and operations within his/her assigned area of responsibility.

The Sector Officer must be in a position to directly supervise and monitor operations. This will require the Sector Officer to be equipped with the appropriate protective clothing and equipment for his/her area of responsibility. Sector Officers assigned to operate within the hazard zone must be accompanied by a partner.

Sector Officers will be responsible for and in control of all assigned functions within their sector. This requires each Sector Officer to:

- A. Account for all assigned personnel.
- B. Ensure that operations are conducted safely.
- C. Monitor work progress.
- D. Redirect activities as necessary.
- E. Coordinate actions with related activities, and adjacent sectors.
- F. Complete objectives assigned by Command.
- G. Monitor welfare of sector personnel.
- H. Request additional resources as needed.
- I. Provide Command with essential and frequent progress reports.
- J. Re-allocate resources within the sector.

The Sector Officer should be readily identifiable and maintain a visible position whenever possible. The primary function of a Company Officer working within a sector is to direct the operations of their individual crews in performing assigned tasks. Company Officers will advise their Sector Officer of work progress, preferably face-to-face. All request for additional resources or assistance within a sector must be directed to the Sector Officer. Only Sector Officers will communicate with "Command" (Exception: Mayday or Emergency Traffic).

Each Sector Officer will keep Command informed of conditions and progress in the sector through regular progress reports. The Sector Officer should prioritize and condense progress reports to essential information only.

Command must be advised immediately of significant changes, particularly those involving the ability or

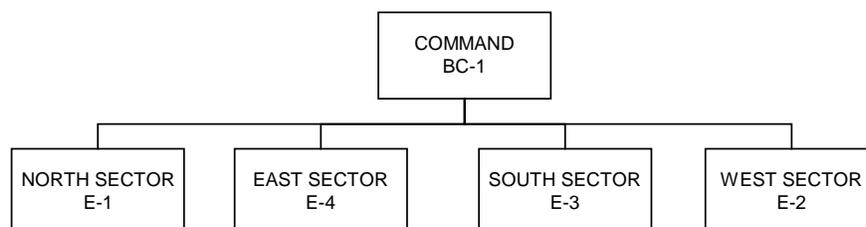
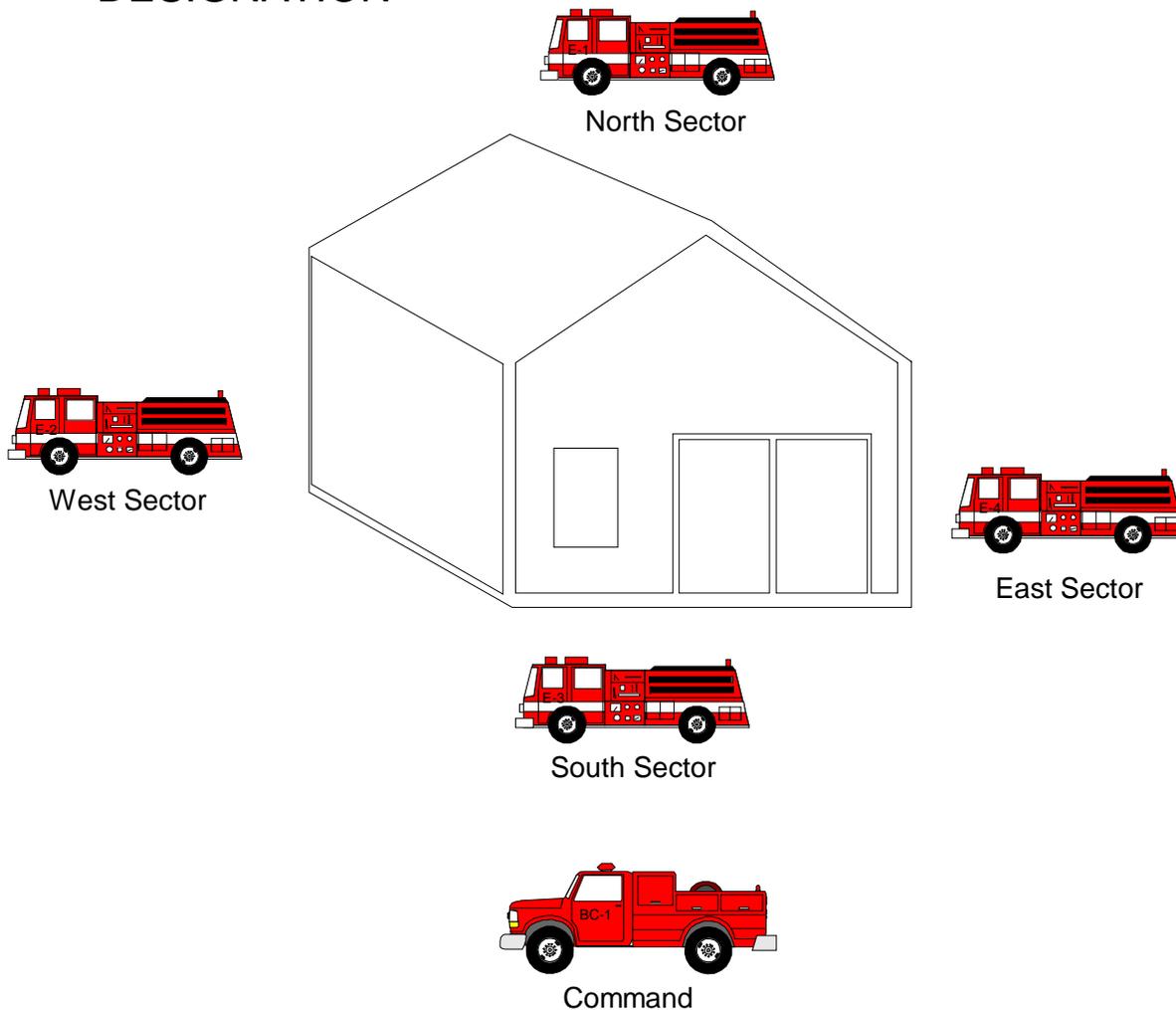
inability to complete an objective, hazardous conditions, accidents, structural collapse, etc.

When a Company is assigned from Staging to an Operating Sector, the Company will be told what sector and which Sector Officer they will be reporting to. The Sector Officer will be informed of which particular companies or units have been assigned to them by the IC. It is then the responsibility of the Sector Officer to account for this new crew and contact them to transmit instructions relative to sector operations.

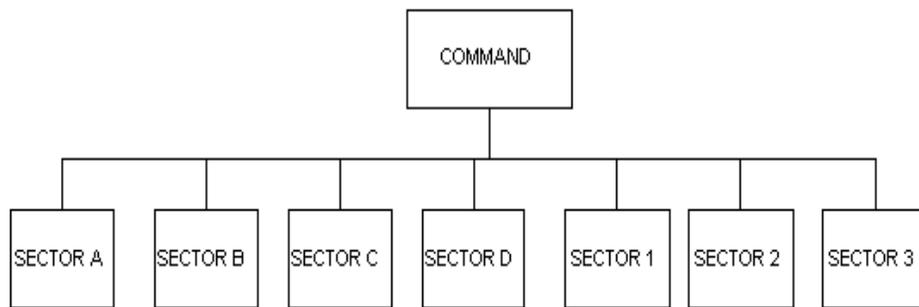
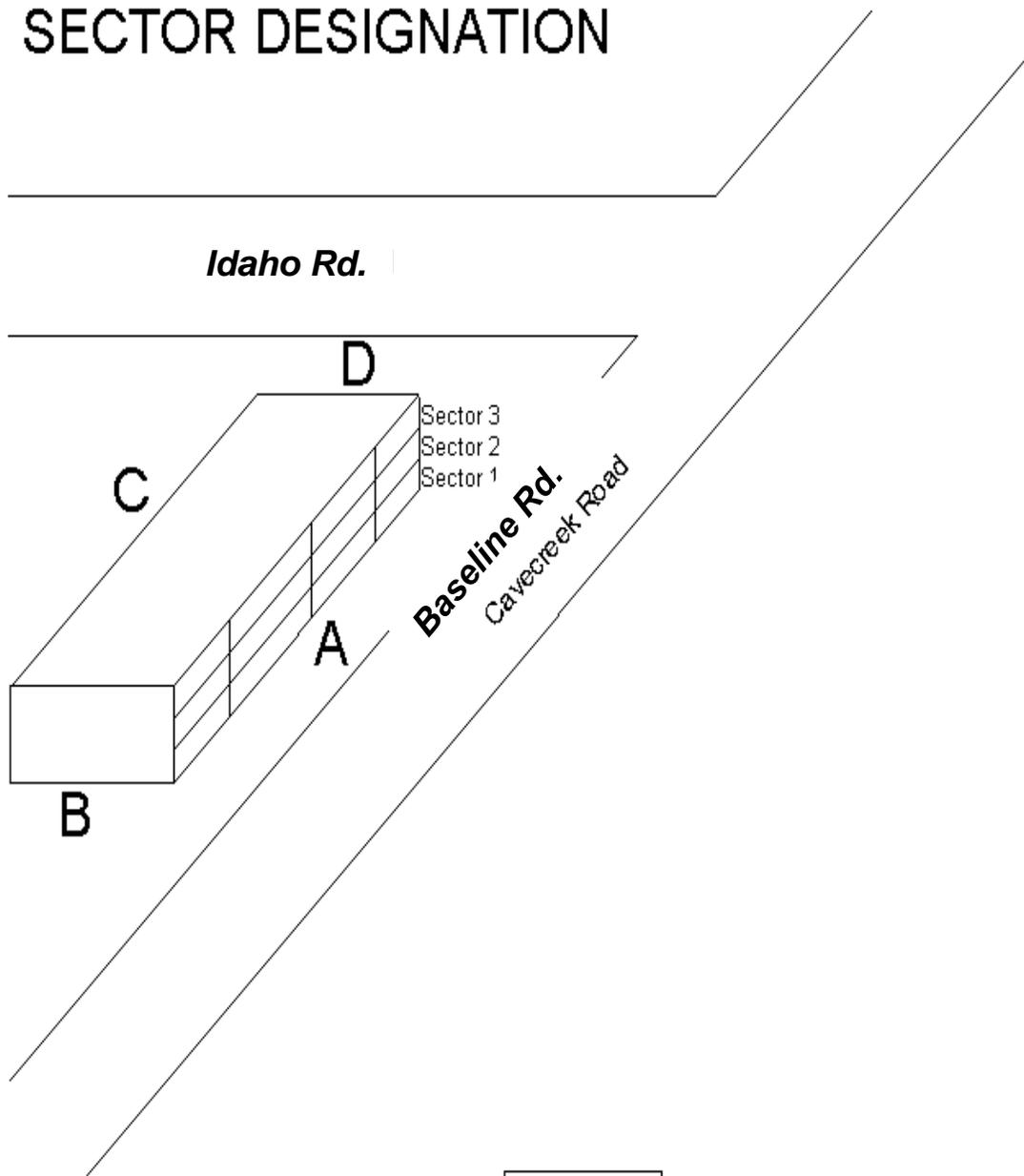
Sector Officers will monitor the condition of the crews operating in their sector. Relief crews should be anticipated and requested in a manner to safeguard the safety of personnel and maintain progress toward the sector objectives.

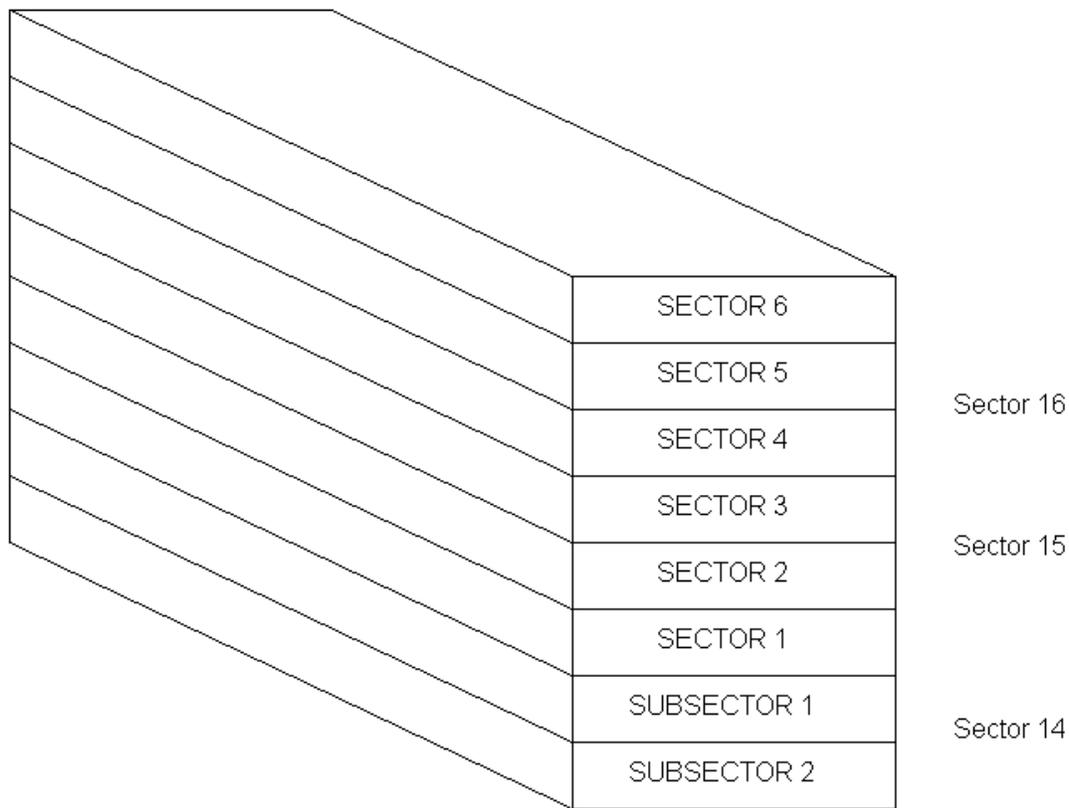
Sector Officers will insure an orderly and thorough reassignment of crews to rehab sector. Crews must report to rehab intact to facilitate accountability.

## SECTOR DESIGNATION



# SECTOR DESIGNATION





In multi-story occupancies, Sectors will be designated by floor number (Sector 6 indicates the 6th floor). In some cases the floor division identification may be subdivided into geographic areas such as "Sector 6 West" or "Sector 2 North" depending on stairwell and floor access. When operating in levels below grade such as basements the use of Sector is appropriate.

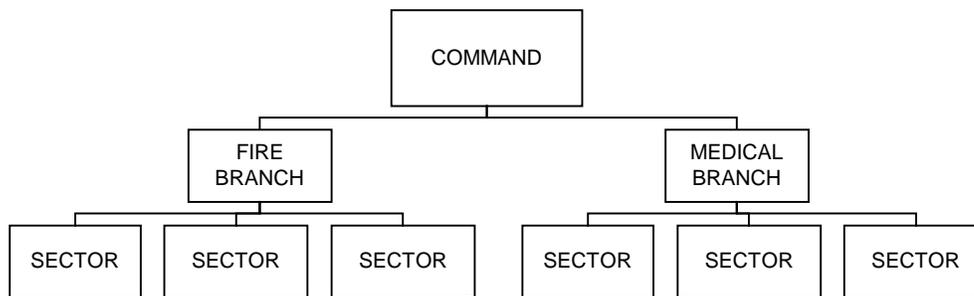
## Command Structure - Branch

### Branch Officers

As the incident organization grows in complexity, and the span of control with sectors is maximized, the IC may implement an additional intermediate level within the Command Organization. The Branch level of the organization is designed to provide COORDINATION between the Sectors and Command. Branch officers supervise and manage a number of Sector Officers, and report to the IC.

- A. Strategic Level - IC
- B. Coordination Level - BRANCH OFFICERS
- C. Tactical Level - Sector Officers
- D. Task Level - Companies

Branch Officers should be utilized at incidents where the span of control with sectors is maximized, incidents involving two or more distinctly different major management components (i.e. a large fire with a major evacuation, a large fire with a large number of patients). The IC may elect to assign Branch Officers as forward positions to coordinate the activities between sectors.



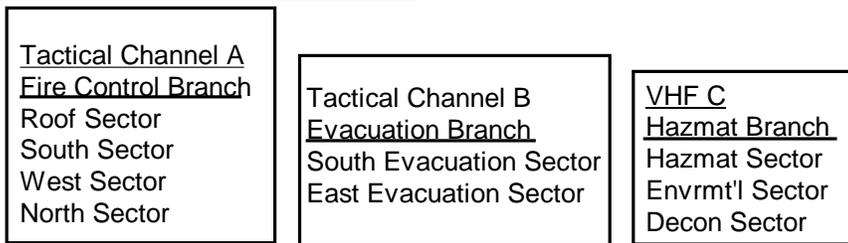
The intent of the Branch Level of the Command structure is to split an incident into manageable components and reduce the span of control. Branch Officers will normally be utilized at very large scale incidents that involve two or more major components. The following types of incidents are examples where Branch Officers should be utilized:

- A. A Hazmat incident that requires a major evacuation.
- B. A large scale incident spread over a wide geographic area.
- C. An incident with mass casualties and a significant hazard (for example: fire, Haz mat, plane crash, floods, etc.)
- D. Campaign high-rise fires
- E. Any incident where the number of sectors exceed the span of control that can be effectively managed by the IC.

Branch Officers manage and direct activities of Sector Officers. Branch Officers should operate on separate radio channels if possible. The radio designation of Branch Officers should reflect the function or geographic area of the Branch (for example: Fire Control Branch, Medical Branch, West Branch, etc.). When Command implements Branch Officers, the Sector Officers should be notified by Command of their new supervisor. This information should include:

- A. What Branch the sector is now assigned to.
- B. The radio channel the branch (and sector) is operating on.
- C. Radio Communications should then be directed from the Sector Officer to the Branch Officer, instead of Command. Sector Officers will relay this information to the Companies working in their sector.

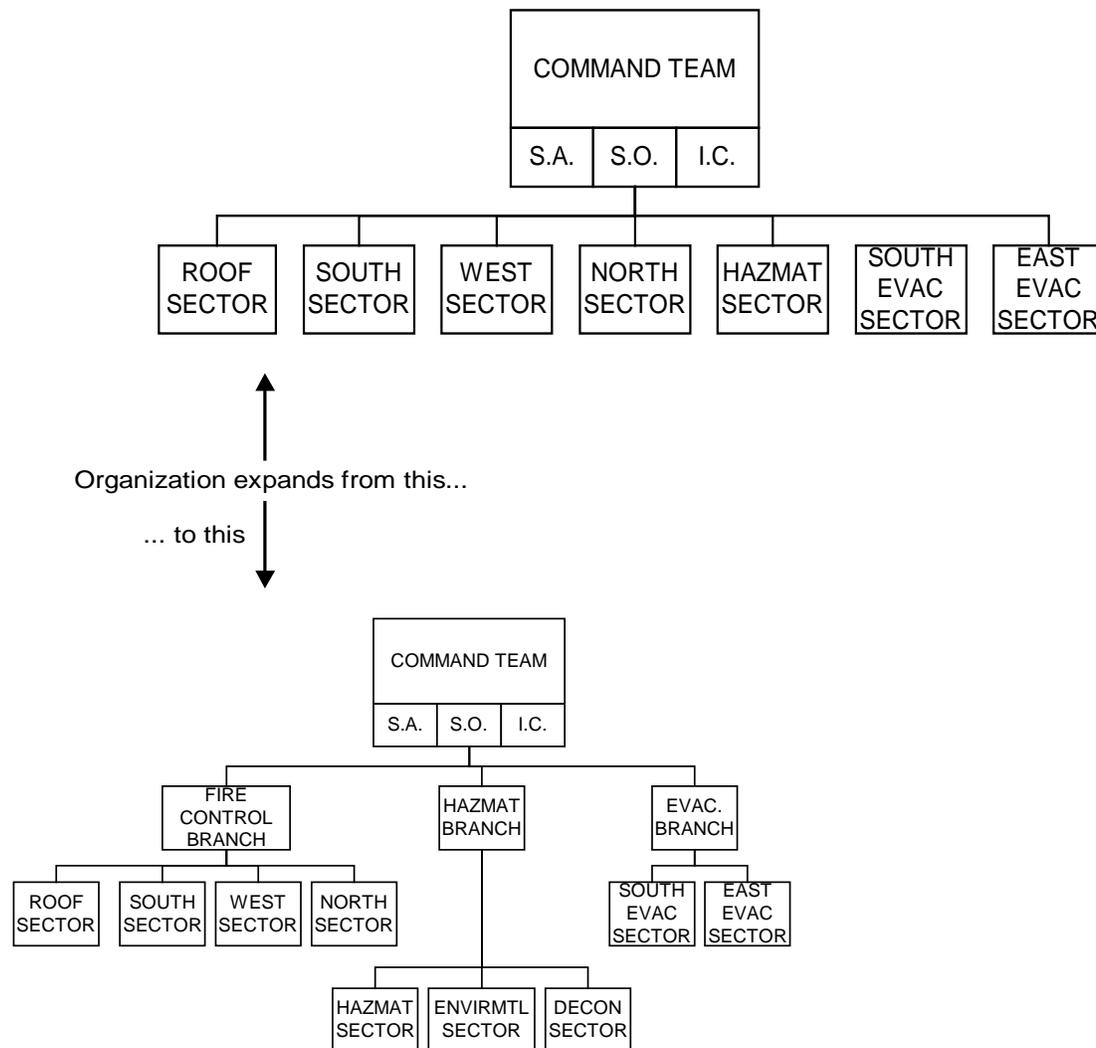
## Radio Channel Assignments to Branches



Branch Officers positions should be assigned to Chief Officers. Depending on the situation, Branch Officers may be located at the Command Post or at a remote location. When located at the Command Post, Branch Officers can communicate on a face-to-face basis with the IC and/or the Operations Officer. When an incident encompasses a large geographic area it may be more effective to have Branch Officers in forward operating positions. When Branch Officers are sent to forward positions, they should utilize a Command Officer's vehicle as a forward Branch Command Post (when feasible). In these situations, Command must assign Officers in the Command Post to monitor each Branch radio channel.

Command may occasionally be faced with a situation where he/she has very little control over operational sector(s). This would include sectors in conflicting positions (personnel blasting one another with hose streams), multiple sectors spilling into each other, defensive fire operations in one area and offensive operations in the adjoining fire area. Command should utilize a Branch Officer in these types of situations to go to a forward position and coordinate the activities of these sectors.

Branch Officers are not limited to Operations. Any of the Section Officers may also implement Branches within their individual sections as needed.



## **Command Structure - Expansion to Major Operations**

As a small incident escalates into a major incident, additional organizational support will be required. As additional ranking Officers arrive on the scene, the Command Post organization (Team) may be expanded through the involvement of Command Officers and staff personnel to fill section positions. Section Officers assist the Incident Command Staff with the overall management of the incident scene and operate at the Strategic Level. The IC implements Sections as needed, depending on the situation, and priority of needs (One incident may only require a Logistics Section while another incident may require all the sections to be implemented.)

Where the communications system permits, Section Officers should operate on separate radio channels and utilize the radio designation that identifies their section (Planning, Logistics, etc.).

During the initial phases of the incident the initial IC and his/her staff normally carries out these four section functions. The Fire District's involvement and needs at the incident scene can be divided into four sections.

### **Sections**

#### **A. Logistics Section**

The support mechanism for the organization. Logistics provides services and support systems to all the organizational components involved in the incident. The Logistics Section is also responsible for the accountability of all the personnel working in the hazard zone of the incident. Command may assign the Logistics Section its own radio channel. The Logistic Section Officer may establish sectors or branches for his/her section as needed.

#### **Roles and Responsibilities**

1. Manage rehab.
2. Manage personnel accountability within the hazard zone.
3. Manage staging
4. Provide and manage any needed supplies or equipment.
5. Forecast and obtain future resource needs (coordinate with the Planning Section).
6. Provide any needed communications equipment.
7. Provide fuel and needed repairs for equipment.
8. Obtain specialized equipment or expertise per Command.
9. Provide food and associated supplies.
10. Secure any needed fixed or portable facilities.
11. Coordinate immediate CISM/Peer Support.
12. Provide any other logistical needs as requested by Command.
13. Supervise assigned personnel

#### **B. Planning Section**

Is responsible for gathering, assimilating, analyzing, and processing information needed for effective decision making. Information management is a full-time task at large and complex incidents. The Planning Section serves as the IC's "clearing house" for information. This allows the IC to have a single person provide him/her with information instead of having to deal with dozens of information sources. Critical information should be immediately forwarded to Command (or whoever needs it). Information should also be used to make long range plans. The Planning Section Chief's goal is to plan ahead of current events and to identify the need for resources before they are needed.

#### **Roles and Responsibilities**

1. Evaluate current strategy and plan with the IC.
2. Refine and recommend any needed changes to plan.
3. Evaluate Incident Organization and span of control.
4. Forecast possible outcome(s).

5. Evaluate future resource requirements.
6. Utilize technical assistance as needed.
7. Evaluate tactical priorities, specific critical factors, and safety.
8. Gather, update, improve, and manage information with a standard systematic approach.
9. Liaison with any needed outside agencies for planning needs.

### **C. Operations Section**

Is responsible for the tactical priorities, and the safety and welfare of the personnel working in the Operations Section. The Operations Section Officer uses the tactical radio channel to communicate strategic and specific objectives to Sector and/or Branch Officers.

#### **Roles and Responsibilities**

1. Coordinate activities with the IC.
2. Implement the Incident Management Plan.
3. Assign units to Sector/Branches based on Tactical Objectives and priorities.
4. Build an effective organizational structure through the use of Branches and Sectors.
5. Provide Branches and Sectors Tactical Objectives.
6. Manage Operation Section activities.
7. Provide for life safety.
8. Determine needs and request additional resources.
9. Consult with and inform other sections and the Incident Command Staff as needed.

If the Operations Officer is located at the Command Post, he/she should use the radio designation of "Command". The vast majority of incidents can be effectively managed without an Operations Officer, or with the Operations Officer located at the Command Post. If the Operations Officer is located out of the Command Post at a "forward" position (i.e. in a high-rise building), he/she should use the radio designation of "Operations".

Implementing an "Operations" radio designation in the middle of a major incident can create some confusion with radio communications. It is absolutely essential that all personnel operating at the incident be made aware of the activation of "Operations". All Sector and/or Branch Officers must then direct their communications to the "Operations" Officer.

The Operations Officer will communicate with the IC to request additional resources, provide progress reports, etc. Once implemented, "Operations" becomes a forward Command Post. As such the Operations Officer will need some personnel assigned to assist as staff members to help with radios, tactical worksheets, etc.

#### **Incident Commander - Role and Responsibilities with Operations Officer**

Once the Operations Officer is in place and functioning, the IC's focus should be on the strategic issues, overall strategic planning and other components of the incident. This focus is to look at the "big picture" and the impact of the incident from a broad perspective. The IC should provide direction, advice and guidance to the Operations Officer in directing the tactical aspects of the incident. The IC Role:

1. Review and evaluate the plan, and initiate any needed changes.
2. Provide on-going review of the overall incident (THE BIG PICTURE).
3. Select priorities.
4. Provide direction to the Operations Officer.
5. Review the organizational structure, initiate change or expansion to meet incident needs.
6. Initiate Section and Branch functions as required.
7. Establish liaison with other city agencies and officials, outside agencies, property owners and/or tenants.
8. Other duties as necessary.

In order to maintain continuity and overall effectiveness, the IC and Operations Officer should normally be in the Command Post together.

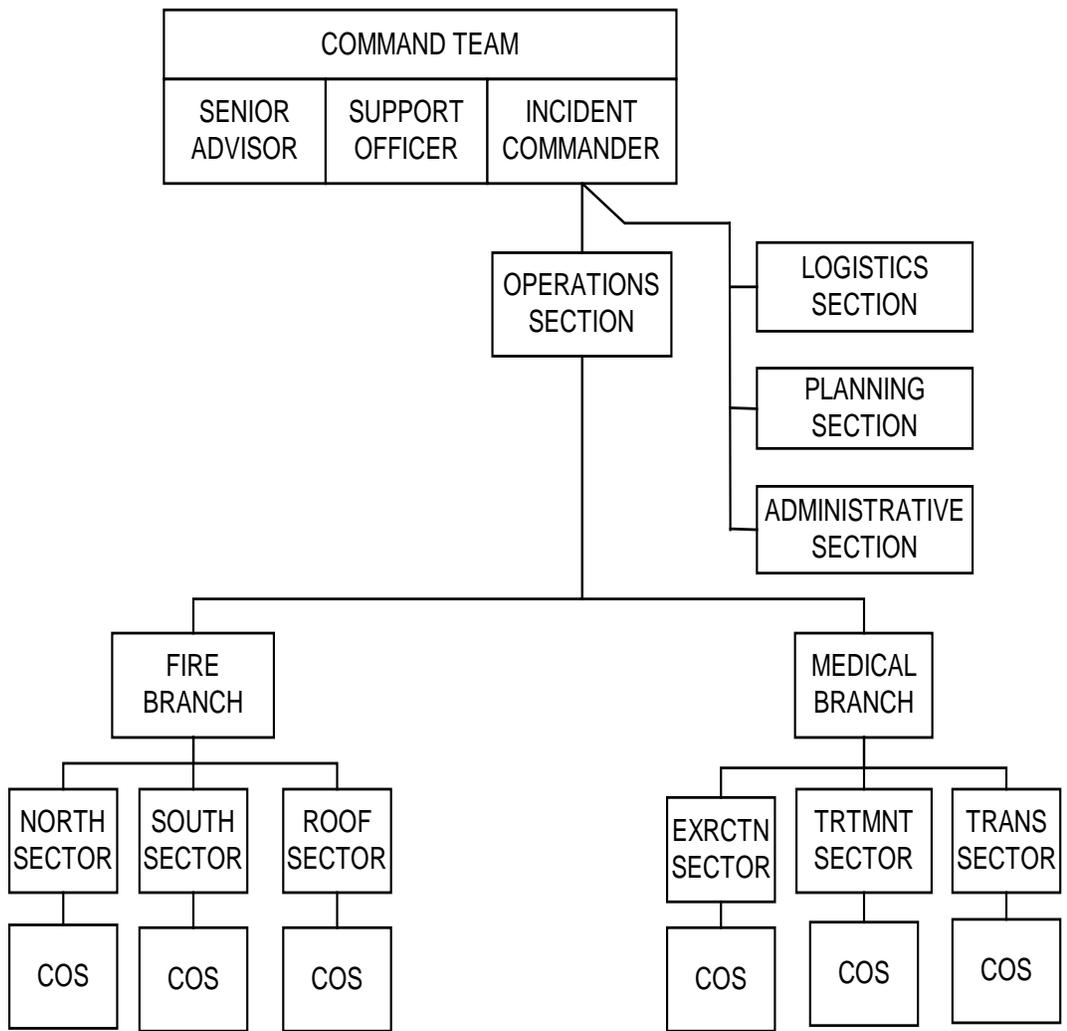
#### **D. Administration Section**

Evaluates and manages the risk and financial requirements for the Fire District's involvement in the incident.

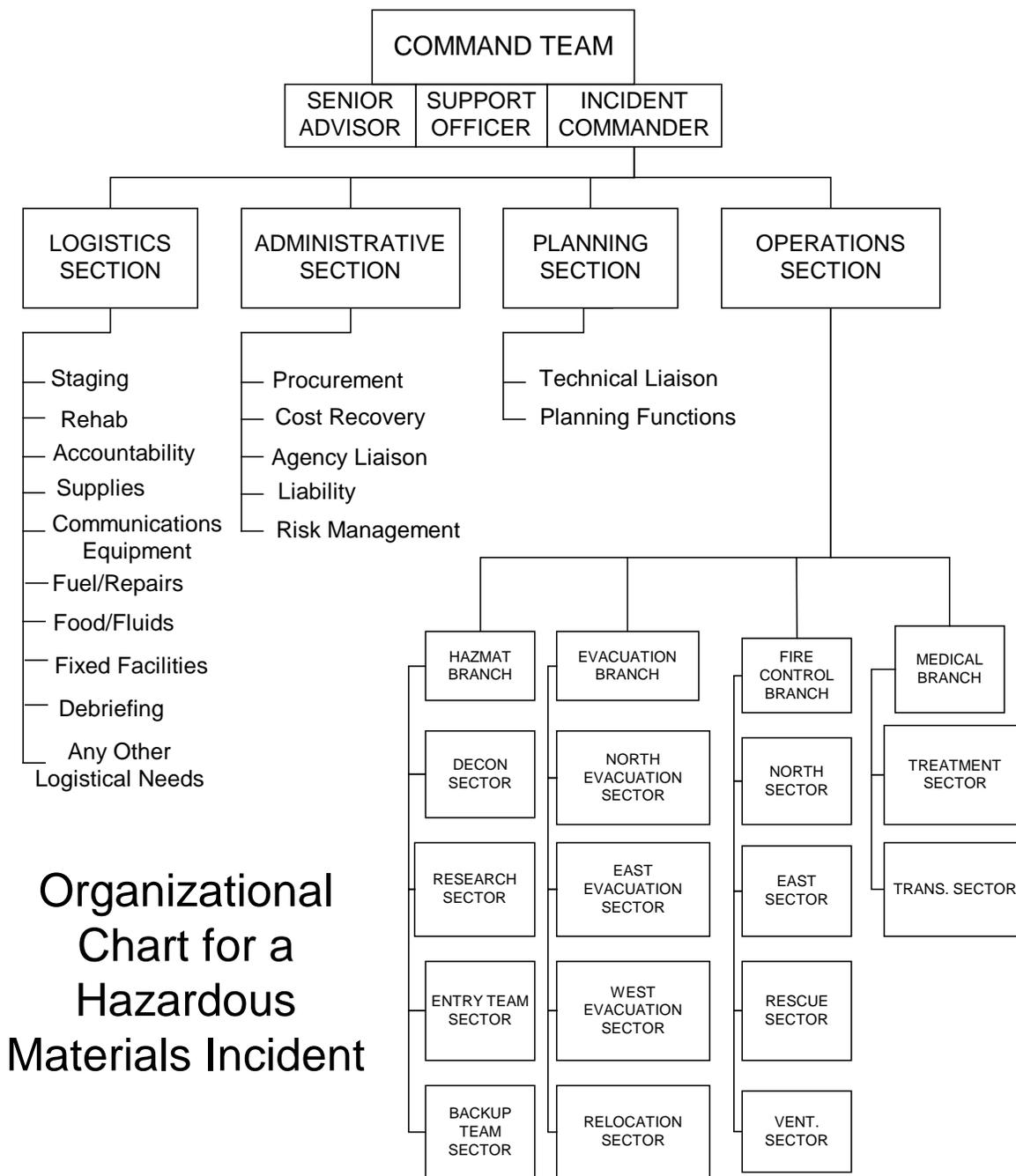
##### **Roles and Responsibilities**

1. Procurement of services and/or supplies from sources within and outside the Fire District or City as requested by Command (coordinates with Logistics).
2. Documenting all financial costs of the incident.
3. Documenting for possible cost recovery for services and/or supplies.
4. Analyzing and managing legal risk for incidents such as a hazardous material clean up.
5. Serves as the IC's liaison with: Elected officials, regulatory agencies (EPA, OSHA, DOT, FBI, etc.).
6. Monitors and coordinates emergency service delivery to the rest of the community during major incidents to ensure adequate coverage.
7. Serves as the E.O.C. representative in the Command Post and provides briefings to the E.O.C. staff.
8. Manage investigations (arson, etc.).
9. Manage critique preparations.

The Administration Section is responsible for obtaining any and all needed incident documentation for potential cost recovery efforts, or litigation, including criminal charges.

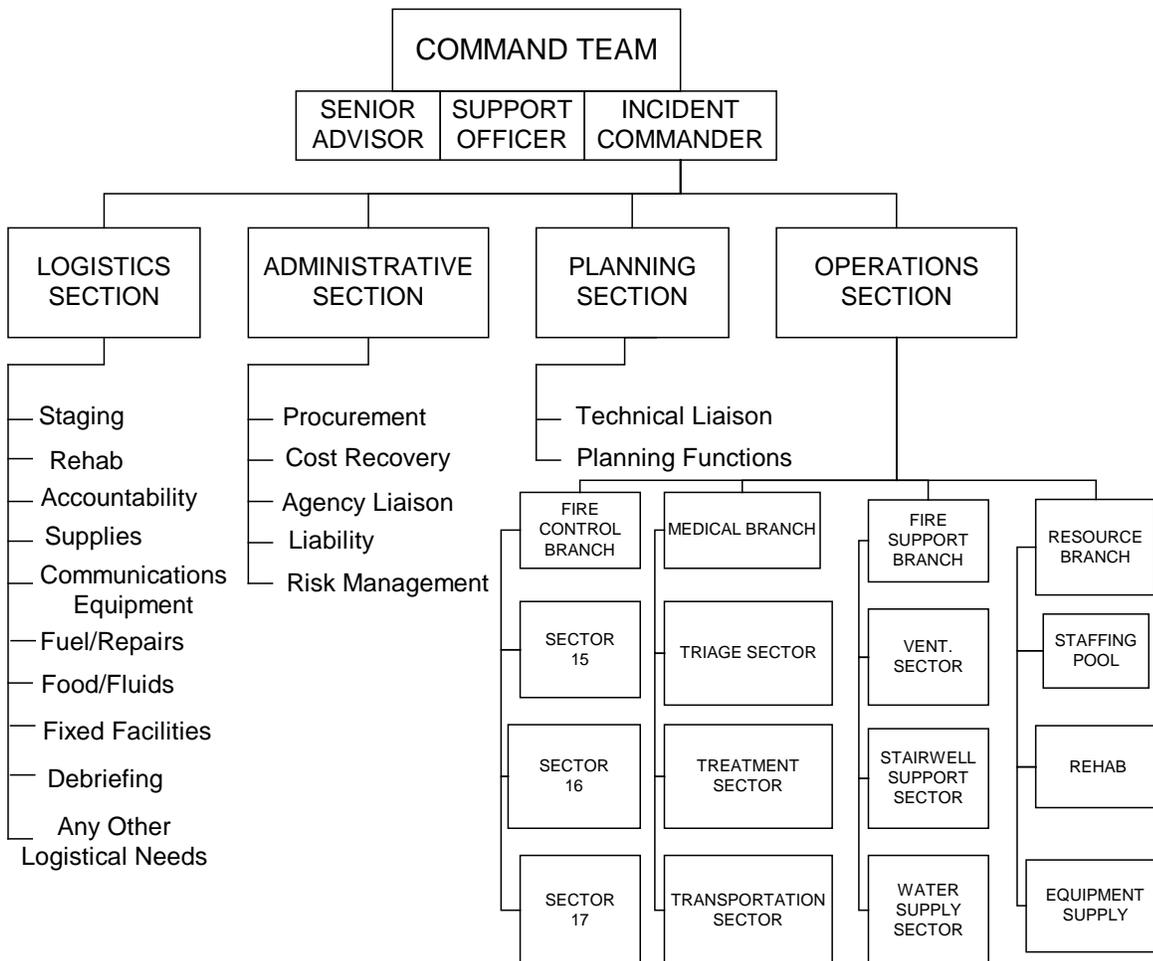


Command Structure -- Expanding the Organization; Sections in place



**Organizational  
Chart for a  
Hazardous  
Materials Incident**

## Expanding the Organization -- Major Incident



## Organizational Chart for a Highrise Fire

Expanding the Organization -- Major Incident

 <b>Standard Operating Guidelines</b>	<b>Series: 200</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>201.02: Accountability</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

## Purpose

This guideline identifies a system of incident site firefighter accountability. The purpose is to account for all firefighters within a small geographic area, within the "hot zone" of an incident. Use of the system will provide enhanced personal safety for the individual firefighter, and will provide the Incident Command Organization staff an improved means to track and account for all personnel working in the hot zone.

The hot zone will be defined as any area that requires an SCBA, a charged hose line and protective clothing or in which a firefighter is at risk of becoming lost, trapped, or injured by the environment or structure. This would include entering a structure reported to be on fire, operating in close proximity to the structure during exterior operations, confined space or trench rescue, etc.

## Accountability

Accountability involves a personal commitment to work within the safety system at an incident.

- A. Command will always maintain an accurate tracking and awareness of where resources are committed at an incident.
- B. Command will always be responsible for including accountability as a major element in strategy and attack planning, and must consider and react to any barriers to effective accountability.
- C. Sector Officers will always maintain an accurate tracking and awareness of crews assigned to them. This will require the Sector Officer to be in his/her assigned area and maintaining close supervision of crews assigned to them.
- D. All crews will work for Command or Sectors -- **NO free-lancing.**
- E. Crews arriving on the scene should remain intact. A minimum crew size will be considered two or more members. Each member must have a radio.
- F. All crews entering a hot zone must have a supervisor.
- G. All crews will go in together, stay together, and come out together. Reduced visibility and increased risk will require very tight work group.
- H. If a radio fails while in the hot zone, the crew will exit unless they have another working radio.

## Passports

To enhance accountability and to improve tracking of firefighters in the hot zone, the "PASSPORT" system will be used. PASSPORTS involve a plastic card with the crew members names affixed that is turned into an Accountability Officer. The Accountability Officer may be a pump engineer, a Sector Officer, or a designated Accountability Officer, depending on the nature, type, and complexity of the incident.

The first arriving company will announce their accountability location in a follow-up report, after the "on-scene report and assumption of Command". This report should include the accountability unit identification, their geographic side (i.e., north, south, etc.), initiation of the accountability system, and any other pertinent information necessary.

For Example:

E262 is on the scene of a single story, single family residential occupancy, lightweight construction with a pitched tile roof. We have heavy smoke showing from the front of the structure. E262 will be making an

attack with a 1 ¾" hoseline going in for search and rescue and fire attack. E262 will assume Command and will be in the offensive strategy. **(Alarm repeats info)**

*--Pause--*

Command to alarm; Command is located to the north, accountability is at E262, IRIC is established, we do not have a water supply. **(Alarm repeats info)**

As staged units are assigned, Command will assign their respective accountability unit and the geographic locations along with any other instructions.

### **Passport Equipment**

The PASSPORT system equipment involves a 2" x 4" plastic card with the company's ID etched on it. The PASSPORT should contain the names of all personnel presently assigned to that company.

The PASSPORT will always be located on the dash of the apparatus at the Company Officer position or passenger side. A Velcro strip will allow the PASSPORT to be affixed on the dash and easily removed.

Each firefighter will be issued individual name tags. These will be affixed to Velcro strips on the underside of their helmet.

All engines, ladders, and specialized equipment will be equipped with an 8"x11" status board. This will be used to affix PASSPORTS on and will always be located on the inside door of the Engineer's/driver's position. The status board will be attached with Velcro to permit easy removal.

Each Company Officer will be responsible for ensuring that the PASSPORT and electronic roster always reflects only currently assigned personnel. When entering a hot zone with a partial crew (i.e., engineer remains at the engine to pump lines), the Company Officer must remove name tags of those members not entering the hot zone. The name tags of these members may be returned to the member, placed on the Company Officer's helmet Velcro strip or placed in his/her coat pocket.

### **Company Identification Designation - Helmets**

Firefighter helmets shall always reflect the ID of the company the firefighter is presently assigned. Each company will be equipped with an extra supply of helmet ID's. Rovers and constant staff personnel are required to keep helmet ID accurate.

All PASSPORTS and helmet ID's equipment will be considered safety equipment and will be inspected quarterly as other safety equipment. It will be repaired or replaced as soon as possible on a priority request.

### **Tactical Benchmarks**

Several accountability benchmarks are included in tactical operations. The Personnel Accountability Report (or "PAR") involves a roll call of personnel assigned. For the Company Officer, a "PAR" is a confirmation that members assigned to his/her crew are visually accounted for. For the Sector Officer, a "PAR" is an accounting for all crew members of all companies assigned to his/her sector. Reports of PAR's should be conducted face-to-face within the company or with the sector whenever possible.

**Example:** "Engine 265 to Command, I have a PAR of 3" (all members accounted for).

A personnel accountability report will be required for the following situations:

- A. Any report of a missing or trapped firefighter (Command initiates a PAR of all crews on the scene).
- B. Any change from offensive to defensive (Command initiates a PAR of all crews on the scene).
- C. Any sudden hazardous event at the incident - flash over, backdraft, collapse, May Day, etc. (a PAR is initiated by Command).
- D. By all crew(s) reporting an "all clear" (Company Officers of crews responsible for search and rescue will ensure they have a PAR for their crews at the time they report an all clear).
- E. At every 30 minutes of elapsed time.

- F. At a report of fire under control.
- G. Any time Command feels it is necessary.

### **Accountability Officers**

Accountability Officers may be Engineers, Sector Officers, or personnel specifically assigned to sectors to serve as Accountability Officers for the Sector Officer.

The first engine to each geographic side of the incident or point of entry will serve as the initial accountability location. The engineer will serve as the initial Accountability Officer. All crews entering the incident will deliver their PASSPORTS to the accountability location closest to their "point of entry" prior to entering the hot zone. As sectors are implemented, Sector Officers will manage PASSPORTS only if he/she is not entering the hot zone (i.e., defensive operation). PASSPORTS will remain on the first engine (accountability location). As staff officers arrive on the scene and stage, they will be assigned accountability responsibilities for given sectors. These officers will report to their assigned Sector Officer to manage accountability for that sector (i.e., Lobby Sector).

As the incident escalates and staff officers fill accountability positions for each sector, these Accountability Officers will be assigned to a radio channel designated by Command. Depending on the situation, Accountability Officers will report to either Command or Safety.

At incidents with a critical need for Accountability Officers to assist Sector Officers, Command may choose to split up a company and distribute the crew members to different sectors to act as Accountability Officers.

### **Accountability Sector**

As the incident escalates to the level that Accountability Officers are assigned, Command should implement an Accountability Sector to coordinate Accountability Officers.

The Accountability Sector Officer will be assigned to Safety Section and will operate on the assigned safety radio channel. The Accountability Sector Officer's responsibilities include:

1. Develop and implement a plan designed to track and account for all personnel working in the hot zone.
2. Ensure that Accountability Officers are implemented in each sector as necessary.
3. Request and manage sector resources as needed.
4. Provide progress reports to Command.
5. Initiate PAR's upon benchmarks or as needed.

### **Shift Change, Rovers, Transfers**

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. For permanently assigned members, the name tag may be placed on an adjacent strip of Velcro on the dash of the apparatus.

For those crew members not permanently assigned, the name tag should be placed on the Velcro strip of their helmet on the underside of the rear brim.

Arriving crew members will also ensure that their helmets reflect the company ID that they are assigned to. Company Officers are responsible for ensuring that the PASSPORTS, and helmet ID's always remain current. PASSPORTS must reflect only those members presently assigned to the company and only those crew members about to enter the hazard zone.

### **Rules of Thumb**

PASSPORT implementation should consider the following basic rules of thumb:

1. PASSPORTS never enter the hot zone.

2. PASSPORTS must be maintained at the point of entry to the hot zone.
3. PASSPORTS must reflect only those personnel presently in the hot zone.
4. Crews must turn in their PASSPORTS upon entering and must retrieve their PASSPORTS upon exit from the hot zone.

### **Incident Passport Implementation**

Implementation of the PASSPORT system will occur at any incident that requires the use of SCBA. The objective of the PASSPORT system is always to have the crew members PASSPORTS near the point of entry and that they be accurate, reflecting only those members entering the hot zone. For those situations where it is not clear-cut as to when and where to turn in PASSPORT, crews should consider the above-cited objective for their decision.

For single company incidents, the PASSPORT remains on the apparatus dash. The Engineer will assume accountability sector responsibilities.

For 3&1 assignments and greater, the PASSPORT system will function as follows:

- A. The first engine to each geographic side of the incident becomes the initial accountability location for all later arriving companies to that side of the incident.
- B. PASSPORT of the first engine to each geographic side of the incident will remain attached to the dash.
- C. The Engineer becomes the initial Accountability Officer until PASSPORTS are collected later in the incident by the Sector or Accountability Officer who assumes accountability responsibilities.
- D. Crews of the initial assignment that have apparatus parked in very close proximity (i.e., 50 feet or less) of the initial engine (accountability location) may leave their PASSPORTS on the dash of their apparatus or take them to the first engine (accountability location).
- E. The Engineer of the first engine (accountability location) will collect the PASSPORTS from these additional companies and mount them on the status board at the accountability location.
- F. Any crew whose apparatus is more than 50 feet away must deliver their PASSPORTS to the accountability engine and place the PASSPORTS on the status board. The status board will always be located on the inside panel of the engineer's/driver's door.
- G. Ladder companies on the initial assignment (first alarm) may leave their PASSPORTS on the dash of the apparatus if they are parked at a position that would not permit easy delivery of the PASSPORTS to the accountability engine.
- H. Any ladder company assigned to a sector will deliver the PASSPORT to the Sector Officer, or a designated Accountability Officer (designated by the Sector Officer or Command).
- I. As the incident escalates, and Sector Officers and/or Accountability Officers are assigned, all PASSPORTS will be delivered to these officers prior to entry into the hot zone.
- J. Where the Sector Officer is operating within the hot zone, PASSPORTS must remain outside the zone with a designated Accountability Officer (i.e., initial engineer or staff officer) serving as an Accountability Officer. A Sector Officer operating within the hot zone will not have PASSPORT accountability responsibilities.
- K. Command must maintain an awareness of which engine companies are serving as accountability locations, and provide this information to companies being assigned to each geographic side of the incident (sector).

### **Point of Entry Control**

PASSPORTS will remain with the designated Accountability Officer near the "point of entry" to the hot zone. Upon entry, crews will turn in their PASSPORT. Upon exit, the crew must retrieve their PASSPORTS. Both the Company Officer and Accountability Officer will be responsible to see the PASSPORTS are retrieved. The accountability status board will contain only the PASSPORTS of those crews in the hot zone.

Crews exiting at a different location other than the original point of entry, must immediately notify their

original Sector Officer and/or Accountability Officer of their changed status. The PASSPORT must be retrieved.

Where physical distance/barriers prevent easy retrieval of the PASSPORT, and where the crew is being re-assigned to another sector, a "make-up" PASSPORT must be assembled. Crew members will provide the new Sector Officer another name tag. Where another "make-up" PASSPORT is not available, the individual name tags will be placed on the accountability status board. The original Sector Officer and/or Accountability Officer must be made aware of the change.

### **Multi-Story / High-Rise**

Multi-story or high-rise incidents present only a minor modification in the standard approach to PASSPORT accountability.

- A. The first engine to each geographic side of the incident remains the accountability location.
- B. First-in crews that are parked in very close proximity (50 feet) of the first engine may leave their PASSPORTS on the apparatus.
- C. Companies parking a greater distance away will deliver their PASSPORTS to the accountability location and place the PASSPORTS on the status board of the accountability engine.
- D. Once a lobby sector is established all crews reporting to the building will deliver their PASSPORTS to the lobby sector.
- E. The lobby sector 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).
- F. Once the Resource Sector is established, the Resource Sector Officer will collect the PASSPORTS of all crews assigned to fire combat positions. The Resource Sector will assign Accountability Officers at each point of entry to stairwells, etc.
- G. PASSPORTS for crews assigned to the lobby sector or any support sectors within the building (non-hot zone crews) will be maintained by the Sector Officers.

### **Terminating the Passport System**

PASSPORT accountability will be maintained through a report of "fire under control," at which time a PAR for all crews must be obtained. Command will determine at that time, based on the situation and risk, as to whether to continue with the PASSPORT system. If visibility is still impaired or a significant hazardous condition still exists, Command may choose to extend the PASSPORT system further.

Upon termination and release from the incident, Company Officers and crew members will ensure that the PASSPORT is returned to the dash of their apparatus and that the PASSPORT is up-to-date.

### **Rapid Intervention Crews (RIC)**

Command must assure that a RIC unit has been dispatched for all working fire situations and/or operations that pose a special hazard (i.e., confined space rescue).

### **Lost / Missing Firefighter (RIC)**

An absent member of any crew will automatically be assumed lost or trapped in the hot zone until otherwise determined safe. Company Officers must immediately declare a May Day. Following a May Day, Command must request the next greater assignment or alarm with a medical component (i.e., 3&1 goes to a first alarm medical or a second alarm goes to a third alarm medical). Command must next initiate an immediate roll call (PAR) of all companies assigned to duty in the hot zone. Command must also send the Rapid Intervention Crew (RIC) to the last reported working area of the lost firefighter to begin a search; designation. Simultaneously with these actions, Command must adjust on-scene strategies to a priority search and rescue effort.

### **Accountability Responsibilities Summary**

Accountability will work only with a strong personal commitment to the safety system. This commitment

involves the following responsibilities:

**A. Firefighter**

Responsible for staying with his/her crew at all times and ensuring that his/her name tag is on the PASSPORT at all times.

**B. Engineer**

The Engineer of the first engine to each geographic side of the incident becomes the initial Accountability Officer. The Engineer must collect PASSPORTS from crews and apparatus assigned to his/her side of the incident (sector) and manage accountability until relieved by an Accountability Officer or Sector Officer.

**C. Company Officer**

Responsible for keeping his/her crew intact at all times and that the PASSPORT is current and accurate. The PASSPORT must reflect only those personnel entering the hot zone. The PASSPORT must be turned in at the point of entry and retrieved upon exit.

**D. Sector Officer**

Responsible for accounting for all crews in his/her assigned sector, maintaining an awareness of their exact location. The Sector Officer works closely with Accountability Officers to ensure accurate PASSPORTS and tracking of those crews in the hot zone. In those situations where the Sector Officer must enter the hot zone, PASSPORTS will continue to be managed by the Accountability Officer (i.e., first engine to each side of the incident).

**E. Accountability Officer**

Responsible for teaming up with the assigned Sector Officer and managing all accountability for that sector. The Accountability Officer must collect all PASSPORTS from engineers, apparatus, or the Sector Officer. The Accountability Officer must maintain close coordination with other Accountability Officers.

**F. Accountability Sector Officer**

Responsible for managing Accountability Officers and system. Assures PAR's to be initiated at tactical benchmarks or as needed. Reports to Command/Safety Section.

**G. Command**

Responsible for tracking the location of all crews. Must advise later assigned crews of which engine is serving as the accountability location for PASSPORTS or that the Sector or Accountability Officer will be accepting PASSPORTS at the point of entry.

 <b>Standard Operating Guidelines</b>	<b>Series: 200</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>201.03: IRIC, RIC, and Rescue Sector</b>			
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**Purpose**

The Fire District often responds to incidents that present a high risk to firefighter safety. This guideline identifies the requirements and operation of Rapid Intervention Crews (RIC). Other related procedures are Lost /Trapped Firefighters basic self-survival and Rescue-Lost Firefighter Command Responsibilities.

This guideline improves firefighter safety at emergency incidents by providing for firefighter rescue at the outset of an event before a team enters an unknown atmosphere, potential or actual IDLH (immediately dangerous to life and health). It should integrate with procedures that are already in effect, such as the requirement for a back-up rescue team for hazardous materials entry. The objective of a RIC is to have a fully equipped rescue team on-site, in a ready state, to immediately react and respond to rescue injured or trapped firefighters or civilians.

**Rapid Intervention Crew (RIC)**

This guideline should be implemented at all "working" interior structural fires beyond the incipient stage and other incidents where Fire District members are subject to hazards that would be immediately dangerous to life and/or health in the event of an equipment failure, sudden change of conditions, or mishap.

Examples of special hazards include, but are not limited to:

- A. Offensive Fire Operations (assumed to be IDLH)
- B. Hazardous Materials Incidents (IDLH, potential IDLH, or unknown atmosphere)
- C. Trench Rescue
- D. Confined Space Rescue (assumed to be IDLH)
- E. Any other incident having significant risk

**Initial Rapid Intervention Crew (IRIC)**

- A. Temporary two-person RIC team assigned at the outset of an incident to allow teams to enter IDLH, potential IDLH, or unknown atmosphere.
- B. It is a priority of Command to upgrade IRIC to a full RIC crew as soon as practically possible

One IRIC member must be solely dedicated to tracking interior personnel. His/her function is to account for and initiate a firefighter rescue. Radio, PPE & SCBA required.

The other member of the two person IRIC is permitted to take on other roles, such as incident commander, safety officer, or equipment operator. Radio required, PPE, and SCBA should be donned as soon as possible.

**Standard Implementation IRIC**

IRIC can be used when a mobile Command mode is utilized by the first arriving company officer making an interior attack on a working fire with the nozzle person. The plug person assumes the primary IRIC position and the engineer assumes the secondary IRIC position. This would allow for an interior attack when the second due company has a delayed response.

**\*\*Exceptions to RIC\*\***

- A. When there is a life hazard where immediate action could prevent the loss of life.
- B. When the fire is in an incipient stage that could be controlled by a portable fire extinguisher.

## **Dispatch and Implementation**

Upon declaration of a “working fire”, an additional engine company will be dispatched. The assigned unit will acknowledge response via radio (Unit ID responding). The unit should stage on-scene in a location to maximize their options and await instructions from Command. This company should be prepared for a RIC assignment if an IRIC has not been upgraded to a full RIC on their arrival. During major operations, RICs will normally be assigned a standby position near the Command post or the rehab operation. A minimum of one company will be required.

Command may assign more than one company, if necessary. Operations of a large or more complex nature may call for multiple RIC units to standby at different entry points. After dispatch of a company, command has the following options for use:

1. Assign the company to RIC duties and be designated “Rescue Sector”
2. Cancel the company en-route after the declaration of fire under control **and** PAR’s have been obtained from **all** crews.
3. Assign other duties, such as heat relief for working crews, overhaul duties, customer service, etc.
4. If assigned anything other than RIC duties Command must request an additional company as a RIC unit to be available for emergencies affecting firefighters.

En-route, potential RICs should monitor the tactical radio channel and initiate a tactical worksheet noting location of operating companies. Upon assignment of RIC responsibilities, the RIC company officer should obtain a detailed briefing from Command or the IRIC on the status and location of all assigned companies. The tactical worksheet should be continually updated.

All RIC crewmembers will assume a ready state, including full protective clothing and SCBA. For other types of incidents the protective clothing and equipment will be appropriate for the hazards. The RIC team company officer will closely monitor the assigned tactical radio channel at all times.

In some cases the RIC may need to conduct a recon to maintain awareness of working companies and conditions. The team must be able to react immediately to sudden emergency events at the incident site. In all cases, the RIC must have the ability to rapidly deploy.

In some situations, protective hose lines may need to be pre-deployed. RIC companies should assess the need for other access points to provide for egress, rescue, and ventilation. Forcible entry may be necessary. When companies are operating on floors above ground, the RIC should consider pre-positioning ground ladders to allow for emergency egress and rescue.

Should a “firefighter in trouble” emergency occur, Dispatch will immediately be contacted with a declaration of "May Day". Dispatch will sound emergency traffic, declare the "May Day", upgrade the alarm and advise responding units. Whenever a RIC is deployed it should be replaced as soon as possible to back up the crews involved in a rescue operation.

If RIC units are needed to respond to a sudden emergency, in which the Sector Officer is incapacitated (physically or emotionally), the RIC Company Officer will assume sector responsibilities for the area in which the emergency exists. Rescue Sector should coordinate their activities with the involved sector to maximize the rescue operation.

If not deployed as a RIC unit, Command may assign this company as a heat relief unit and rotate with interior companies. RICs can be used for any appropriate assignments, after all crews are out of danger and PAR's have been obtained, and an IDLH atmosphere no longer exists.

## **High-Rise Fires**

For high-rise fires, RICs will be assigned to standby positions in the Resource Sector location, or other appropriate location(s). A secondary standby location may be in the Lobby Sector location.

## **RIC - BAGS**

Once assigned to RIC standby duties, the assigned company must obtain RIC-Bags from their unit or from the Battalion vehicle. Each bag should be checked for equipment. Upon a report of a lost or trapped firefighter, the kit (or more than one kit) must be taken to the rescue area.

## **Commitment to Rescue of a Lost or Trapped Firefighter**

Upon a report of a lost or trapped firefighter, Command should deploy the RICs to the last reported location of the lost/trapped firefighter(s). The RIC-BAGS must be taken. The Company Officer of the RIC will be assigned a Rescue Sector designation. Appropriate rescue equipment and crews must be quickly assembled and organized.

## **RIC Bag Contents**

The items to be included in each RIC-SCBA Kit are as follows:

1. 4 Flashlights
2. 4 Pack straps
3. 4 Door straps
4. 4 Sprinkler Wedges
5. 4 Life lines with deployment bags
6. 1 Bolt cutter (small 12")
7. 2 Channel Lock (multiple-adjustable pliers 12")
8. 2 Phillips head screwdrivers (6")
9. 4 Folding knives
10. 2 Wire cutters (snub nose pliers with side cutter 7-10")
11. 2 Straight blade screwdrivers (6")
12. 1 SCBA mask
13. 1 SCBA bottle and supply pigtail

 <p>Standard Operating Guidelines</p>	<b>Series: 200</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>201.04: Safety Sector</b>			
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**Purpose**

It will be standard practice for the Superstition Fire & Medical District to implement a "Safety Sector" at any working fire, multiple alarm incident, special operations; rescue, trench rescue, confined space rescue, and first alarm or greater hazardous materials incidents. In addition, a Safety Sector should be implemented at any incident of special hazard presenting an unusual risk to firefighters, customers, or the general public.

This guideline in no way diminishes the responsibility of each and every member of the Fire District to commit to safe work behaviors and to operate within standard operating procedures at all times. Company Officers carry an additional responsibility of ensuring that all members of their crew are operating in a safe manner. Chief Officers and Sector Officers must also insure that safe operations are conducted.

Incident Command will be established by the first arriving member or company and the Incident Command System will be implemented at all working incidents involving three or more companies.

The Incident Commander will be responsible for the early establishment of a Safety Sector at any incident requiring it (see above). BSO261 will establish Safety Sector upon arrival of the incident and should eventually be joined by an additional Safety Officer from other responding agencies.

Department Safety Officers, (Car 94, Phoenix FD) (Safety 202, Mesa FD) (Car 286, Chandler FD), will normally respond to multiple alarms, trench rescue, confined space rescue, or other significantly high-risk incidents. Command may special call one or more of the Regional Safety Officers to any incident.

The safety officer will automatically assume the safety sector responsibilities upon their arrival at the incident following the appropriate command procedures. Command must be notified (on-radio) when safety sector is assumed for accountability and scene management purposes.

It will be the responsibility of Command to establish a strategy/action plan that includes a safety plan for the incident. This safety plan must be communicated to the Safety Sector Officer and other Sector Officers. Command may request the Safety Sector to develop and recommend an appropriate safety plan.

The safety sector reports directly to command and has full authority to terminate, suspend or alter any unsafe condition or action.

The Safety Sector intervention at scene operations involves three approaches. First is for life threatening situations, the second is for non-life threatening situations, and the third approach occurs in the on-going incident planning process.

Any LIFE THREATENING conditions will be corrected immediately and directly. Where time permits, Command must be notified. Corrective action will be initiated by Command immediately. In obvious life threatening situations that do not allow time for Command's intervention, the Safety Sector shall immediately stop any action, or countermand any order, under these circumstances by DIRECT and IMMEDIATE intervention (i.e., order crews out of a building, countermand an order for crews to go to the roof etc.). Such action may be taken with the understanding that the Safety Sector works for Command and is accountable to command for actions taken. Command must be immediately advised of any direct intervention by the safety sector under these circumstances. A change of strategy and/or tactics by Command or Sector Officers may be required as a result of the Safety Officer's actions. Sector Officers may have to be notified of hazards, required safety corrections, or updated on the strategic plan, tactics, and objectives.

**Emergency traffic** should be used for any critical emergency notifications/ alerts required at the incident scene.

Command must be kept abreast of any and all corrections that affect overall site operations, or the strategic plan, via frequent and timely progress reports.

The second approach is for non-life threatening situations and involves a more "one on one" correction of safety problems with individual firefighters, company officers, and/or sector officers (i.e. require SCBA, correct ladder position) and often does not affect incident strategy. This approach is the most frequent type of interaction. Where corrective action does not affect Command's strategy, Command may not need to be notified. Corrected items should, however, be noted for discussion at a future critique of the incident.

The third approach occurs in the on-going incident planning process. Upon the implementation of the Safety Sector, Command must provide the Safety Sector an overview of the incident action plan and specific details of the safety plan. The Safety Officer, upon his/her arrival, will confirm that a safety plan is in effect, review it, and provide recommendations as needed. In some cases command may request that the Safety Sector Officer develop a proposed safety plan and recommendations for command.

The Safety Sector/Safety Officer must remain a part of the on-going planning process with command and/or the Planning Section Chief.

The Safety Officer, upon assuming Safety Sector responsibilities, may utilize any previous Safety Sector Officers to his/her best advantage, coordinating resources and incident assignments as approved by command.

### **Safety Sector Responsibilities**

1. Insuring that all crews and personnel are operating safely and consistently within existing safety standards.
2. Reviewing and insuring that Command has an effective safety plan as part of the incident's strategic plan.
3. Cause the termination, suspension, or alteration of any unsafe operations or actions. Operate as the safety eyes and ears of Command.
4. Observe all areas (reconnaissance) of the incident and identify any structural or hazardous conditions that could create a risk to firefighters or other personnel working at the incident and initiate corrective action.
5. Insure that all personnel are wearing proper protective clothing and equipment.
6. When assigned this function by Command, coordinate the use of Fire Protection Engineers, Building Department Officials, and other technical specialists, in the continual evaluation of incident risk and provide corrective measures as needed. These functions many times occur within the Planning Section.
7. Monitor the health and welfare of all personnel and insure that they are not over-extended, and are rehabilitated in an effective manner. Rehab Sector should be a component of the safety plan.
8. Provide Command frequent progress reports on safety related issues.
9. Maintain a liaison with Command and/or the Planning Section Chief to update and revise the on-going incident safety plan.
10. Request additional resources through Command to support Safety Sector responsibilities.

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	<b>201.05: Lobby Sector</b>			
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**Purpose**

A Lobby Sector is used to control access to a building or area during fires, hazardous materials incidents, rescue operations or any other situation where it is necessary to control and maintain accountability for the entry and exit of personnel.

Access control is established at an identified entrance/exit point from the building or area involved. In the case of a high-rise building this is normally the ground floor lobby area. In other cases it may be any suitable entrance/exit point or a location designated to meet the needs of the situation.

In the case of a technical operation, i.e. hazardous materials incident, trench rescue, or confined space, the perimeter shall be defined by **HAZARD ZONE** tape with an entrance/exit point identified.

The Lobby Sector is the only location where personnel shall enter or exit from the controlled area, in order to maintain full accountability. Lobby Sector personnel must control all access points when alternate entrances are available.

Lobby Sector personnel will limit entry into a controlled building or area to those authorized by Command and to personnel having the required level of protective clothing and equipment appropriate for the situation.

The Lobby Sector will record the names, times, and assignments of all personnel entering and exiting the controlled area. Accountability tags will be collected from all personnel entering and should be retrieved on departure.

**Building/Area Access Control**

A Lobby Sector should be established by Command at high-rise fires and other situations where control of access is necessary. When beginning operations at these incidents, at least one firefighter from the initial arriving companies should be left to establish a Lobby Sector. A company should be assigned to the Lobby Sector as quickly as possible and additional resources may be needed in major situations.

All personnel entering the building or area must report to Lobby Sector before reporting to any other sector or assignment. Company officers will keep crews intact while awaiting assignment. Civilian personnel entering the building area shall be accompanied by a firefighter with a portable radio.

Other incidents that may require a Lobby Sector shall include hazardous materials, confined space, trench rescue, water rescue, structural collapse, and any other incident where control of access is critical.

For primary responsibilities assigned to the Lobby Sector at a High-rise building incident see High-Rise Plans procedure.

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	<b>201.06: Evacuation Sector</b>			
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### **Purpose**

The purpose of this guideline is to provide a plan to conduct an evacuation of citizens in a geographic area during an emergency incident. The potential for evacuation should be considered during all emergency incidents. The key to an organized and manageable evacuation is to develop an Incident Command System early and initiate a plan and to continually update the plan.

### **Evacuation Plan**

A plan for evacuation should address the following factors:

1. A Command structure
2. Determine the need for evacuation versus in-place sheltering
3. Early notification of the Law Enforcement
4. Identification of an area to be evacuated, perimeters, etc.
5. Required resources
6. Evacuation time frame.
7. Identification of shelter sites and preparation of these sites
8. Duration of the evacuation
9. Re-entry of those evacuated
10. Information about hazard and evacuation presented to evacuees (multi-lingual)
11. Follow-up with evacuees upon re-entry
12. Security of the area evacuated

Other areas which need to be considered include:

1. Activation of the EOC
2. Assignment of a Law Enforcement Liaison Sector
3. Communications
4. Media support (PIO)
5. Establishing a Transportation Branch/Sector for evacuees
6. Communicating evacuation plan and shelter sites to the Command organizations of all agencies involved

### **Area of Evacuation**

The area of initial evacuation should be identified by the Incident Commander. When appropriate the Planning Section will re-evaluate the evacuation area and recommend any necessary adjustments. The evacuation boundaries should follow streets and established roadways. A map should be utilized and distributed to all officers and agencies involved and provided to the Evacuation Branch. Maps need to be provided to the Law Enforcement. In some situations, in-place sheltering can be used to protect the public rather than to initiate an evacuation. In-place sheltering can be considered during the following circumstances:

1. The hazardous material has been identified as having a low or moderate level of health risk.
2. The material has been released from its container and is now dissipating.

3. Leaks can be controlled rapidly and before evacuation can be completed.
4. Exposure to the product is expected to be short-term and of low health risk.
5. The public can be adequately protected by staying indoors.

Command may need to provide instructions to the affected public such as the need to stay indoors or shutting down their evaporative cooling systems and closing all doors and windows.

### **Levels of Evacuation**

There are three levels of evacuation. Each requires a different resource commitment. They include: Site, Intermediate and Large Scale.

#### **Site Evacuation**

Site evacuation involves a small number of citizens. This typically includes workers at the site and people from adjacent occupancies or areas. The citizens are easily evacuated and collected upwind at the perimeter area. Evacuation holding times are typically short, generally less than an hour or two, and citizens are permitted to return to their businesses or homes.

#### **Intermediate Level Evacuation**

The Intermediate Level involves larger numbers of citizens and/or affects a larger area. This level affects off-site homes and businesses and normally affects fewer than 100 people. People may remain out of the area for two to four hours or more. Evacuation completion times will be somewhat longer than a site evacuation, but generally rapid. Collecting, documenting and controlling the evacuees becomes more difficult. Off-site collection sites or shelter areas will need to be determined and managed. Some evacuees will leave the area on their own or be sent home by employers. Site perimeters become larger and perimeter security requires more resources. Close coordination with the Law Enforcement and other agencies will be required.

#### **Large-Scale Evacuation**

A large or concentrated release of a hazardous substance may cause a large scale evacuation. Thousands of citizens could be evacuated. Rapid initiation of the evacuation process may be required. Evacuees may be out of their homes and businesses for many hours if not days. Evacuation completion time frames will be extended. Evacuation shelters will need to be located, opened and managed. Documentation and tracking of evacuees becomes more important as well as more difficult. Very close coordination with the Law Enforcement and other agencies will be required. Site and evacuation perimeters become extended and require more resources. Security of the evacuated area is always a concern. The Emergency Operations Center (EOC) will be activated to support the evacuation and site operations.

There are no precise parameters differentiating one level of evacuation from another. The Incident Commander must implement a Command Organization that meets the needs of each particular incident.

#### **Duration of Evacuation**

The evacuation should be sustained as long as the risk continues in the evacuated area. Caution should be taken when deciding to allow residents to return home. Ensure that the situation is truly under control. Re-evacuating is difficult to complete as many residents will not want to go a second time. It can also be extremely hazardous. Evacuees must be updated with information as soon as possible and periodically throughout the incident.

#### **Red-Cross Responsibilities**

Once long-term sheltering is identified, the Red Cross will manage shelters. Early notification is required. The Red Cross will need up to three hours to get adequate personnel, equipment and supplies to the shelter sites.

#### **Shelter Sites**

When developing the evacuation plan, shelter sites must be identified early. Shelter site selection cannot wait

on the Red Cross. Site selection must be made by the Incident Commander at the time evacuation is ordered and sites need Sector officers assigned.

Some Fire District resources will need to be committed to the shelters, particularly in the area of initial opening and staffing by a shelter crew, and later for potential emergency medical support and information management. A Red Cross representative should be assigned to each shelter. A Customer Services officer should also be assigned to each shelter.

### **Command Structure**

The Planning Section is responsible for all planning associated with the evacuation. The evacuation plan is communicated to the Incident Commander for approval or modification. The actual evacuation process would normally be managed in the Operations Section as an Evacuation Branch or Sector. The Evacuation Branch must be provided with sufficient resources to effectively complete the task. Sector assignments within the Evacuation Branch will be assigned as necessary.

The following Sections may be implemented:

1. Operations Section
2. Planning Section
3. Logistics Section
4. Administration Section

### **Planning Section**

The Planning Section would be responsible for developing an evacuation plan in joint cooperation with the Law Enforcement. Other Sections play a supporting role in the Command Organization.

The following Branches may be implemented under the various Sections:

1. Evacuation Branch
2. Transportation Branch
3. Medical Branch
4. Haz Mat Branch
5. Fire Branch
6. Geographic Branches

### **Evacuation Branch**

The Evacuation Branch officer may be a Law Enforcement officer. Branches will be implemented as needed. Branch officers receive the plan and objectives from Command. Branch officers direct sectors in completing the plan and objectives. Separate radio channels will be required.

Sectors to be considered include:

1. Public Information Sector
2. Geographic Sectors (Multiple Sectors)
3. Law Enforcement Liaison Sector
4. Staging Sector
5. Transportation Sector
6. Shelter Sectors
7. Other Agency Liaison Sectors
8. Other Sectors as necessary

### **Command Responsibilities**

Command's responsibilities include the following items:

1. Rapidly size up the situation to determine the need to evacuate.
2. Develop Evacuation Plan.
3. Request a Law Enforcement supervisor to the Command Post.
4. Determine evacuation perimeters.
5. Determine the number and location of shelter sites and communicate the locations to the Command organization.
6. Order evacuation.
7. Provide resources required.
8. Establish Law Enforcement liaison; request a ranking Law Enforcement officer to the Command Post.
9. Provide a ranking fire officer to the Law Enforcement liaison officer/Law Enforcement Command Post.
10. Order the alert of other appropriate agencies.
11. Expand the Command organization to meet the incident/evacuation needs.
12. Establish an evacuation plan and communicate the plan to Branches, Sectors and agency liaisons.
13. Monitor, support and revise the evacuation process as necessary.
14. Evacuate persons from the greatest danger first.
15. Assign specific areas to evacuate in order to avoid duplication or missed areas [use Fire District plat maps].
16. Provide the transportation necessary for evacuees.
17. Provide continuing command of the evacuation, de-commitment and return of evacuees.
18. Determine the need to implement a unified command structure involving other agencies. This would depend upon the nature of the incident.

### **Communications**

A separate radio frequency should be used for the Evacuation Branch. This should be assigned as early in the incident as possible.

### **Dispatch and Deployment Responsibilities**

1. Dispatch appropriate resources as requested.
2. Notify the appropriate Fire and City officials.
3. Notify the appropriate support agencies as requested or listed in Standard Operating Procedures.
4. Initiate recall of additional Dispatch staff to meet the demands of the incident.
5. Notify the City telephone switchboard operator and provide the operator a status report. Update the operator as needed.
6. Notify the hospitals in the area of evacuation (both those exposed and not exposed) and provide a status report and updates as needed (intermediate and large-scale evacuations).
7. Update Fire Administration staff of the status of the incident if it is during normal business hours. They will receive many calls from citizens requesting information.

### **Public Information Officer's (PIO) Responsibilities**

1. Establish PIO Sector.
2. Notify the news media and provide status reports and updates as necessary.
3. Provide the media with consistent and accurate evacuation instructions as provided by Command.
4. Utilize the media and coordinate evacuation notices through news media.

## **Law Enforcement Liaison**

A Law Enforcement representative will need to be assigned to the Planning Section and another to the Evacuation Branch as a liaison. The Law Enforcement liaisons will communicate with the Law Enforcement Incident Commander and keep other parties in the Law Enforcement informed of the plan, progress, etc.

## **Law Enforcement Responsibilities**

The Law Enforcement will be an integral part of the evacuation process, as a large portion of the evacuation is usually accomplished by the Law Enforcement. Law Enforcement responsibilities include:

1. Provide a ranking officer to the Incident Command Post.
2. Provide a ranking officer to the Evacuation Branch/Sector.
3. Develop a Law Enforcement Incident Command System to manage Law Enforcement operations.
4. Provide a communication system for Law Enforcement resources.
5. Provide Law Enforcement resources needed for evacuation.
6. Provide traffic control and traffic routing.
7. Provide perimeter security.
8. Provide evacuation zone security.
9. Identify transportation needs.

## **Media Support**

The incident PIO should be informed of the evacuation plan so that the media is aware of the areas to be evacuated and shelter sites and any evacuation instructions to the public. The PIO should make every effort to assemble the media at the scene to keep them away from hazards and out of the evacuation area. Residents may receive information from the media during the evacuation, so it is critical that the media information be accurate.

Also needed is a single phone number that should be released to the public for information.

## **Who Should be Evacuated**

All residents living/working in the area identified should be evacuated. In the event that a resident decides not to evacuate, they should be specifically informed of the risk and, if they still refuse, left to stay. The Evacuation Branch is to be notified and a note of the citizen's address made for further follow-up.

## **Evacuation Branch Responsibilities**

On large-scale evacuations, a Branch level position on a separate radio channel will be necessary. Sectors will also need to be established and report to the Evacuation Branch officer.

Typically, a large commitment of Law Enforcement officers will be required to accomplish an evacuation. The Evacuation Branch officer may be either a Law Enforcement or fire officer. The Evacuation Branch must obtain a ranking Law Enforcement official at his/her location in order to closely coordinate evacuation efforts. An appropriate commitment of Law Enforcement resources must be obtained. Evacuation responsibilities include:

1. Obtain resources needed to evacuate.
2. Obtain ranking Law Enforcement officer as liaison.
3. Provide a ranking Fire Officer to the Branch Officer.
4. Establish Sectors as needed.
5. Provide Sectors objectives and specific areas to evacuate (use Fire District map pages or hydrant zones in Fire District map book for grids).
6. Provide Sectors with shelter location and instructions.
7. Provide Sectors with evacuation instruction pads and written evacuation information for

- evacuees if possible (consider needs for multiple languages).
8. Provide Sectors with private vehicle routing instructions (out of the area).
  9. Obtain/provide ambulances, buses or other transportation to those requiring transportation out of the area.
  10. Evacuate those at greatest risk first.
  11. Evacuate the greatest concentrated areas next (i.e., apartment complex).
  12. Consider individual Sectors for large population occupancies (i.e., multi-story buildings, large apartment complexes, schools, etc.).
  13. As individual geographic or grid Sectors complete their evacuations, terminate the Sector identity and reassign resources to other developing Sectors (for large-scale evacuation).
  14. Closely document and maintain records of the evacuation process to avoid duplication or missed areas.
  15. Document those addressees and times for those refusing to leave.

### **Information and Notification**

Law Enforcement and fire companies should be used for resources/staffing to conduct a walk-through or drive-through in the area to be evacuated. Fire companies should be assigned to hazardous areas with Law Enforcement assigned to safe areas. The officers should provide residents with information about the situation and be told that they are being evacuated, to where, and why. It is necessary to inform the residents of shelter areas being established to minimize confusion and anxiety.

### **On-Site Notification to Evacuate**

Door-to-door notification is time-consuming. In many cases, adequate resources and time is not available to do this type of face-to-face notification. Use of sirens, air horns and PA systems will speed the alert process.

When making door-to-door evacuations:

1. Be in uniform.
2. Wear appropriate PPE.
3. Face-to-face notification should include the following instructions:
4. There is an emergency.
5. You are in danger.
6. Leave immediately.
7. Go to shelter (location).
8. Take (\_\_\_\_\_) route out of area.
9. Do you need transportation?
10. Consider multi-lingual needs.
11. Evacuees should be advised to take the following items:
12. Wallet/purse
13. House and car keys
14. Money
15. Eyeglasses
16. Medications
17. Proper/warm clothing
18. Family pet

In other situations, where immediate and rapid evacuation makes door-to-door notification impossible, use the following notification method:

1. Use three (3) five-second blasts of the siren while on the "YELP" setting.

2. Follow with the standard evacuation instruction over PA system (see instructions above).
3. Use maximum volume on PA system.
4. Proceed slowly to maximize notification.
5. Initiate notification at the beginning of each block and each 50 yards after that.

Once each assigned grid of objectives is complete, report completion to the Evacuation Branch/Sector officer.

An information phone line may need to be set up to provide an information source for citizens with concerns about the incident. This information would be for family members affected by the evacuation or medical information for Haz Mat incidents and general information about the evacuation.

### **Refusal to Leave**

Some citizens may refuse to leave. A few methods of persuasion include:

1. Be in uniform.
2. Wear your helmet.
3. Wear SCBA and mask (air hose may not need to be connected) when advising the citizen to leave.
4. Ask for next of kin and a phone number.
5. Write the next of kin information down.
6. Refusals should be noted and reported to the Branch Officer by radio.

Evacuations follow somewhat of a triage philosophy -- we'll evacuate the greatest number for the greatest benefit. Individual refusals will be left to fend for themselves. There simply may not be enough time or resources to initiate forced removal of persons from their homes. However, documentation of the refusal should be done. Write the address down (or if radio traffic permits, radio the address to the Evacuation Branch).

### **Transportation Branch/Sector**

A Transportation Sector should be established within the Evacuation Branch. Ambulances and other transport vehicles should be staged in the event that a citizen may need transportation to a shelter or other location. Non-ambulatory people must be located and information provided to the Transportation Sector so that they are not overlooked in the evacuation.

### **Transportation Branch/Sector Responsibilities**

1. Obtain buses (start with a minimum of two) and other vehicles that can be used for transportation.
2. Stage all transportation resources.
3. Put one firefighter (or Law Enforcement officer) on each vehicle equipped with a fire or Law Enforcement radio.
4. Coordinate the Evacuation Sector (or Evacuation Branch/Sector)-the pick-up points or addresses of those citizens needing transportation.

### **Return Evacuees**

The decision to return evacuees to their homes will be the sole responsibility of the Incident Commander.

The Planning Section will jointly develop a return plan for evacuees. Returning evacuees may require some transportation be provided. A Transportation Sector should be reactivated to organize these needs.

 <b>Standard Operating Guidelines</b>	<b>Series: 201</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>201.07: PIO Sector</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Service		

**Purpose**

Establishing and maintaining a positive relationship with the news media is essential to the success of the Superstition Fire & Medical District (SFMD).

This guideline will help to provide the news media with information normally requested from the Fire District on fire, EMS, and hazardous materials or technical rescue incidents, to control the movements of media personnel for safety reasons, and to establish an operating framework for Public Information that will effectively integrate into the overall fireground management system.

**Command Responsibility**

Command will be responsible for the management of public information on the fireground. As soon as practical, after basic rescue and fire operations are extended, Command will establish an Information Sector. The effective establishment of this sector will relieve Command of the need to deal directly with the media during critical command stages and will provide the standard information the media will require to accurately report the situation.

The Public Information Officer will report to Command, upon his/her arrival on the fireground, to determine the status of the Public Information Sector. The Public Information Officer will immediately establish an Information Sector or relieve the assigned sector officer.

Prior to the establishment of the Information Sector, members of the media should be encouraged to “stage” at a central point, outside the barrier tape, so the transfer of information will be seamless and consistent.

Prior to the arrival of the Public Information Officer, Command may assign an officer or company to the Information Sector. The assigned officer will begin to gather information on the incident. The Public Information Officer should station himself/herself in a readily visible and accessible location adjacent to the Command Post to meet and provide information for media personnel. This location will be marked by a green light.

Radio designation will be "Information Sector."

**Public Information Sector**

Individuals assigned to perform Information Sector functions should consider the following general guidelines:

- A. If possible, add anything to the basic information that will enhance the story of the situation; such information might include:
  - 1. An extremely hazardous situation.
  - 2. A rescue.
  - 3. A person or company that did an outstanding job.
- B. The extra information will make a better story for the reporters and tell the citizens how the Fire District provides fire, EMS, or hazard control services.
- C. If possible, a personal interview with the Fire Officer or crewmember is encouraged.
- D. Don't be afraid to talk to reporters. They will report the facts as you give them. Tell them everything you can, but make sure everything you tell them is accurate.

Usually, during the time you are gathering information, you will have inquiries from reporters seeking information. Give them what you have at that point and emphasize that this information is tentative. If it gets to the point that questions from reporters are keeping you from gathering information, use these alternatives:

1. Tell the reporters to gather in one place and that you will return shortly with more information.
2. Request additional resources from Command for assistance in gathering information and to stay with the reporters.
3. Tell the reporters to go ahead and get pictures and film footage without interfering with fireground operations, while you are gathering information. Make sure and point out the hazard zone. Arrange to meet them shortly at a location and give them the facts.
4. If they have deadlines to meet, get a phone number(s) where they can be reached and phone the facts to them as soon as possible.
5. Do Not Release Names Of Persons Injured Or Deceased (BE AWARE OF HIPPA REGULATIONS). Notifications are usually handled by police and/or hospitals. Do Not Use The Names Of Deceased Or Injured Persons Over Radio.

The individual or company assigned to this Sector may be required to escort media on an orientation tour of the fire damaged area, following knockdown. This must be cleared with Command, the on scene investigator, and coordinated with operating sectors before entering the area. On private property be sure to get permission from the owner or manager.

Each Sector Officer is responsible for the safety of media personnel in the area. If media personnel create a safety problem, or hinder operations, they should be requested to move in a positive manner - AVOIDING CONFRONTATIONS. The policy of the Fire District is to cooperate with the media.

The PIO will have access to the Media Alert Line, which contacts all news agencies on a closed-loop telephone system.

The following guidelines will describe the information that is normally requested or provided.

1. Reporters are interested in the number of units that responded to the incident, not necessarily their unit designation. They are also interested in total personnel figures. Example: 3 Engines + 1 Ladder + 1 BC = 5 units and 18 firefighters
2. They will also want to know how long it took the Department to get on the scene, and how long it took to control the situation. Volunteer the other information if it is not asked.
3. Tell what the first unit on the scene encountered and the action taken. Example: Engine 261 arrived on the scene and the house was well involved. E261 did a quick search and rescue, everyone was out of the home safely.
4. In the event of injuries, fire or civilian, you may give age, gender, extent of injuries and where they were taken for treatment. In case of fatality - omit extent of injury.
5. Note specific hazards encountered, (i.e., toxic materials, flammable liquids, etc.) and/or special accomplishments (i.e., rescues, good salvage work, etc.).
6. Also note points about "built-in fire protection" (i.e., fire was stopped by sprinkler systems; a smoke alarm may have possibly prevented this fatality, etc.).
7. Use investigator figures for dollar loss estimate. If figure is not available, use a word assessment (i.e., heavy, moderate, etc.)
8. As soon as information is available as to the cause of the fire, release the information to the media, unless it is arson. If arson, get permission from the investigators before releasing the cause.
9. On large incidents there should be a Joint Information Center (JIC) established where all agency information officers can meet and gather the information that needs to be disseminated.
10. On large incidents involving several agencies it is important to designate one incident PIO and assure the incident commander approves the release of information related to the incident.

Additional Public Information Officer duties include, but are not limited to:

1. Communicating daily with the local media.
2. Researching information and statistics requested by the media for use in articles and feature stories.
3. Developing public service announcements for use by print, radio, and television media.
4. Organizing the presentation of certificates and awards for citizen recognition.
5. Developing news releases to inform press on departmental events of public interest.
6. Consulting with Senior Staff prior to the release of sensitive information.
7. Perform Master of Ceremonies at Recruitment Graduations, Retirements, and any other Department functions where appropriate.
8. The PIO develops accurate and complete information on the incident for both internal and external communication.

 <b>Standard Operating Guidelines</b>	<b>Series: 201</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>201.08: Line of Duty Death (LODD)</b>			
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	<b>Approved by:</b>	Emergency Services		

**Purpose**

The Superstition Fire & Medical District (SFMD) will provide as much assistance to immediate survivors as possible. It is the goal of SFMD to provide assistance at every opportunity. This includes assisting the District’s fire service family, especially following the death or serious injury of an employee.

The purpose of this guideline is to direct the SFMD to provide proper care for the deceased firefighter’s family. The family’s wishes regarding services and funeral arrangements will always take precedence over those of the District. The only exception is in respect to established funeral protocols. Families who wish to deviate from accepted fire service practices should be advised of the reasoning behind particular levels of honor. The District should attempt to preserve the history and tradition of the levels of honor while simultaneously meeting the wishes of the family.

**Planning Considerations for a Line-of-Duty Death**

The SFMD has compiled elements from several plans that address line-of-duty death procedures. These sample elements reflect how various Districts have prepared to deal with the tragedy of a line-of-duty death. These are by no means the only things that can be done.

**Non-Line-of-Duty Death**

Many of the policies and procedures that follow may also be utilized in the event of a non-LODD, civilian or retired member’s death that occurs outside of work. At the discretion of the Fire Chief, specific elements of this guide may be used in these circumstances.

**Definitions**

**A. Line-of-duty death:**

A death which is the direct result of taking any reasonable or emergency response action that an active firefighter is authorized or obligated to perform.

**B. Survivors:**

Immediate family members including: spouses; all children, including legally-adopted children; parents; siblings; and significant others.

**C. Benefits:**

Financial payments, scholarships, tax benefits, and special programs available to the immediate next-of-kin of the fallen firefighter.

**Family Support Team**

The District’s Family Support Team will be responsible for necessary functions before, during, and after the funeral. The Chief will activate the team as needed. Members of the team will handle the following responsibilities, based on District resources:

1. Liaison between the team and the chief
2. Overall coordination of the team
3. Benefits coordination; only one District member should be authorized to work with the family on death benefits
4. Transportation and lodging coordination for out-of-town family members

5. Media coordination to release information about the incident, arrange media coverage of the funeral or memorial service, and provide privacy to the family
6. Hospital liaison to relay information between medical personnel and the family
7. Funeral or memorial service coordination including services and burial arrangements, traffic, honor guard, etc.
8. Family liaison to provide personal support for the immediate family, usually at the home. Personal support includes duties such as screening calls and visits, providing local transportation, assisting with burial arrangements, etc.

## **Notification**

### **Notifying Survivors**

The District will establish a notification policy for survivors of fallen firefighters. This will include the following elements:

1. Getting all District members to provide emergency contact information and updating the information annually. This will allow members to name a member of the District who should be part of the notification team
2. Designating senior District personnel, and backups, who will make the notification
3. Notifying immediate family members in person before release of any information to anyone else. If members live out of the area, make arrangements for in-person notification by the local District
4. Having two members of the District make the notification. **Do not** delay notification if the designated District members are not readily available.
5. If needed, driving family members to the hospital in a District vehicle and getting them to the proper area. If the family wants to drive their own car, have a member of the District accompany them.

### **Notifying Members**

Once the family has been notified, members of the District should learn of the incident from the District before it hears about it through the media. Following notification of the next-of-kin, leadership should develop a plan for notifying all employees and auto-aid partners. Utilizing the chain of command to make notifications helps insure all members are notified and accounted for. Special consideration should be given to those employees who are on vacation or otherwise out of touch as well as those assigned to light duty or any other assignments that deviates from the normal chain of command. The District will establish procedures to ensure this notification, including:

1. Notifying all on and off-duty chiefs or senior District officials
2. Notifying Chaplain (if applicable)
3. Preparing a short summary of the known facts about the incident and the deceased and critically injured for the Chief and all other spokespersons to use
4. Working with the personnel officer, to confirm the basic information about the firefighter(s), including: correct spelling of name, age, next of kin
5. Preparing a memo to all members of the District that includes confirmed information
6. Establishing procedures to notify off-duty members
7. Keeping all members informed of funeral arrangements and memorial services

## **Notifying Others**

Other members of the community need to be notified after the family and the members of the District. Each community will need to tailor this list to its unique circumstances. However, the plan should include the following elements:

- A. Making sure a short summary of known facts about the incident and the deceased and critically injured is available for the Chief and all other spokespersons to use.
- B. Establishing a priority checklist of whom to call that includes name and title, office and home contact information, etc. For example:
  1. Elected officials
  2. Employee Association official
  3. Safety Officer
  4. Public Safety Officers' Benefits staff
  5. Fire service organizations

## **Working with the Media**

The District should take steps to ensure notification of the family before giving any information to the media. Procedures to follow include:

1. Giving no personal information out to the media, even if they are on the scene, until confirmation of family notification has occurred
2. Using the basic information gathered on the incident and the deceased and/or critically injured. (Refer to Notifying the District)
3. Preparing and clearing a written statement for the Chief to deliver or release
4. Setting up a media briefing, either at the hospital or other location
5. Designating a District backup to handle coverage of the incident if it is still ongoing so primary PIO can concentrate on handling information on the fatality

## **Working with the Hospital**

The critically-injured firefighter will be transported to a local hospital. The District will establish procedures to deal with local hospitals. This will include the following elements:

- A. Meeting with hospital officials to discuss appropriate waiting areas for family, coworkers, and the media should a line-of-duty death occur
- B. Ensuring that the hospital information liaison has access to medical personnel to obtain information and access for the family and to provide approved information to the media coordinator
- C. Having a member of the District available to the family at all times
- D. Assigning a member of the District to ensure collection of the deceased's personal property
- E. Arranging transportation for the family back to their residence if the critically-injured firefighter must be transported to a medical center out of the local area, the District will establish procedures to assist the family in that location. These include:
  1. Helping arrange transportation for the firefighter and the family, as required
  2. Contacting fire District officials in that area and arranging support for the family similar to that offered above

## **Assisting the Family Before and During the Funeral**

The District will ensure that the family's wishes come first. To assist the family before and during the funeral, the District will establish procedures, including:

1. Meeting with the family to explain what support the District can offer

2. Giving the family a pager number where a fire service liaison can be reached at any time
3. Providing information on different options for funeral arrangements, including a full honors fire service funeral
4. If the family chooses to have a fire service funeral, working with them on details
5. If the family chooses to have a private service, working with them as requested
6. Requesting local law enforcement officials to make routine checks on the family's residence for several weeks
7. Assisting with household responsibilities such as running errands, mowing the lawn, answering the phone, etc.

### **Assisting the Family After the Funeral**

The District will maintain contact with the family and establish procedures to ensure ongoing support, including:

1. Continuing to invite the family to District events
2. Ensuring all death benefits have been processed
3. Considering the establishment of a permanent tribute such as a scholarship, dedication of a facility, etc.
4. Referring the family to the National Fallen Firefighters Foundation for information on its Survivor Support Network
5. Helping the family attend national and state memorial services

### **Providing Benefit Information to the Family**

The District will maintain an up-to-date list of death benefits available to survivors. The District will establish procedures on dealing with the family, including:

1. Assigning a benefits coordinator to handle all contact with survivors. The coordinator will help the survivor's access and process required paperwork
2. Providing a list of financial planners and legal advisors that the survivors may want to contact

### **Establishing a Community Response Network**

The District will consider setting up a community response network that can be activated if a tragedy occurs. The District will work with the community to establish procedures that allow immediate support to the family, including:

1. Working with the Highway Patrol on providing or escorting family members from out of town
2. Contacting local funeral homes to determine if they defer funeral costs and offer burial plots for line-of-duty deaths of public safety officers
3. Working with local hotels, motels and restaurants to provide lodging and meals for families attending the funeral
4. Finding childcare providers to assist families with small children during this period
5. Identifying local banks that will provide services to the family for handling donations and other death-related transactions

### **Notifications and Reporting**

1. Next of Kin
2. Intra-District: Administrative Staff, Union Executive Board, and District Personnel (on and off duty), Fire Board
3. City Manager's Office/Mayor/County Manager's Office
4. Arizona L.A.S.T.(AFCA or NFFF)
5. Peer Support/CISM/Chaplain

6. County/State Fire Organizations/Fire Marshall's Office
7. Law Enforcement Agencies
8. Medical Examiner/Coroner
9. Local and State Fire Districts
10. AFCA and PFFA
11. Arizona Industrial Commission
12. Arizona 100 Club (Immediate monetary benefit)
13. The National Fallen Firefighters Foundation LODD hotline (1-866-736-5868)
14. The U.S. District of Justice-Public Safety Officer's Benefits Program Office (1-888-744-6513)
15. United States Fire Administration (301-447-1836)

**Defined Levels of Honors**

Level One: Death as a result of a line-of duty-death or job-related. This may include an inactive member whose death has stemmed from an injury sustained during active duty.

Level Two: Death of an active member, non-job related.

Level Three: Death of an inactive member, non-job related.

**Suggested Options:**

Level One	Level Two	Level Three
American Flag	American Flag	American Flag
Bagpipers	Bell Service	Bell Service
Bell Service	Badge Shrouds	Badge Shrouds
Bugler	Eulogy	Fire Service Flag
Badge Shrouds	Hearse	Honor Guards
Color Guards	Fire Service Flag	Honorary Pall Bearers
Crossed Ladders	Flower Unit	Walk Through
Eulogy	Honor Guards	
Fire Engine Caisson	Honor Detail	
Fire Service Flag	Honorary Pall Bearers	
Flower Unit	Vehicle Bunting	
Honor Guards	Walk Through	
Honor Detail		
Active Pall Bearers		
Station Bunting		
Vehicle Bunting		
Walk Through		

**Responsibilities**

In the event of a line-of-duty death, the Officer in charge shall insure that the following occurs:

1. Notify the Senior Leadership Team (SLT), and Labor Representatives.
2. Secure the scene of the incident with the assistance of scene investigators and Police District personnel.
3. Direct the Public Information Officer to withhold the release of personal information related to the employee or the death, pending notification of next-of-kin.
4. Take possession of the injured Firefighter's equipment that is on the scene.
5. Begin to gather and document (photograph and written correspondence) all available information concerning the incident and circumstances leading to the death.
6. Assign personnel to assemble as much personal information as possible concerning the deceased. Particular information should include name, date of birth, social security number,

- marital status, dependents, and name(s) and addresses of next-of-kin.
7. Secure the personal effects (including lockers) of the deceased. Deliver personals to Fire Administration.
  8. Establish a record of all actions, contacts, requests and other pertinent data.
  9. Active Peer Support or CISM teams when appropriate.
  10. A Funeral Planning Team will be established as soon as possible.

### **Funeral Planning Team**

The Incident Commander also coordinates the activities of the Funeral Planning Team. The Funeral Planning Team may be coordinated with officials from the AZ LAST Team and will consist of a number of personnel assigned to handle multiple aspects of the recovery process. This team will outline a plan for management of the following areas and assign responsibilities:

### **Family Liaison Officer**

On-call to the surviving family 24 hours per day as a logistical contact. Provides transportation for family and maintains constant communication with the Incident Commander.

### **Hospital Liaison Officer**

Coordinate activities and information with hospital staff and Welfare Sector.

### **Funeral Officer**

Provides coordination and interaction with:

1. The Funeral Home Director;
2. The Minister and church to arrange the funeral services;
3. The agency responsible for the cemetery.

### **Procession Officer**

Arranges and directs the funeral procession.

### **Resource Officer**

Provides necessary support functions.

### **Labor Representative**

Makes notification to and assists with activities of pallbearers, honorary pallbearers, ushers, lodging, meals, and special needs.

### **Public Information Officer**

Provides information to the media and prepares public announcements.

The Incident Commander of the Funeral Planning Team will make other assignments as necessary.

It is important for the Funeral Planning Team to convene as soon as is practical after the line-of-duty death to begin making the necessary arrangements. This becomes especially important when the line-of-duty death occurs on or immediately prior to a weekend or holiday.

In Line-of-Duty Death(s) cases, the level of Fire District participation with the funeral arrangements will be at the discretion of the surviving family, in incidents involving multiple deaths, planning funeral arrangements between the surviving families will require the assignments of more than one officer.

### **Flag Declaration**

Immediately after the announcement, all flags at Fire Stations and other District facilities will be lowered to

half-mast and all badges will be shrouded. Flags will remain at half-mast until the day following the funeral, and badge shrouds will be worn for 30 days after the funeral. Funeral bunting, if used, should remain on fire stations until completion of the committal.

### **Funeral and Procession Attire**

Members attending the funeral in uniform shall wear dress uniform to include tie and badge shroud. Members assigned to apparatus stationed along the procession route shall also be in dress uniform to include tie and badge shroud. They will take a position near the apparatus and maintain an orderly, visible and respectful formation until the entire procession has passed their position.

### **Important Contact Information**

**U.S. FIRE ADMINISTRATION**

**[WWW.USFA.DHS.GOV](http://WWW.USFA.DHS.GOV)**

**16825 S. SETON AVE.**

**EMMITSBURG, MD 21727**

**PHONE: (301) 447-1000 OR (301) 447-6771**

**NATIONAL FALLEN FIREFIGHTERS FOUNDATION - NFFF**

**[WWW.FIREHERO.ORG](http://WWW.FIREHERO.ORG)**

**EMAIL: FIREHERO@FIREHERO.ORG**

**P.O. DRAWER 498**

**EMMITSBURG, MD 21727**

**PHONE: (301) 447-1365**

**LODD HOTLINE (24 HOURS) 1-866-736-5868**

**FAX: (301) 447-1645**

**INTERNATIONAL ASSOCIATION OF FIREFIGHTERS - IAFF**

**[WWW.IAFF.ORG](http://WWW.IAFF.ORG)**

**1750 NEW YORK AVE., NW**

**WASHINGTON, DC 20006**

**PHONE: (202) 737-8484**

**FAX: (202) 737-8418**

**INTERNATIONAL ASSOCIATION OF FIRE CHIEFS - IAFC**

**[WWW.IAFC.ORG](http://WWW.IAFC.ORG)**

**EMAIL: DIRMIC@ICHIEFS.ORG**

**4025 FAIR RIDGE DRIVE, SUITE 300**

**FAIRFAX, VA 22033**

**PHONE: (703) 273-0911**

**FAX: (703) 273-9363**

**WILDLAND FIREFIGHTER FOUNDATION**

**2049 AIRPORT WAY**

**BOISE, IDAHO 83705202.887.5700**

**PH (208) 336-2996**

**FAX (208) 336-2995**

**[WWW.WFFFOUNDATION.ORG](http://WWW.WFFFOUNDATION.ORG)**

**NIOSH**

**FIREFIGHTER FATALITY INVESTIGATION AND PREVENTION PROGRAM**

**[WWW.CDC.GOV/NIOSH/FIREHOME.HTML](http://WWW.CDC.GOV/NIOSH/FIREHOME.HTML)**

**4676 COLUMBIA PKWY**

**CINCINNATI, OH 45226**

**PHONE: (800) 35-NIOSH**

**FAX: (513) 841-4488**

 <p>Standard Operating Guidelines</p>	<b>Series: 201</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>201.09: Law Enforcement Liaison</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

Emergency Response situations routinely involve interaction between Law Enforcement and Fire personnel. In complex situations, however, there is a need for Command level interaction between the two agencies. Command should assign a Law Enforcement Liaison Sector to coordinate functions in this area. The Law Enforcement Liaison Sector Officer will deal with all law enforcement agencies at the scene of the incident.

At major incidents a Law Enforcement supervisor will be requested to report to the Fire Command Post, this should be requested through Alarm. The Law Enforcement Supervisor should be requested to stay at the Command Post with the assigned Liaison Officer. A Fire Liaison Officer may also be assigned to the Law Enforcement Command Post.

**Law Enforcement Liaison Sector**

The Law Enforcement Liaison Sector will coordinate all activities requiring coordination between the agencies, including:

1. Traffic control
2. Crowd control - establishment of fire line perimeters
3. Media access
4. Evacuation - hazardous materials, etc.
5. Fatalities
6. Crime scenes - (bombings, etc.)
7. Persons interfering with Fire District operations

The assigned Liaison Officer will be responsible for determining the specific needs of each situation and communicate them to the Law Enforcement Supervisor. The Liaison Officer and Law Enforcement Supervisor should remain at the Command post to facilitate continuing communications.

Some situations are naturally more of a Law Enforcement responsibility than a Fire responsibility. In these situations the Law Enforcement Liaison Sector Officer should report to the Law Enforcement Command Post to coordinate requests for assistance from the Law Enforcement Agency to the Fire District. At crime scenes the Fire District often operates in a supporting role to the Law Enforcement Agency, providing specialized equipment or expertise. All personnel must be aware of the Law Enforcement Agency's jurisdiction.

When responding to assist the Law Enforcement Agency with a major incident, the first unit should proceed to the Law Enforcement Command Post to establish Liaison - all other units will Stage.

Dead bodies are a responsibility of the Law Enforcement Agency, delegated by the Medical Examiner.

**Traffic Control**

Alarm will automatically notify the Law Enforcement Agency of the need for traffic control at any working fire. When the need for traffic control is urgent or complex, this should be reported to Alarm to be relayed to the Law Enforcement dispatcher. Time will be saved if specific traffic control locations are relayed through Alarm (Example: "Have P.D. close Southern Ave at Idaho Rd.").

When special Traffic Control measures are needed, such as with hazardous materials incidents, the basic requirements may be relayed through Alarm with a request for a Law Enforcement Supervisor at the

Command Post.

### **Crowd Control**

The Law Enforcement Agency will enforce a Fire line as identified by the Fire District. It is the responsibility of the Law Enforcement Agency to keep unauthorized persons outside this Fire line. Authorized personnel inside this fire line are the responsibility of the Fire District, including news media, utility personnel, etc. Command must identify the area to be controlled to the Law Enforcement Agency, keeping in mind the possible dangers of the situation and the area needed for operations. The Law Enforcement Liaison Officer is responsible for coordinating the location and establishment of the Fire line with the Law Enforcement Agency and directing the work of Fire District personnel assigned to place FIRE LINE tape.

Fire and Law Enforcement Liaison Officers should coordinate access for the media and provide a safe assembly area for reporting and interviews with PIO's.

### **Evacuation**

At incidents involving exposure of large numbers of citizens to some danger, such as hazardous materials incidents, it may become necessary to use Law Enforcement Officers to effect and maintain evacuation of an area. In these cases it is essential that a Law Enforcement Liaison Sector Officer and a Law Enforcement Supervisor work together to coordinate resource requirements and assignments, establish perimeters and exchange information. Accurate and timely information must be shared by both agencies to minimize risks to personnel and the public.

### **Persons Interfering With Fire District Personnel**

When Fire District personnel encounter interference from anyone at the scene of an incident, a specific request shall be made to Law Enforcement Agency identifying the type of problem encountered and the desired action. In such circumstances a Law Enforcement Liaison Sector Officer shall be assigned to work with the Law Enforcement Supervisor.

If the situation reaches a point where Fire District personnel are physically endangered by an unstable situation, Fire District units will withdraw until the Law Enforcement Department can stabilize the situation. The Law Enforcement Liaison Officer will work with the Law Enforcement Commander in coordinating the re-entry of units into such areas. Unstable civil situations are a Law Enforcement responsibility and Fire District personnel and equipment will not be used in violent crowd control situations except in self-defense.

Following a fire for which no responsible party is available, it may become necessary to leave the premises or valuable property in the possession of the Law Enforcement Agency. At major incidents, the Law Enforcement Liaison Sector Officer will handle the details of this transfer of responsibility with the Law Enforcement Supervisor.

 <p>Standard Operating Guidelines</p>	<b>Series: 201</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>201.10: Additional Resources</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

### **Purpose**

The decisions required to provide for adequate resources are an important factor in effective emergency incident management. This guideline will help Command balance the tactical problems with the resources required to control problems and stay ahead of the situation through effective forecasting. Beware of "Crisis Management" where the situation grows at a rate faster than the response recovery. Command may end up with an out of control situation and inadequate resources to control it.

If Command begins to debate whether or not to call another alarm - in such cases "call for it". If the extra resources are not needed, they can easily be put back in service.

### **Escalating Incidents**

In escalating incidents, Command should utilize the greater alarm mechanism -- it is the quickest, provides for automatic move-ups and indicates in a standard manner that the fire problem is in an expanded mode. Command should resist the temptation to request assistance in a piecemeal fashion. Additional alarms should be struck sequentially which includes going from a 3 and 1 assignment to a 1st alarm to a 2nd alarm, etc.

It is the continuing responsibility and function of Command to determine the resources required to control the situation and to provide for the timely call for any additional resources required. The early call for additional resources will tend to consistently "save the day."

Command must be aware of both the capability and response time of additional resources and effectively integrate these facts into calls for additional resources.

Some tactical situations move slowly, while some move very quickly. Command must call for additional resources at a rate that stays ahead of the incident. Some situations require the categorical call for additional alarms or upgrading an assignment upon knowledge of particular characteristics or conditions. In other situations, Command will initiate some fire control activities, ask for reports and, based upon receipt of bad news, will strike more alarms.

When calling for additional resources, Command must expand the incident arrangement system to manage the additional resources. Command cannot encounter a big fire situation, call additional alarms and then expect to effectively manage the additional resources in a single alarm command mode.

### **When to Summon Additional Resources**

1. An actual or potential fire situation exists and the life hazard exceeds the rescue EMS capabilities of initial alarm companies.
2. The number, location and condition of actual victims could exceed the rescue/removal/treatment capabilities of companies.
3. An actual or potential fire situation exists and the property protection demand (both internal and external) exceeds the fire control capabilities of initial alarm companies.
4. Fire conditions become more severe or the situation deteriorates significantly.
5. All companies have been committed and the fire is not controlled.
6. Forces are depleted due to exhaustion or injury or are trapped or missing: Command must forecast the effect the fire will have on personnel and provide for the support of such personnel in advance.

7. Command runs out of some resources (people, apparatus, water, equipment, command, etc.).
8. There is evidence of significant fire, but companies are unable to determine location and extent.
9. The commitment of companies is not effective.
10. Companies cannot effectively perform early loss control operations.
11. Situation becomes so widespread or complex that Command can no longer effectively "cope"-  
-the situation requires larger command organization and more sector functions.
12. The weather is or has the potential to have a particularly exhausting effect on resources.
13. Command instinctively feels the need to summon additional resources--(don't disregard fireground hunches).

 <b>Standard Operating Guidelines</b>	<b>Series: 201</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>201.11: Air Operations</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

This guideline will provide information regarding the operation with the various helicopter companies which Superstition Fire & Medical District (SFMD) members may deal with at emergency and non-emergency scenes.

**Scope**

Several public and private helicopter services are available to the Mesa Regional Dispatch Center area for various purposes, including emergency medical transportation, rescue from inaccessible locations, aerial reconnaissance of emergency scenes, brush fire fighting, and emergency transportation of personnel and/or equipment.

The agencies involved in these services and available for emergencies are:

1. Air Evac
2. Life Net
3. Mesa Police Department (Falcon)
4. Native Air Ambulance
5. Department of Public Safety
6. Phoenix Police Department
7. Sheriff's Departments (Fox)
8. Arizona Army National Guard
9. Television Stations Channels
10. Air Services International

**Guidelines**

Each agency's operating guidelines, along with equipment and training limitations, present different operational capabilities. Command should request the type of helicopter and pilot support needed for a particular situation. Information on each agency is maintained in the CAD system.

Unless approved by the Ops Chief, Fire personnel should not fly with pilots or in aircraft that have not been approved and appropriately carded. If Command has a concern about the ability of the pilot or the overall safety of the operation, Command should stop the operation immediately.

**Emergency Medical Transportation**

Helicopter transportation is available for patients within city areas, when time and distance affect ground transportation time. When sufficient ambulances are unavailable, or when patients are in locations inaccessible to ground units, helicopter transportation should be considered.

Medical helicopters are capable of carrying only one immediate patient. Additional helicopters should be requested for incidents involving multiple immediate patients. These aircraft are not approved for Technical Rescue air operations.

DPS helicopters are capable of carrying one patient only. DPS helicopter pilots must be advised of a litter patient before taking off or landing so that the interior of the helicopter can be put in proper configuration to

accommodate the patient.

Helicopter medical transportation should be considered for immediate trauma patients requiring urgent surgery, patients requiring specialized treatment (OB, pediatric, burns, neurological), or any other patient Medical Control deems necessary.

### **Aerial Reconnaissance**

Aerial observation may be desirable to assist Command in complex situations. This has proven extremely effective in brush fire fighting, complex structural fires involving difficult access, high rise fires and for tracking direction and distance of air contamination at haz-mat fires. Helicopters may be requested to place a Fire District observer overhead with communications to Command.

Helicopters belonging to television stations and other media aircraft have been requested to avoid interference with ground operations. The same rules apply to landing in the incident area as apply to any other helicopters.

News station helicopters may be requested to provide assistance at incidents. Most news station helicopters have the capability to communicate on fire channels.

During major incidents, Command may request to have the surrounding airspace restricted to avoid interference with emergency operations. The request must be made to the FAA Flight Service Station. (Contact information is maintained in CAD file). News helicopters may or may not be restricted from this space at the discretion of command. News helicopters are not approved for use in technical rescue (SPECIAL USE) operations except as aerial observers.

### **Transportation of Personnel and/or Equipment**

Helicopters may be requested for transportation of personnel and/or equipment urgently needed at the scene of an emergency, particularly when distance is a factor. The request for assistance should include the number of personnel and the weight and volume of equipment to be transported.

Helicopters may also be used to transport personnel and equipment to the top of a high-rise building or across difficult terrain for firefighting purposes. An appropriately sized landing zone should be identified in close proximity to the staging area, with enough space and separation to provide for safe operations.

NOTE: Helicopters are restricted from flying over occupied structures with any external load. Roadways may be closed and used as flight paths.

### **Brush Fire Fighting**

Two methods of brush fire fighting are available using helicopters. The Phoenix Police Air Unit has the ability to put two Bambi Buckets in service and are available to respond to brush fires to provide aerial water drop capability.

The Mesa Police Department has the ability to put one Bambi Bucket in service.

The Phoenix Fire Department currently has four buoy wall tanks. Mesa Fire Department has one buoy wall. The buoy wall tanks will hold either 3,000 or 4,000 gallons of water.

The Bambi Buckets can hold from 67 to 96 gallons of water, depending on air temperature and humidity and may be filled from a canal, buoy wall tank, or any other body of water that is available.

All drop instructions and reporting effectiveness of drops will be relayed to pilot by Command or an individual designated by Command. All personnel will remain clear of the drop zone.

NOTE: Helicopters with full buckets are prohibited from flying over occupied structures or traffic. Roadways must be closed or structures evacuated if no other flight path can be used.

## **Buoy Wall Set-Up**

The engine company assigned to the landing zone sector will assist the water tender driver with set up and filling the buoy wall tank. The buoy wall must be set up in a large flat area clear of overhead obstruction. Place one or two salvage covers on the ground to protect the bottom of the tank. Buoy wall tanks fill from the bottom only. Start filling the tank slowly after approximately one foot of water is in the tank the flow rate can be increased. Foam concentrate can be added to the tank when it is about one foot from the top.

**NOTE:** Apparatus must be kept at least 150' to the side of the flight path of helicopters dipping the tank.

## **PFD Contract Helicopter Services**

This service is provided by contract with the Phoenix Fire Department and involves an hourly charge for service. These helicopters can drop approximately 120 gallons of water on each pass over the fire. The drop can be directed on one spot or along a running pass.

One or more helicopters may be requested for the operation. Average flying time per fuel load is 1-1/2 to two hours and a refueling vehicle can be dispatched to the scene.

An engine company shall be assigned to control the landing zone. A supply line shall be laid from a hydrant and two 1-1/2 inch lines shall be extended. Lines are to refill belly tanks, wet down area, and to provide fire protection.

Crews will approach the helicopter only after making eye contact with the pilot and the pilot has to refill and re-arm belly tank. All refilling is done from the right side of the aircraft.

Crews will approach and withdraw along the same path; to front of the aircraft within 45 degrees. When the crew is clear and off to the sides, the landing zone officer will signal the pilot for take-off.

All drop instructions and Command or an individual designated by Command will relay reporting effectiveness of drops to pilot. All personnel will remain clear of the drop zone.

## **Rescue**

Helicopters are particularly suited for physical rescue of persons stranded in inaccessible locations. Depending on the location of the victim, a helicopter may be useful in removing the victim or placing rescue personnel in a position to reach the victim.

Technical Rescue Team personnel, along with proper helicopter agency, should be considered for access to particularly difficult locations. *The risk of using helicopters and placing rescue personnel in dangerous situations must be weighed against the urgency of the rescue situation and must be weighed using the risk management profile.* These considerations may be critical during hours of darkness or poor flying weather.

## **Special Use**

“Special Use” of helicopters is activities that require pilots and rescuers to use certified technical rescue skills to affect the rescue of a patient or patients that are in critical condition or life-threatening situations. These high-risk operations can pose a serious threat to the life safety of both patients and rescuers.

The following are considered “Special Use” helicopter operations:

1. External load (sling loads, longlines, water bucket, etc.)
2. Hover sites (low-level hovering)
3. Helicopter rappelling (insertions and extraction's)
4. Flights conducted below 500 feet above ground level (AGL)
5. Helicopter operations around a fire perimeter
6. Single skid landings
7. Any takeoff or landing requiring special pilot technique due to terrain, obstacles, or surface condition.

Any “Special Use” of helicopters during rescue operations will require a Technical Rescue Sector to be

established by Command. It shall be the responsibility of the Technical Rescue Sector officer to establish and coordinate the rescue plan with the Police pilots and Fire Command.

Special Use” helicopter operations shall only be performed by certified Police Department pilots and Fire District Technical Rescue Technicians. Prior to initiating any rescue operation that required the “Special Use” of a helicopter, a risk benefit analysis will be completed by Technical Sector Officer (T.S.O), Police pilot, and Command. The “Special Use” operation will only continue if this analysis determines the patient to be in critical condition, or a life-threatening situation exist for the patient(s) or rescuers.

“Special Use” landing zones are defined as any landing zone where the pilot cannot land and shut down power to the aircraft. “Special Use” landing zones are technical by nature and shall be staffed by members of the Technical Rescue Team at both the base and off-site landing zones

### **Helicopter Load Calculation**

Any “Special Use” of helicopters during rescue operations will require proper load calculations to be completed. Before initiating a rescue the pilot will perform a power check. After landing, the pilot will meet with the Technical Rescue Sector officer or a representative; together they will complete and sign the helicopter load calculation form. *The load calculation form will be required for both internal and external loads.*

The load calculation form will be retained by Technical Rescue Sector officer and submitted with the T.R.T. rescue report.

The pilot will insure that proper loading procedures are followed. All helicopters will be flown within the center-of-gravity envelope and gross weight limitations.

### **Communications**

Air-to-Ground communications shall be used whenever possible to give landing instructions to approaching helicopters.

Direct air-to-ground communications shall be established between the helicopter and Landing Zone personnel. Personnel in the landing area should have direct communications with the pilot before landing.

When helicopters are actively engaged in operations at the scene of an incident, Command should assign all helicopter communications to a separate radio channel and designate a person to work exclusively with this channel.

“Special Use” operations require a designated radio channel that is clear of any other traffic.

**NOTE:** National Guard helicopters have no direct communications capability with Fire District ground units. Landing instructions must be given by hand signals.

Helicopters will not land in the incident area without first making contact with ground units. If unable to make contact on an assigned channel, the arriving helicopter shall circle or hover in the vicinity until contact is established.

Helicopters may be directed to land via hand or light signals when radio communication proves unfeasible. Landings shall not be made in proximity to the incident without positive contact (radios or hand signals).

### **Falcon**

Falcon is the designation for the Mesa Police Department Helicopters.

The designations “Falcon 3 or 4” will be used to identify these helicopters on an incident. These Helicopters can provide aerial reconnaissance, brush fire fighting operations, Transportation, or special use operations.

### **Firebird**

Firebird is the designation for a helicopter operating under the direction of the Phoenix Fire Department. This includes Phoenix Police helicopters providing aerial reconnaissance, brush fire fighting operations, transportation, or special use operations. The designations "Firebird 1,2, or 3" will be used to identify different

helicopters in use on any one incident.

### **Ranger 41**

Ranger 41 is the designation for the helicopter operating under the direction of the Department of Public Safety. This unit is staffed with one DPS officer/pilot, one DPS officer/paramedic, and one Phoenix Fire paramedic. R-41 has capabilities for emergency medical transportation and aerial reconnaissance transportation of manpower and equipment.

### **Fox**

Fox is the designation for MCSO helicopter operating under the direction of the Maricopa county sheriff's office. Fox #1 is a Bell 407 with TRT capabilities. Fox #2 does not have TRT capabilities. Both have "Bambi" bucket capabilities.

### **Landing Zones**

The selection of an appropriate landing zone is of critical importance in all field situations. A suitable landing area must be located and identified for the pilot. **Should anything become unsafe during the approach of any helicopter during landing operations, instruct the pilot to GO AROUND three times.**

Command will assign personnel to select and identify a landing zone. The assigned personnel shall have a portable radio, eye protection, ear protection, high-visibility safety vests and helmets. All personnel assigned to the landing zone operation shall be on the designated landing zone radio frequency. Engine companies are more suitable for this assignment.

**The landing zone must be relatively flat and free of obstructions for an area of at least 100' X 100' for each helicopter.** All spectators, vehicle traffic (including emergency vehicles) and animals must be kept a minimum of 200' away from the landing zone. In the center of the landing zone, a 60' X 60' "touch-down" area shall be identified with appropriate visual markers. The individual communicating with the pilot shall stand at the front right corner (as seen by the pilot) of the touch-down area. A visual check should be made for overhead wires, poles, towers, and similar obstructions. Any obstructions noted must be communicated to the pilot before he/she is committed. The pilot can then assess the obstruction.

The approach and departure paths (into the wind) must be free of obstructions. For heavily loaded helicopters (i.e., water drop), the clear path should extend at least 100 yards in each direction.

Approach and departure paths should not pass over a treatment area, Command Post, or other activity areas where noise and rotor wash will cause problems.

The landing zone should be located at least 100 yards from other activity areas.

The landing zone and surrounding area must be free of small objects, which can be blown around by rotor wash. Check for metal objects, such as trash containers, and secure loose clothing or blankets.

Avoid dusty locations if possible. If the landing area is dusty, or could become dusty due to dry ground conditions, wet down a 200' X 200' area with a hose line before landing.

Once a helicopter has landed, the pilot may elect to shut down for added safety in the landing zone. While the helicopter is on the ground, whether running or not, a "tail guard" shall be stationed 50-100' feet from the tail rotor to keep the area secured. **At no time will personnel pass behind the body of the helicopter and the tail rotor.**

Radio contact and the landing zone shall be maintained for 2-3 minutes after departure of the helicopter in case an in-flight emergency is experienced and the helicopter needs to return to the landing zone.

### **Helicopter Safety Factors**

1. Approach and depart helicopter from the front or 45 degrees from the front, in a crouching position do not stand fully erect; remain in view of the pilot.
2. If you see something that may be dangerous say something.
3. Establish eye contact with pilot or observer before approaching if rotors are moving.

4. Do not approach helicopter after landing until pilot or observer signals approval to approach aircraft.
5. Approach and depart in pilot or observer's field of vision (never towards the tail rotor).
6. At no time will personnel approach the tail area of any helicopter.
7. Landing zone personnel shall use helmet with face shields, eye protection, and ear protection. Helmet chinstraps shall be tightened securely.
8. Use a chinstrap or secure hardhat when working around main rotor.
9. Keep landing areas clear of loose articles that may "fly" in the rotor down wash.
10. Provide wind indicators for take-off and landings; back to the wind, arms extended in front of body.
11. Beware of rotor wash. Small objects and clothing (caps, jackets, etc.) can be blown around easily. Do not grab or chase articles blown off by the rotor wash.
12. Be aware the spotlights used to illuminate obstructions can blind the pilot. Extreme caution should be used. Only use spotlights to illuminate the bottom of poles. Do not shine upward.
13. Fasten seat belt upon entering helicopter and leave buckled until pilot signals to exit. Fasten seat belt behind you before leaving.
14. Use the door latches as instructed; caution should be exercised around moving parts or Plexiglas.
15. Do not throw items from the helicopter.
16. Carry tools horizontally and below waist level, never upright or over shoulder.
17. Secure items internally and externally on the helicopter.
18. Provide pilot with accurate weights and types of baggage.

Stage patients waiting to be loaded at least 150 feet away. Secure sheets and blankets and cover eyes during landing.

### **Personal Protective Equipment (PPE)**

PPE consists of clothing and equipment that provide protection to an individual in a hazardous environment.

All fire personnel and crew members will wear the following PPE when operating in or on the helicopter.

**Flight Helmet:** Must provide protection for the head.

**Exceptions:** TRT helmets or helicopter headsets may be used when a flight helmet is not necessary. (Flight helmets must be worn during long-line operations.) Fire helmets may be used by brush fire fighters being transported to and from sites and fire fighters in full protective clothing.

**Fire Resistant Clothing:** Nomex jumpsuit with length sufficient to eliminate exposure between boots and gloves, or structural firefighting coat and pants.

**Exception:** Brush fire fighters may wear FR pants and Nomex brush jacket.

**Leather Boots:** Should extend above ankle and be steel toe.

**Exception:** Working in an environment not conducive to wearing leather boots. (I.e. hiking boots)

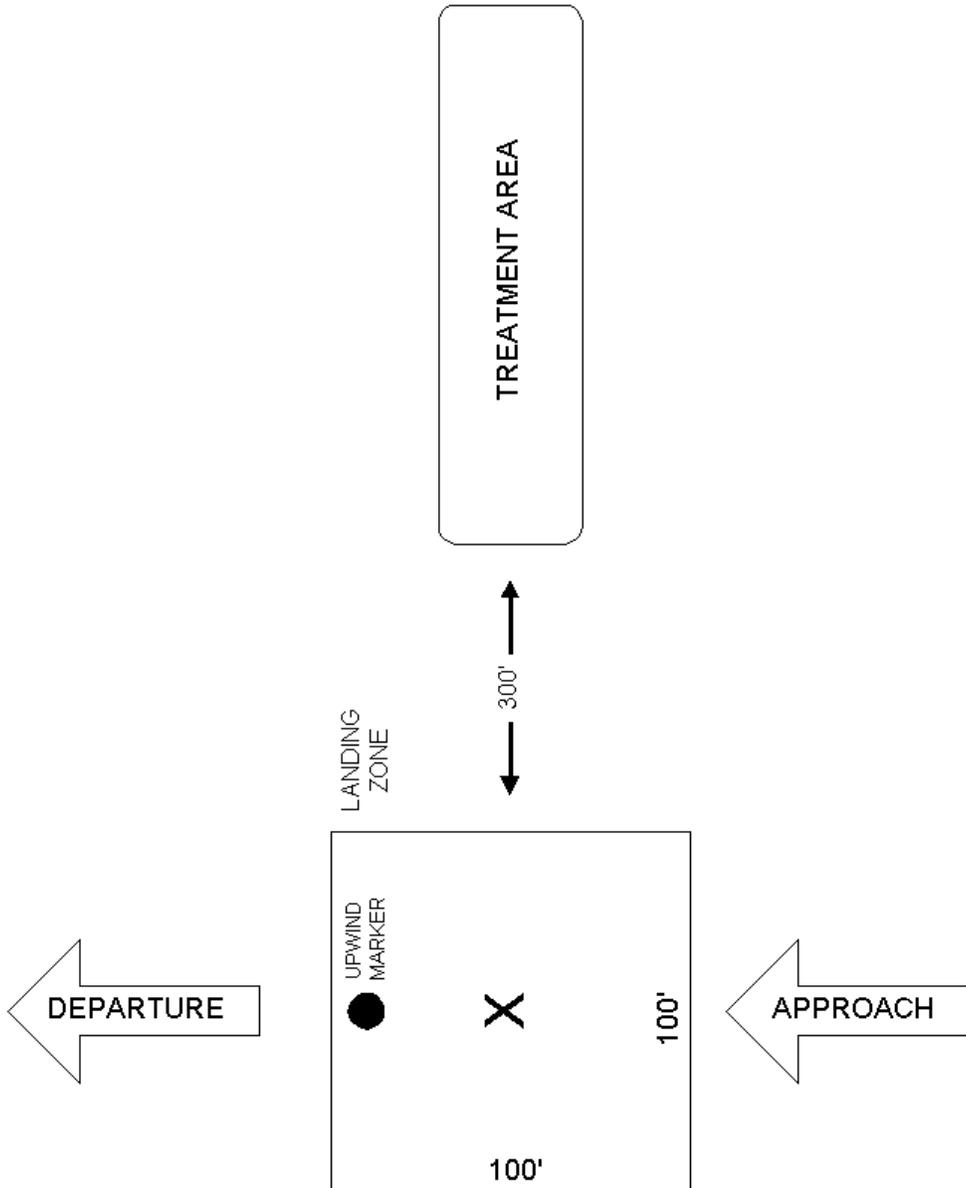
**Eye protection and ear:** Should always be worn in the area of helicopter ops.

**Gloves:** Should be leather or Nomex and leather.

## Surface Selection

In order of preference, the following are types of surface compositions

1. Concrete
2. Asphalt
3. Grass
4. Compacted dirt (lightly moistened to control dust)
5. Dry, loose dirt/sand (heavily moistened to control dust)



## Helicopter Hand Signals



**CLEAR TO START ENGINE**



**TAKEOFF**  
Right hand behind back  
Left hand pointing up



**HOLD-HOVER**  
Place arms over head with clenched fists



**MOVE UPWARD**  
Arms extended sweeping up



**MOVE DOWNWARD**  
Arms extended, palms down, arms sweeping down



**MOVE RIGHT**  
Left arm horizontal  
Right arm sweeps upward to position over head



**MOVE LEFT**  
Right arm horizontal  
Left arm sweeps upward to position over head



**MOVE FORWARD**  
Combination of arm and hand movement in a coloring motion pulling toward body



**MOVE REARWARD**  
Hands above arm, palms out using a shaving motion



**RELEASE SLING LOAD**  
Left arm down away from body. Right arm arcs across left arm in a slashing movement from above



**LAND**  
Arms crossed in front of body and pointing downward with backs to wind



**SHUT OFF ENGINE**  
Slash across throat

 <b>Standard Operating Guidelines</b>	<b>Series: 201</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>201.12: After Action Review (AAR)</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

## Purpose

An **After Action Review**, or **AAR**, is a professional discussion of an event after a response has concluded for the purpose of analyzing what happened, why it happened, and how to sustain strengths and improve upon weaknesses in order to continually develop our members. This is another tool that can be used in order to get maximum benefit from reviewing our own incidents (big or small, simple or complex).

After Action Reviews occur each and every day, whether we know it or not. Around the coffee table at the station, or on the tailboard of the truck, AAR's are constantly occurring. By asking and answering the following questions (and sharing the results) we can improve subsequent incidents.

- A. What was our intention?
  1. What was the nature of the call? Could it have been anticipated and planned for?
  2. What was the action plan or lack of action plan? Did it work?
  3. What were the expectations and how did we prepare?
  4. Were our expectations different than our findings?
  5. How were the communications?
- B. What went well?
  1. What actually happened?
  2. Did we have the right resources?
  3. Discuss the event and actions chronologically from all perspectives.
  4. What were the outcomes?
  5. What did we learn?
  6. Experience vs. procedure
  7. Was everything done to make this a successful operation?
- C. What could have gone better?
  1. Did we see any unsafe behaviors?
  2. Did we recognize any problems?
  3. Were there any unanticipated obstacles?
  4. How was overall situational awareness on the scene?
  5. Were risks and hazards recognized?
  6. Did our training prepare us?
- D. What might we have done differently?
  1. If you ran the same incident today, what would be done differently?
  2. Were there any risks that could have been predicted?
  3. What actions or techniques could have enhanced outcomes?
- E. Who needs to know?
  1. How can the lessons learned help the rest of our organization?
  2. What is the plan to share this information with others?

Non-judgmental communication is the key to asking and answering these types of questions. Each member's

comments should be valued and taken seriously.

## **C**ontinuous **Q**uality **I**mprovement

*Analyze it.....Refine it.....and Improve it*

 <b>Standard Operating Guidelines</b>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.01: Standard Company Responsibilities</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

Standard company operations assign basic fireground functions and activities to the various companies based upon the capability and characteristics of each type of unit.

1. Standard company operations assign major fireground functions to the particular company who can best accomplish the operation.
2. Standard company operations integrate the efforts of engine, ladder and rescue companies to achieve effective rescue, fire control and loss control activities.
3. Standard company operations increase the awareness and confidence of company members in the standard performance of other companies operating on the fireground.
4. Standard company operations reduce the amount and detail of orders required to get companies into action on the fireground.

The following items represent the standard operating guidelines that will normally be performed by engine, ladder and rescue companies. These basic functions will provide the framework for field operations for these companies:

**Engine Company Functions**

1. Search, rescue and treatment
2. Stretch hose lines
3. Operate nozzles / master streams
4. Pump hose lines
5. Loss control
6. Continuous water supply

**Ladder Company/Tender Functions**

1. Search, rescue and treatment
2. Ventilation
3. Forcible entry
4. Raise ladders
5. Provide access/check fire extension
6. Utility control
7. Provide lighting
8. Operate ladder pipes (aerials and platforms only)
9. Perform overhaul
10. Extrication
11. Loss control

In Level I Staging situations, first arriving engine, ladder, and rescue companies will automatically perform these functions as required unless ordered otherwise by Command. These companies will advise Command on the type of function they are performing. Company officers will determine based upon conditions, the priority of the functions for their company unless otherwise ordered by Command.

This does not limit a company to only its listed functions. Every company will be expected to perform all basic functions safely within the limits of their capability, and it will be the on-going responsibility of Command to integrate tasks and functions as required with the on-scene units.

In the absence (or delay) of ladder company response, Command should assign ladder functions to an engine company: "Engine 261, perform ladder functions." In such cases, engine companies will perform all ladder functions within the capability of their company.

The assignment of these basic operations represents a standard fireground plan for tactical operations designed to improve the effectiveness and safety of all units working together. This plan should in no way limit the initiative of any officer and should enhance the decision making process of all officers by establishing a standard operational framework.

 <p>Standard Operating Guidelines</p>	<b>Series: 202</b>	<b>Volume II:</b> Standard Operating Guidelines
	<b>202.02: Fireground Factors &amp; Strategic Decision Making</b>	
	<b>Effective Date:</b> July 2015	<b>Revision Date:</b> June 2015
	<b>Approved by:</b> Emergency Services	

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 <p>Standard Operating Guidelines</p>	Series: 202	Volume II: Standard Operating Guidelines
	202.03: Offensive & Defensive Strategies	
	Effective Date: July 2015	Revision Date: June 2015
	Approved by: Emergency Services	

**Purpose**

The following guideline outlines the fireground strategy to be used at structure fires. Fireground operations will fall in one of two strategies, **Offensive** or **Defensive**. The two strategies are based on a standard Risk Management Plan that is to be considered at all structure fires.

**Within A Structured Risk Management Plan:**

**WE WILL RISK OUR LIVES A LOT, IN A HIGHLY CALCULATED AND CONTROLLED MANNER TO PROTECT A SAVABLE LIFE**

**WE WILL RISK OUR LIVES A LITTLE, IN A HIGHLY CALCULATED AND CONTROLLED MANNER TO PROTECT SAVABLE PROPERTY**

**WE WILL NOT RISK OUR LIVES AT ALL TO PROTECT LIVES OR PROPERTY THAT ARE ALREADY LOST**

Considering the level of risk, the Incident Commander will choose the proper strategy to be used at the fire scene. The strategy can change with conditions or because certain benchmarks (i.e. All Clear) are obtained. The strategic mode will be based on:

1. The rescue profile (savable occupants/survivability profile)
2. The building (type of construction, condition, age, etc)
3. Structural integrity of the building (contents vs. structural involvement)
4. The fire load (what type of fuel is burning and what's left to burn)
5. The fire and/or smoke conditions (extent, location, etc.)

The Incident Commander is responsible for determining the appropriate fireground strategy. Once the appropriate strategy is initiated, it becomes the Incident Commander's job to ensure that all personnel are operating within the strategy. By controlling the fireground strategy, the Incident Commander is providing overall incident scene safety. The proper strategy will be based on the following:

1. Avoiding simultaneous offensive and defensive strategies in the same fire area. This incorrect combination of strategies happens by first committing personnel to interior positions, then opening up on them from exterior positions with master streams. Once the two strategies have been used in this fashion, there will be no winners in the interior. If Command uses an offensive strategy on one portion of a building and a defensive strategy on another part of the building “strategic separation” shall be implemented to ensure offensive fire operations are not adversely impacted by the defensive operation. (i.e. master streams striking FF’s, overloading buildings with water weight, monitoring safe collapse zones around compromised structures).
2. Matching the appropriate strategy to need for rescue and the fire conditions of the structure, and minimizing risk to firefighters.

Managing fireground strategy must start with the arrival of the first unit and be constantly monitored and evaluated throughout the entire incident. The initial Incident Commander will include the fireground strategy in the on-scene report. As Command is transferred to later arriving officers, these new officers “assuming command” must evaluate the fireground strategy based on the Risk Management Plan.

Fireground strategy provides a starting point to begin fireground operations. Once the strategy is announced,

all the players involved should know what to expect, as far as the position and functions of themselves and one another. The fireground strategy cannot be a mystery to anyone, everyone operating on the fireground should be operating in the same strategy mode, Offensive or Defensive.

### **Offensive Strategy**

Within the framework of the Risk Management Plan, the structure must first be determined to be safe to enter. Once determined safe, an Offensive Fire Attack is centered on rescue. When safe to do so, Regional Fire Departments will initiate offensive operations at the scene of structure fires. The following are guidelines for offensive fire attacks:

Initial attack efforts must be directed toward supporting a primary search – and/or final extinguishment of the fire post Transitional Attack. Initial deployment utilizing the “Transitional Attack” will reduce the fires size and spread. This will reset the clock and provide Firefighter/occupant survivability and safety.

Determine fire conditions and extent before starting fire operations (as far as possible).

In some cases, the most effective tactical analysis involves an evaluation of what is not burning rather than what is actually on fire. The unburned portion represents where the fire is going and should establish the framework for fire control activities and requirements.

Command must consider the most critical direction and avenues of fire extension, plus its speed, particularly as they affect:

1. Level of risk to firefighters
2. Rescue activities
3. Confinement efforts
4. Exposure protection

Command must allocate personnel and resources based upon this fire spread evaluation.

Command must not lose sight of the very simple and basic fireground reality that at some point firefighters must engage and fight the fire. Command must structure whatever operations are required to put water on the fire. The rescue/fire control-extension /exposure problem is solved in the majority of cases by a fast, strong, well-placed attack. Command must establish an attack plan that overpowers the fire with actual water application, either from offensive or defensive positions.

Command must consider the **7 sides** (or sectors) of the fire: front, rear, both sides, top, bottom, and interior. Fires cannot be considered under control until all 7 sides are addressed. Not doing so results in fire extension.

Where the fire involves concealed spaces (attics, ceiling areas, construction voids, etc.), it becomes paramount that companies open up judiciously to control air flow to the fire, and operate fire streams into such areas. Early identification and response to concealed space fires will save the building.

Command must get ahead of the fire. Command must make critical decisions that relate to cutoff points and must develop a pessimistic fire control strategy. It takes a certain amount of time to get water to a location, and the fire continues to burn while the attack is being set up. Command must consider where the fire will be when attack efforts are ready to actually go into operation; if misjudged, the fire may burn past the attack/cutoff position before resources and personnel are in position. Don't play "catch up" with a fire that is burning through a building(s) the fire will usually win all these races. Project your set-up time, write off property and get ahead of the fire. Set up adequately ahead of the fire, and then overpower it.

**Write-off property that is already lost** and protect exposed property, based on the most dangerous direction of fire spread. Do not continue to operate in positions that are essentially lost. The use of hose streams into fire needs to consider the forecasted movement of the fire into unburned areas. Be careful to set up attack positions where unburned property will be spared and the fire is cooled at the fire front.

The basic variables relating to attack operations involve:

1. Location/position of attack
2. Size of attack

### 3. Support functions

Command develops an effective attack through the management of these factors. Command must balance and integrate attack size and position with fire conditions, risk and resources.

Many times offensive/defensive conditions are clear cut and Command can quickly determine the appropriate strategy. In marginal situations Command should initiate a transitional attack, from a safe distance, prior to committing resources interior. In extremely rare cases, the situation is MARGINAL and Command must initiate an offensive interior attack, without initiating a Transitional Attack. **THE ONLY REASON TO OPERATE OFFENSIVELY IN MARGINAL SITUATIONS IS RESCUE.** The effect of the interior attack must be constantly evaluated, and the attack abandoned if necessary. Strategy changes can develop almost instantly or can take considerable time. Command must match the strategy with the conditions. The Incident Commander controls overall incident scene safety by determining the proper strategy to be used and providing appropriate support.

If the Incident Commander doesn't change strategies from offensive to defensive until the building is disassembling itself due to structural damage, Command is late in strategy determination and on the receiving end of the building's decision governing the new strategy to be employed. Often times when the building gets to make those decisions, firefighters become traumatized (physically and/or emotionally). **The Incident Commander Must Determine The Strategy, The Building Shouldn't.**

Command should abandon offensive marginal attacks when:

1. A primary all clear is obtained and the situation is still marginal.
2. The roof is unsafe or untenable. Especially working fires in large unsupported or lightweight trussed attic spaces.
3. Interior forces encounter heavy heat and cannot locate the fire or cannot make any progress on the fire.
4. Heavy smoke is being forced from the building under pressure and is increasing.

Command needs to constantly evaluate conditions while operating in a marginal offensive strategy. This requires frequent and detailed reports from Sector Officers.

It is imperative that Command assign a Roof Sector, as early as possible, during marginal operations for rapid evaluation of roof conditions. In certain situations Command should strongly consider not committing crews to the interior of a structure unless he/she receives a report from Roof Sector that the roof of the structure is safe to operate on and under. It is better to go from an offensive to a defensive strategy too soon rather than too late.

#### **Defensive Strategy**

The decision to operate in a defensive strategy indicates that the offensive attack strategy, or the potential for one, has been abandoned for reasons of personnel safety, and the involved structure has been conceded as lost (the Incident Commander made a conscious decision to write the structure off).

The announcement of a change to a defensive strategy will be made as "Emergency Traffic" and all personnel will withdraw from the structure AND MAINTAIN A SAFE DISTANCE FROM THE BUILDING. Captains will account for their crews and advise their Sector Officer on the status of their crew. Sector Officers will notify Command of the status of the crews assigned to their sector. A PAR (Personnel Accountability Report) shall be obtained after any switch from offensive to defensive strategy.

Interior lines will be withdrawn and repositioned when changing to a defensive strategy. Crews should retreat with their hose lines, if safe to do so. If retreat is being delayed because of hose lines, and it's unsafe to stay in the building, hose lines should be abandoned.

All exposures, both immediate and anticipated, must be identified and protected.

The first priority in defensive operations is personnel safety, then exposure protection. The next priority may be to knock down the main body of fire. This may assist in protection of exposures but does not replace it as a higher priority.

Master streams are generally the most effective tactic to be employed in defensive operations. For tactical purposes, a standard master stream flow of 750 GPM should be the guideline. Adjustments may be made upward or downward from this figure but it is very significant in the initial deployment of master streams.

When the exposure is severe and water is limited, the most effective tactic is to put water on and, if need be, from the interior of the exposure.

Once exposure protection is established, attention may be directed to knocking down the main body of fire and thermal-column cooling. The same principles of large volume master stream procedures should be employed.

Fire “Under Control” means the forward progress of the fire has been stopped and the remaining fire can be extinguished with the on-scene resources; **it does not necessarily mean that the fire is completely out.** When the fire is brought under control, Command will notify Alarm utilizing the standard radio report of "FIRE UNDER CONTROL." Alarm will record the time of this report. Command must initiate a PAR report from all on scene sectors and crews.

If defensive operations are conducted from the onset of the incident, Command will notify Alarm that there will **not** be a primary search completed for the affected structure(s).

 <p>Standard Operating Guidelines</p>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.04: Tactical Priorities</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Operations		

**Purpose**

Tactical priorities identify the three separate tactical functions that must be completed in order to stabilize any fire situation. These priorities also establish the order in which these basic fireground functions must be performed.

These functions should be regarded as separate, yet interrelated activities, which must be dealt with in order. Command should proceed to the next priority when the current function objective has been completed or sufficient resources have been assigned to complete it and it is being accomplished.

**Tactical Priorities**

Basic tactical priorities are as follows:

**A. Rescue**

The activities required to protect occupants, remove those who are threatened and to treat the injured.

**B. Fire Control**

The activities required to stop the forward progress of the fire and to bring the fire under control.

**C. Property Conservation**

The activities required to stop or reduce primary or secondary loss to property and the negative psychological and emotional impact of the event on the customers.

The objectives of each priority are reflected in the following benchmarks of completion:

1. Rescue – “All clear”
2. Fire Control – “Under control”
3. Property Conservation – “Loss stopped”

While Command must satisfy the objective of each function in its priority order, Command must, in many cases, overlap and "mix" the activities of each to achieve the current benchmark. Notable examples are the frequent need to achieve interior tenability with active/extensive fire control efforts before getting on with primary search, or the need to initiate loss control operations while active fire control efforts are being extended.

**“Umbrella of Service”**

Within the command framework lays an on-going responsibility that is not completed with benchmarks. This is often referred to as the “Umbrella of Service”. The umbrella of service is made up of three on-going considerations. They are firefighter safety, customer service, and loss control.

**Firefighter Safety**

Command continually manages firefighter safety by developing a fireground strategy and emergency scene accountability and adhering to the incident command system. Command also utilizes safety and sector officers to assist with monitoring changing conditions on emergency scenes.

## **Customer Service**

Command, in cooperation with Sector Officers, work throughout an incident to protect the physical and emotional well-being of our customers and to preserve and secure their personal property.

## **Loss Control**

The concept of Loss Control not only addresses salvage and overhaul techniques but also emphasizes the importance of craftsmanship, pride in profession, and compassion for those we service in time of need.

All three of these occur before, during, and after all emergency responses.

This umbrella of service is as important as the tactical priorities and is critical to the success and positive outcome of an incident.

 <b>Standard Operating Guidelines</b>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.05: Primary Search and Rescue</b>			
	<b>Effective Date:</b>	July 2015	<b>Revision Date:</b>	June 2015
	<b>Approved by:</b>	Emergency Services		

**Purpose**

It is a SFMD guideline to perform a primary search in all involved and exposed occupancies which can be entered. Command must structure initial operations around the completion of the primary search. Primary search means companies have quickly gone through all affected areas and verified the removal and/or safety of all occupants.

Time is the critical factor in the primary search process. Successful primary search operations must necessarily be extended quickly and during initial fire stages.

The rescue functions that follow lengthy fire control activities will be regarded tactically as Secondary Search. Secondary search means that companies thoroughly search the interior of the fire area, after “initial” fire control and ventilation activities have been completed. Secondary search should preferably be completed by different companies than those involved in primary search activities. Thoroughness, rather than time, is the critical factor in secondary search.

**“All Clear”**

The completion of the primary search is reported utilizing the standard radio reporting term "ALL CLEAR". It is the responsibility of Command to coordinate primary search assignments, secure completion reports from interior companies and to transmit the "ALL CLEAR" report to Alarm. Alarm will record the time of this report from Command.

The stage of the fire becomes a critical factor that affects the rescue approach developed by Command. The following items outline the basic Command approach to fire stages:

- In “nothing showing” situations, or in very minor fire cases that may pose no obvious life hazard, Command must structure a rapid interior search to achieve and report "ALL CLEAR". (The interior search for victims will also verify no fire.)
- In “smoke showing” and “working fire” situations, fire control efforts should attempt to start from the exterior in a Transitional Attack and move quickly to an interior attack once interior conditions have been made tenable to firefighters. Should an interior attack be initiated first, it must be in situations with a known rescue need or when the seat of the fire cannot be located from the exterior. In these cases the fire attack must be either extended simultaneously with rescue operations in order to gain entry and control interior access to perform the rescue and/or done with the intent to enter and search controlling the ventilation openings in the structure. In such cases, Command and operating companies must be aware the operation is in a rescue mode only until primary search is complete. In “working fire situations”, primary search must be followed by a secondary search.
- In cases of fully involved buildings or sections of buildings, immediate entry and primary search activities become impossible and survival of occupants is improbable. Command must initially report fully involved conditions and that there will not be a report of an "ALL CLEAR". As quickly as fire control is achieved, Command must structure what is, in effect, a secondary search for victims.

Command and operating companies can depend upon reports from family members but cannot depend on reports from spectators to determine status of victims. Control forces should utilize reports as to the location, number, and condition of victims as supporting primary search efforts and teams must extend and complete a primary search wherever entry is possible.

## **Rescue Size-Up**

Command must consider the following factors in developing a basic rescue size-up:

1. Number, location and condition of victims
2. Affect the fire has on the victims
3. Capability of the control forces to enter the building, remove/protect victims and control fire.

Command must make the basic rescue decision:

Do we remove victims from fire?

or

Do we remove the fire from the victims?

Research shows removing the fire is a highly successful, proactive approach to rescue. In some cases, occupants are safer in their rooms (with closed doors) than moving through contaminated hallways and interior areas. Such movement may also impede interior firefighting.

Command must realistically evaluate the manpower required to actually remove victims and then treat their fire-affected bodies. In cases involving such multiple victims, Command must call for the timely response of adequate resources and quickly develop an organization that will both stabilize the fire and provide for the removal and treatment of the occupants.

## **Order of Rescue**

Rescue efforts should be extended in the following order:

1. Most severely threatened
2. The largest number (groups)
3. The remainder of the fire area
4. The exposed areas

Command must make specific primary search assignments to companies to cover specific areas of large, complex occupancies and maintain on-going control of such companies until the entire area is searched. When primary search companies encounter and remove victims, Command must assign other companies to continue to cover the interior positions vacated by those companies.

All initial attack efforts must be directed toward stopping the forward progress of the fire in order to support rescue efforts.

Hose line placement becomes a critical factor in these cases and Command and all operating companies must realize that the operation is in a rescue mode. It may be necessary to operate in a manner that writes off the structure in order to buy rescue time.

Normal means of interior access (stairs, halls, interior public areas, etc.) should be utilized to remove victims whenever possible. Secondary means of rescue (platforms, ladders, fire escapes, helicopters, etc.) must be utilized in their order of effectiveness.

Command must structure treatment of victims after removal. Multiple victims should be removed to one location for more effective triage and treatment. Command should coordinate and utilize paramedic capability wherever available and assign treatment companies as required to an exterior Medical Sector.

Once the primary search has been completed and an "**All Clear**" transmitted, Command must maintain control of access to the fire area; beware of occupants (and others) re-entering the building.

The most urgent reason for calling additional alarms is for the purpose of covering life safety. Command must develop a realistic (and pessimistic) rescue size-up as early as possible.

The term "**Search & Rescue**" should be used to identify the **objective** over the radio.

The term "**Primary All Clear**" should be used as the completion **benchmark**.

 <p>Standard Operating Guidelines</p>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.06: MAY-DAY Communications</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	8/2013
	<b>Approved by:</b>	Emergency Operations		

## **Purpose**

Recent events surrounding multiple firefighter fatalities while operating at fires should cause the fire service to rethink the approach to managing a rescue effort for a reported trapped or missing firefighter. Actions by the incident commander must be quick, decisive, and correct. The situation allows only a very narrow window of survivability for any missing firefighter(s). This guideline will explain the various components to MAY-DAY communications.

## **"May-Day" Radio Message**

The radio message "May-Day" will be used by firefighters to report their status as being in trouble and needing rescue. Any member may use "May-Day" to report a lost firefighter. Any report of "May-Day" will receive priority radio traffic followed by the emergency traffic tone. The term "May-Day" will be reserved only to report missing or trapped firefighters. The term "emergency traffic" will be used to report all other emergencies.

## **Command Responsibilities**

Command will maintain an awareness of the location of firefighters on the fireground, primarily through assignments and the accountability system. In the event that a firefighter cannot be located through a PAR, or any other time a firefighter is missing, the Captain or any member may announce a "May Day." The term "May Day" will indicate a lost or down firefighter. Command shall respond to a "May Day" by implementing a rescue plan for the firefighter(s).

## **Missing Firefighter**

Company officers and individual firefighters who suspect a firefighter is missing must notify the incident commander immediately. The incident commander **MUST ALWAYS** assume that the missing firefighter is lost in the building until the member is accounted for. The system must include the ability to identify when a firefighter is going to be delayed beyond his/her SCBA air time.

The plan should include:

1. Fire operations during rescue operations.
2. Expanding organization
3. Establishing the rescue sector
4. Assign a chief officer to the rescue team
5. Medical operations
6. Family support branch officer
7. Member support--debriefing, etc.
8. Logistics--specialized equipment (Resource Management)
9. Safety
10. Support activities
11. Media control-information management

## **Emergency Traffic**

### **\*Use Emergency Traffic Tones to Announce the Report of a Missing Firefighter\***

All personnel operating at the scene need to be alerted that a firefighter is missing or trapped. The emergency traffic tone followed by a radio update will be utilized.

## **Strategy**

### **\*Change the Strategy and Plan to a High Priority Rescue Effort\***

The Incident Commander must restructure his/her strategy and action plan to include a firefighter rescue effort. This may seem obvious to most. However, Incident Commanders can become overwhelmed by the emotion related to the crisis at hand and may become hooked on reacting to tasks rather than looking at the global picture. This can lead to disorganization and delays that can be fatal to the missing firefighter.

A conscious commitment must be made to quickly develop a rescue plan (see above). Accurate information must be quickly obtained and acted upon. A rapid, well thought out plan must be established. Additional resources must be immediately obtained. Rapid commitment of resources must occur. These resources must be organized and controlled. The Command organization must expand. The plan, strategy, and objectives must be quickly communicated to all command staff and sector officers. The plan and rescue activities must be continually monitored and revised as necessary. Conditions and updated information causes changes in the plan and objectives. The Incident Commander must communicate any changes to the Command staff and sector officers.

## **Additional Alarms**

### **\*Immediately Request Additional Alarms or Mutual Aid\***

In many situations, all resources on-scene may already be committed to firefighting positions. Some firefighters may already be approaching physical exhaustion, or the SCBA's may be nearly empty. Relocating committed forces is difficult and slow. At least one additional alarm (4 engines 2 ladders) should be immediately requested upon a report of a missing or trapped firefighter. Additional multiple alarms may need to be requested based on circumstances and potential. There should be no hesitation in requesting any additional resources.

## **Include a Medical Component When Requesting Additional Resources**

Medical personnel will be needed to treat rescued firefighters. The Incident Commander must ensure that an adequate number of paramedics are responding as well as an adequate number of rescues (ambulances) to transport injured firefighters. The incident commander should understand that the situation is critical, and firefighters sometimes tend to extend their risk taking when searching for a missing firefighter and additional firefighters may become injured in the process. Adequate medical resources must be readily available and on site.

## **Utilize a Centralized Staging Area**

All additional resources will be sent to a centralized staging area. The Incident Commander should commit resources from staging based on needs at the site. Staging controls resources and ensures that there is a route in and out of the scene, free of congestion, for rescues to transport recovered firefighters.

## **Commit the Rapid Intervention Crew (RIC)**

All significant firefighting operations will have a "standby" rapid intervention crew (RIC) near the scene. This team should be fully outfitted with protective clothing, SCBA, etc., and monitoring all tactical radio traffic. Upon report of a missing firefighter, the Incident Commander has a completely fresh crew (or more than one crew for especially high hazard situations), fully outfitted, available for commitment to an immediate search and rescue of the last known area of the missing firefighter(s). The RIC team, or any fresh crew(s) in staging, must be immediately sent to the rescue area. The commitment of additional crews, however, must be controlled and organized.

The significance of the routine use of RIC teams to firefighter survivability on the fireground is substantial. National Fire Protection Association studies reveal that a majority of firefighters are killed while operating on the fireground at residential fires. To combat this risk we will automatically dispatch an additional engine company to the scene upon the report of a working structural fire. Once the fire is declared “under control”, the Incident Commander has the option to cancel the company's response, utilize the company as a fresh crew for heat relief, or to conduct overhaul if needed. At multiple alarms, one or more companies will be assigned this standby function and given the designation "Rescue Sector".

Withdraw companies from the affected area, if appropriate, to obtain roll-call (PAR) and reconnaissance information.

In some situations, such as collapse or explosion, crew members can get separated. The only practical method, to obtain an accurate PAR of affected crews, may be to withdraw them to the exterior. In addition, withdrawal may be the only way to quickly obtain accurate information and reconnaissance on exactly where trapped members may be, routing to victims, debris locations, and the type of rescue equipment needed. Once the roll call and reconnaissance information is quickly obtained, crews can be re-assembled into a more organized rescue effort.

Withdrawal is a judgment call based on circumstances at the time, information available, and resources. It may not be practical or possible to do. However, the absolute need for an accurate roll call and information on missing firefighters remains a critical priority. If it's determined not to withdraw, a detailed roll call must be obtained from each sector for all crews operating under his/her direction.

**Do not abandon Firefighting Positions--Hold Positions and Prevent Fire Spread**

The reasons for a standby rapid intervention rescue crew(s), and the immediate request for additional resources, becomes very clear with this critical fireground need. If a missing firefighter(s) is to survive, the Incident Commander must keep the fire out of the rescue area. Without standby rescue teams, the Incident Commander is in a fatal catch-22 dilemma. Does he/she relocate companies committed to fire combat to the rescue effort and allow the fire to spread? Or does he hold the fire positions and wait for additional resources for the rescue effort? With a RIC team in place, the incident commander can initiate an immediate rescue effort without withdrawing or relocating fire combat companies.

In most situations the Incident Commander cannot allow the fire to spread. If anything, these fire combat positions need to be reinforced. Additional companies from the multiple alarms or mutual aid should be sent to priority positions to keep the fire out of the rescue area. Large caliber handlines and master appliances should be employed. Adequate water supply must be obtained for this reinforced response.

### **Assign a Chief Officer to the Rescue Sector**

The Incident Commander is faced with a time critical crisis. Correct decisions and strong management of rescue operations is essential. A Chief Officer must be assigned to direct the rescue sector and rescue operations. Depending on the size of the rescue area and the complexity of operations, more than one Chief Officer may be needed to fill additional support positions or sectors.

### **Assign a Safety Sector to the Rescue Operation**

Rescue operations are high risk. The operation may be taking place in a post-collapse environment. Flashover may have occurred. Firefighters will tend to want to freelance and take chances that they would not normally take if it were not for fellow firefighters that are missing. The incident commander, sector officers and company officers must avoid additional injuries. Each additional injury requires a resource commitment that will draw away from the priority rescue effort. A safety sector in the affected area will help control the risk taking. The officer will be able to conduct an assessment of the hazards allowing time for the rescue sector officer to concentrate on the critical rescue effort. These sector officers must work hand in hand to insure that a safe and effective rescue operation is conducted.

### **Individual Responsibilities**

1. Follow directions from supervisors.
2. Continue with assignment unless otherwise directed.

3. Keep your cool.
4. Every Captain and Chief on the scene should listen specifically for a "May-Day" as fireground noise could cover a call for the "May-Day".

### **Dispatch Center Responsibilities**

When a firefighter is declared lost or missing the alarm Room will sound emergency traffic tones on ALL tactical channels being used on the fireground; personnel will be advised that a "May-Day" exists for a missing or trapped firefighter.

Command should immediately assign someone to monitor emergency scene channels in the event the missing firefighter attempts to broadcast critical information. Alarm must have the capability to monitor these channels; it is essential that someone monitor the rescue channel (Ch.16).

These firefighter must be advised to remain on whatever channel he/she is currently on and to notify Alarm immediately.

### **Portable Radio Emergency Activation**

When activated, the portable radio Emergency Traffic tone transmits an audible signal to all consoles in the Alarm Room, along with a numerical identification of the unit the portable is assigned to.

Should Alarm receive an emergency activation from a portable radio (button), they will first identify the company which activated the alert. Dispatch will then go to that company's current radio channel for direct contact with the affected company to determine if an emergency exists.

Where the activation may be from an incident where Command has been established, Alarm will contact Command directly. Command will contact the affected companies to determine if an emergency exists.

If the missing firefighter comes up on a channel other than one of the tactical channels, Alarm will maintain communications with him/her on that channel and relay pertinent information to Command. It is essential that once communications have been established they not be lost.

Once the firefighter has been recovered, or at the conclusion of the incident, all personnel and outside agencies will be notified that Alarm is back to normal operating conditions.

 <b>Standard Operating Guidelines</b>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.07: Lost or Trapped (Firefighter Responsibilities)</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Operations		

**Purpose**

The following are basic guidelines for firefighters to follow if they become lost or trapped in a building. The nature of firefighting places the firefighter at risk of becoming lost or trapped. The toxic environment provides only a narrow window of survivability. Survival depends on a mix of predictable self-survival actions by the lost firefighter and direction from the incident commander.

**Basic Self-Survival Responsibilities**

The rescue of trapped or lost firefighters in a burning building is especially time sensitive. There is a very narrow "window of survivability" for a firefighter(s) who is out of SCBA air supply or trapped by approaching fire. Individual firefighters must not delay reporting to Command if they become lost, trapped or in need of assistance. Company officers must not delay the reporting of lost firefighters or inability, to complete accountability reports. Command and sector officers must always assume that the missing firefighter(s) is lost in the building until he or she can be accounted for. Command must restructure the strategy and action plan to include a priority rescue effort, if a firefighter is reported missing.

All personnel entering the Hazard Zone must have a portable radio. Minimum crew size is two and crew members must remain intact. Crews must have an assignment and must be working under the direct supervision of a Sector Officer or Command.

**Call for Help Immediately**

Firefighters who find themselves lost or trapped must immediately use "May Day" 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.

Delay compromises the window of survivability. Lost firefighters should give Command information as to who they are, how many firefighters, what sector they were operating in, where they THINK they are (as accurately as possible), description of building structures surrounding them, sounds of nearby activities, (i.e., ventilation saw noise), or any other information that might direct rescue crews (RIC) to their location. Lost firefighters must activate the portable radio emergency button.

**"MAY-DAY" Radio Message**

The radio message "May-Day" will be used by a lost or trapped firefighter to report their status as being in trouble and needing rescue. Any member may use "May-Day" to report a lost firefighter. Any report of "May-Day" will receive priority radio traffic, followed by the emergency traffic tone. The term "May-Day" will be reserved ONLY to report lost or trapped firefighters.

***The term "Emergency Traffic" will be used to report any other type of emergency.***

Activate portable radio emergency button. The lost or trapped firefighter must activate the emergency traffic button on the portable radio. This will notify Dispatch that a firefighter is in trouble.

**Other Radio Channel**

If a lost firefighter cannot contact Command, dispatch/alarm, or any other units on the assigned tactical radio channel, the firefighter should go to another channel to attempt contact and declare an emergency. Channel 1 (dispatch) is preferred however; Channel 16 is at the opposite end of the channel dial and may be easy to

locate in low visibility or IDLH conditions. Once communication is established, the member should remain on that channel. Messages will be relayed to Command as needed.

### **Activate Pass Device**

As soon as a firefighter recognizes he/she is lost or trapped, the PASS device must be manually activated to sound the audible tone. The device must remain on until rescued. If the device interferes with the lost firefighters communicating critical radio messages to incident commander or rescuers, the device may be turned off temporarily. Once messages are completed, the device must again be manually activated. Members who hear an active PASS device must respond to it as a call for help and report information to Command as appropriate.

### **Crews Stay Together**

Members that separate from each other make it difficult for rescuers to find all firefighters. Crews that stay intact will enhance their chances for ALL being rescued and allows easier and more efficient extrication.

### **Follow the Hose or Lifeline Out**

Crewmembers should stay with the hoseline (or lifeline) and follow it out whenever possible. All firefighters must remember that the female side of the couplings lead toward the nozzle (the fire), male side of the couplings toward the pump (outside). The hoseline should always be treated as a safety line to the outside. Where lifeline ropes are in use, follow the lifeline to the exterior.

### **Search for Exits**

A lost firefighter should always attempt to get out of the building by whatever means possible. Where doors, windows, or other egress is not available, firefighters should next attempt to reach an exterior wall.

Once at the wall he/she will be able to search for doorways, windows, and hallways which generally lead to the outside. Rescuers will first search hallways, around walls, and around windows and doors, before sweeping large interior areas. For this reason, firefighters must avoid collapsing in the middle of open spaces. Getting to hallways, doors, or windows will increase the chances of being rescued early. These actions also provide predictable activities that will aid rescuers.

### **Retreat to a Safe Refuge**

When the firefighter cannot find a way out, but there is a safe refuge (protective room or floor) away from the fire that the firefighter can retreat to, he/she should take advantage of this location. Command and the rescuers should then be advised of the location, by whatever means possible.

### **Stay Calm and Conserve Air**

A conscious effort must be made by the lost firefighter to control breathing. Unnecessary talking or physical activity must be ceased, unless absolutely needed. Firefighters must control and pace their physical exertion activities in order to extend their SCBA air supply.

### **Horizontal Position**

If a firefighter cannot get out, he/she should assume a horizontal position on the floor that maximizes the audible affects of the PASS device. The firefighter should attempt to take this position at an exterior wall, doorway or hallway that maximizes quick discovery by rescue crews.

### **Flashlights/Tapping Noise**

If assuming a position to await rescuers, the firefighter should attempt to position his/her flashlight toward the ceiling. This will enhance the rescuer's ability to see the light and locate the downed firefighter. If able, the firefighter should attempt tapping noises to assist rescuers in locating him/her (i.e. hitting a tool against a metal roll-up door).

## **Company or Sector Officers**

Company officers or sector officers who are unable to locate a crew or firefighters assigned to them, must immediately notify Command and use "MAY-DAY" to notify all personnel operating on the fireground. When possible the company or sector officer should include who are missing, their last known location, and actions being taken. Firefighting positions must not be abandoned during the rescue effort and free-lancing must be controlled by the Company and Sector officers. Command will initiate a rescue effort

## MAY-DAY Safety Checklist

### *"MAY DAY" Lost or Trapped Firefighter*

- Emergency Traffic
- Change the plan to high priority rescue effort
- Request **additional alarms**
- Conduct a PAR--**withdraw crews if needed**
- Assign RIC--**assign Rescue Sector**
- Don't abandon firefighting positions
- Provide reinforcement to firefighting efforts
- Assign Chief officer to Rescue Sector
- Assign Safety Sector
- Expand **Command organization**
- Special call Chief Officers
- Establish Treatment and Transportation Sectors
- Open/unlock all doors
- Ventilate, maintain tenability
- Provide lighting
- Coordinate & control search and rescue efforts
- Assess need for technical rescue **teams**
- Monitor structural stability of building
- Control Media—**Designate PIO**
- Welfare Sector/Branch
- Dispatch to monitor all radio frequencies

 <p>Standard Operating Guidelines</p>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.08: Lost or Trapped (Command Responsibilities)</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

This guideline identifies Command level activities and recommendations related to the search and rescue of a lost or trapped firefighter(s).

**Lost or Trapped Firefighters**

The rescue of trapped or lost firefighters in a burning building is especially time sensitive. There is a very narrow "window of survivability" for a firefighter who is out of SCBA air supply or trapped by approaching fire. Individual firefighters must not delay reporting to Command if they become lost, trapped or in need of assistance. Company officers must also not delay the reporting of lost firefighters or inability to complete accountability reports. Command and sector officers must always assume that the missing firefighter is lost in the building until the firefighter can be accounted for. Command must also restructure the strategy and action plan to include a high priority rescue effort.

**MAY-DAY Radio-Message**

The radio message "May-Day" will be used by lost or trapped firefighters to report their status as being in trouble and needing rescue. Any member may use "May-Day" to report a lost firefighter. Any report of "May-Day" will receive priority radio traffic followed by the emergency traffic tone. The term "May-Day" will be reserved ONLY to report lost or trapped firefighters. The term "emergency traffic" will be used to report other emergencies.

The term "May-Day" typically will be used in the following situations:

1. By the member who is lost, trapped, or in trouble.
2. By the company officer, sector officer, or other member who cannot account for an assigned firefighter who is operating in the hazard zone.
3. The "May-Day" would generally occur following a PAR report that fails to locate/account for the suspected lost member.
4. By a member who witnesses or has confirmed that a firefighter is lost or in trouble.

**Command Response to a Missing Firefighter**

The incident Commander MUST ALWAYS assume that the missing firefighter is lost or trapped in the building until the firefighter is accounted for. Rapid, concise, decisions and actions must be taken to increase survivability. The following is a list of actions to be taken by Command for a reported missing or trapped firefighter. These are guidelines and do not necessarily need to be accomplished in the order listed. The first five (5) must be accomplished very rapidly.

**Emergency Traffic**

Immediately upon a report of a missing or trapped firefighter "Emergency Traffic" will be sounded to alert all personnel working on the fireground of the situation. Following the emergency traffic tone, "May Day" will be announced to alert all operating units of a lost or trapped firefighter (example: "Command to all units on the fireground, we have a 'May-Day' in West Sector, repeat May-Day in West Sector").

## **Change the Plan to a High Priority Rescue Effort**

The Incident Commander must restructure the plan to include a high priority firefighter rescue effort. A rapid, well thought out, rescue plan must be developed and the Command organization expanded. The plan and objectives must be communicated to other Command Staff and sector officers for implementation.

## **Immediately Request Additional Alarms**

At least one additional alarm should be immediately requested including a medical component. Additional multiple alarms may be requested based on circumstances and potential. Level two staging should be implemented. Early consideration should be given to heavy equipment resources and TRT assistance in structural collapses.

## **PAR request**

A Personnel Accountability Report (PAR) must be immediately requested from all companies operating on the fireground. This is especially important in situations of structural collapse. Command cannot develop an effective rescue plan until accurate information is available on the number of missing firefighters; their identity, their last reported work area, and which companies are affected.

## **Commit the Rapid Intervention Crew**

Command will immediately send the rapid intervention crew(s) (RIC) to the most appropriate location to initiate search and rescue efforts (typically the last reported work area). The RIC team will be designated as "Rescue Sector" and coordinate activities at that location. Additional available resources in staging may also be committed to rescue efforts.

## **Withdrawal of Companies From Affected Area**

In some situations, such as collapse, crew-members can become separated. The only practical method to obtain an accurate roll call for a PAR may be to withdraw crews to the exterior. Withdrawal is a judgment call based on circumstances at the time, information available, and resources. It may not be practical or possible to do. However, the absolute need for an accurate roll call (PAR) and information on missing firefighters remains a critical priority.

## **Provide Re-enforcement**

Abandoning firefighting positions during the rescue effort should be avoided. Command and crews should take aggressive measures to protect trapped or missing firefighters from the effects of the fire. Efforts should be concentrated on reinforcing existing positions and keeping the fire out of the rescue area and providing appropriate ventilation and lighting. In some situations it may be appropriate to write off some areas of the building in order to relocate companies and crews to better protect the rescue effort.

## **Assign Chief Officer to the Rescue Sector**

A Chief Officer should be assigned to direct the rescue sector and rescue operations. Depending on the size of the rescue area and the complexity of operations, more than one Chief Officer may be needed to fill additional support positions or sectors. The sector officer will assign specific areas or grids of the building to each rescue team (company) to search before entering the building. Search efforts must be closely coordinated between sectors and Command must be kept informed.

## **Safety Sector**

Rescue operations are high risk. The rescue operation may be taking place in post-collapse conditions or a flashover environment. Emotions may be high and firefighters will tend to want to free-lance and take chances.

A Safety Sector must be assigned to monitor activity and evaluate the safety of the operation. An available Chief Officer should assume this sector as soon as possible. Other Safety Sector responsibilities will be to conduct an assessment of the hazards, thus, allowing time for the Rescue Sector officer to concentrate on the critical rescue effort. These sector officers must work hand in hand to ensure that a safe and effective rescue

operation is conducted.

### **Expand the Command Organization**

With additional resources enroute, along with the critical rescue needs, the Command organization must expand ahead of the demand. The incident may eventually escalate to a Branch level operation. The incident Commander must be proactive and aggressive in developing and expanding the Command organization.

### **Special Call Chief Officers**

Additional Chief Officers will be needed to fill Command team positions and key sectors including Welfare Sector. Command should special call additional Chief Officers, and initiate a call back of off-duty Chief Officers, as needed.

### **Establish Treatment and Transportation Sectors**

The Incident Commander must have treatment personnel in a position to immediately treat any rescued firefighters. A Transportation Sector must also be in place and coordinating activities with the Treatment Sector officer.

### **Open/Unlock All Doors**

All doors in the immediate area should be unlocked or forced open, and at least the immediate interior area quickly searched. Where practical, the doors should be left open to provide an emergency escape route, unless doing so will have negative effects on the fire. In all cases, the doors must remain unlocked.

### **Ventilate, Maintain Tenability / Lighting**

Reducing smoke conditions, through effective ventilation, improves the air quality for any victims, and will enhance search and rescue capabilities through increased visibility of the interior. Both vertical and positive pressure ventilation should be aggressively employed. Early lighting of the operation (both interior and exterior) needs to be included.

### **Coordinate and Control the Search Efforts**

The Incident Commander must ensure that a complete, coordinated and controlled search is conducted. Close coordination of all search efforts is a must in order to eliminate duplicate searches that waste time. All areas must be thoroughly searched.

### **RIC - BAG**

Each rescue team should enter the building with at least one RIC-BAG for each reported lost/trapped firefighter. Missing firefighters may have exhausted their SCBA air supply or may be trapped and cannot be quickly extricated. In each case the firefighter must be provided "clean" air to increase survivability. The kits have a quick refill capability. The RIC-BAGS are carried on each Battalion vehicle and front line engines.

### **Request Technical Rescue Teams**

Technical Rescue Teams (TRT) and other specialized equipment should be requested at all structural collapses that have trapped firefighters.

### **Watch for Structural Stability of the Building**

All personnel must watch the structural stability of the building throughout the rescue effort. Where a structural collapse has occurred, or the fire or other event has compromised the structural integrity of the building, a structural specialist should evaluate the structure. Technical Rescue Teams (TRT) may be called upon to assist with shoring the rescue area, or for the use of other specialized equipment.

## **Strong Supervision Required**

Strong supervision and control of activities will be required by all officers. Emotions will be very high. Firefighters in this situation will tend to want to free-lance or take higher risk. Treatment personnel will need to be restricted to only those needed. Crowd control of Fire District non-essential personnel may be required.

## **Control Media**

Command will need to control the media early and throughout the incident. Information on the identities and conditions of lost firefighters must be restricted until after next of kin are notified. Media film crews should be restricted to areas that are safe and at a distance that will prevent visual/facial identification of any victims.

## **Establish Welfare Sector/Branch**

A Welfare Sector or branch will need to be established early. This will aid in notification of next of kin and allow Command to stay ahead of the media's release of information. A ranking Chief Officer should be assigned to direct this sector/branch. Additional Chief or staff officers will be needed to fill subordinate positions within the sector or branch. (See Welfare Sector)

## **Ensure That Dispatch Monitors All Radio Channels**

Command must ensure that Alarm monitors all radio channels (Channels 1 - 3). Should a lost firefighter declare emergency on a channel other than the fireground tactical channel, Command must be immediately directed to the lost firefighters channel for direct communications

## **Portable Radio Emergency Traffic Activation**

Upon receiving portable radio emergency traffic activation (chirp), Command will immediately request from Dispatch the identification of the company assigned that radio. Contact will be immediately made with that company to determine if a true emergency exists.

## **RIC/Rescue Stand-By Teams**

Due to the high-risk nature of rescue operations, Command must establish another RIC/Rescue to protect rescue crews. The RIC/Rescue should stand-by at a location near the rescue operation. More than one RIC/Rescue may be needed. See Rapid Intervention Crews.

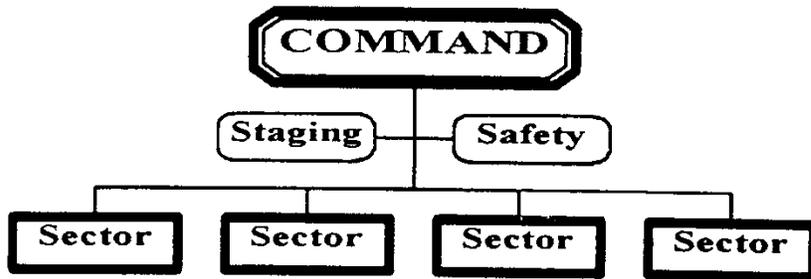
## **General Considerations**

When searching for a lost member, rescue crews should consider the following:

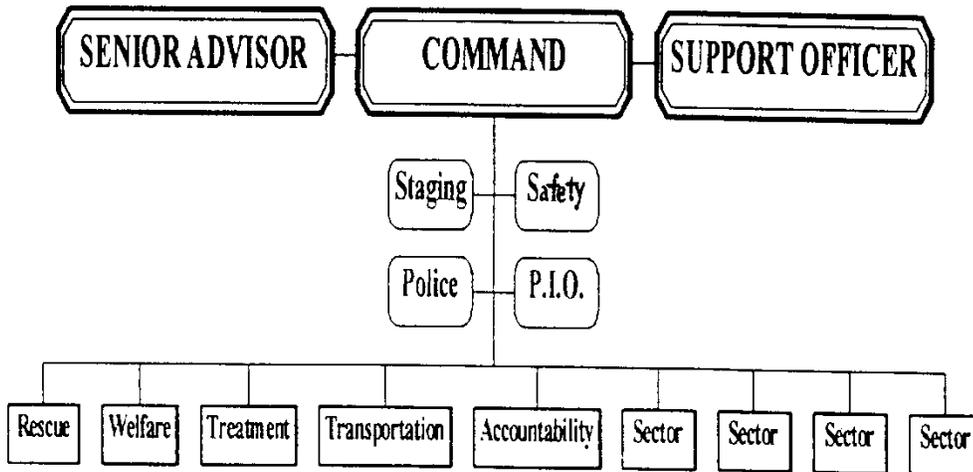
1. Visible sighting of trapped firefighters such as arms or legs.
2. Knowledge of their last known location.
3. The sound of the PASS devices audible tones.
4. Shouts for help from the collapsed area.
5. Tapping noise, etc.
6. Sounds of portable radio broadcast in the collapse area.
7. Breathing, moaning sounds.
8. The sound of the SCBA bell sounding.
9. Radio request for help from portable radios from within the collapse area.
10. Tracing attack hose lines into the collapse area.
11. Tracing of life lines into the area.
12. Evidence of building structures or locations that were described by lost firefighters.
13. Flashlight beams.
14. Location of ladders, fans, lights, or other equipment being used by missing firefighters.
15. Open or unlock all doors

16. Search the immediate area of doorway first
17. Search hallways before interior rooms
18. Search exterior walls (interior sides) before searching interior open spaces
19. Search large interior spaces in a detailed grid pattern
20. Ensure all areas are searched
21. Take one RIC-BAG for each lost firefighter in the search area
22. Use life lines when searching "off hose lines" to ensure safety of rescuers

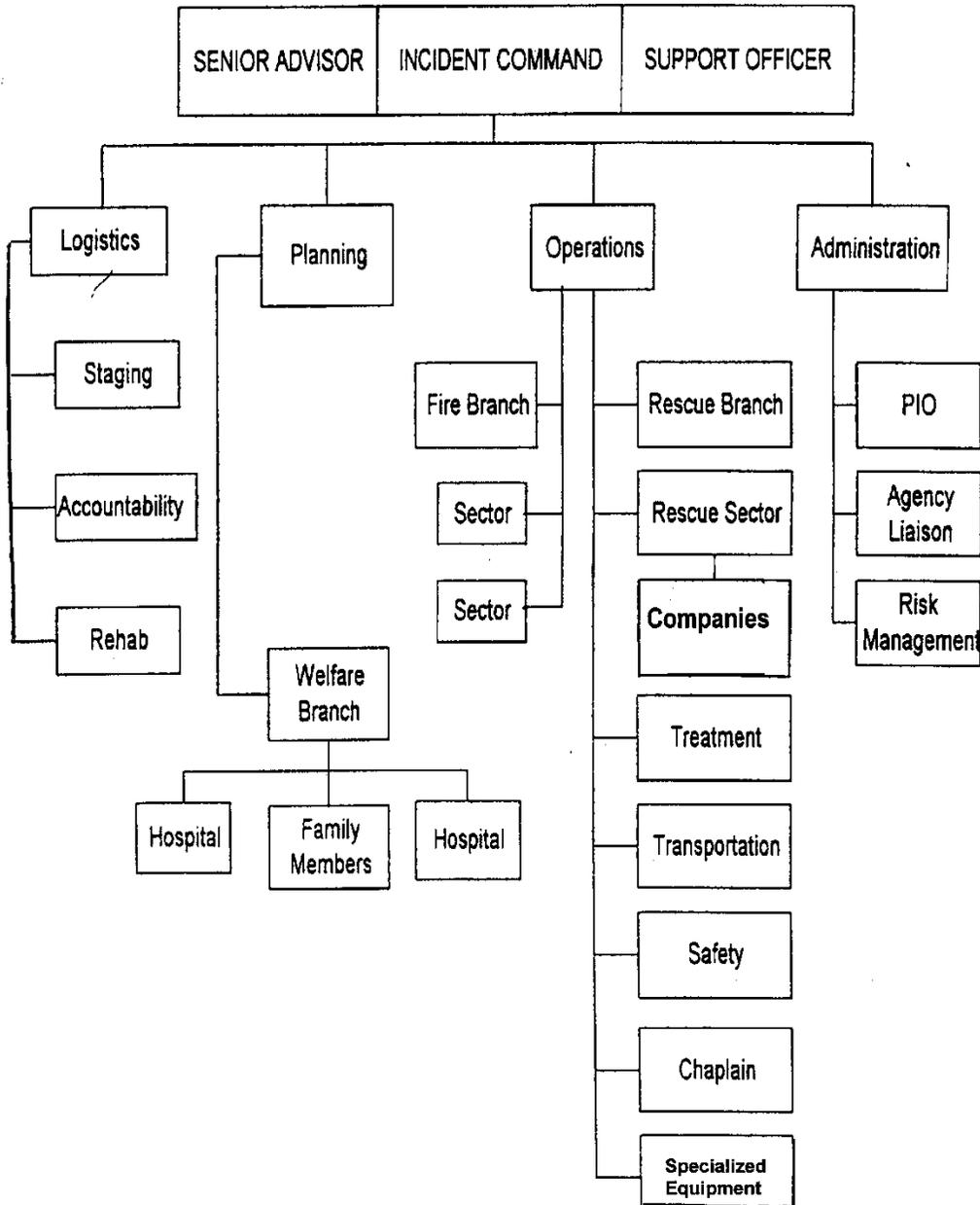
***Lost Firefighter Command Organization  
Initial Command Organization***



*Expanded Command Organization*



*Expanded Command—Section Organization*



## MAY-DAY Safety Checklist

### *"MAY DAY" Lost or Trapped Firefighter*

- Emergency Traffic
- Change the plan to high priority rescue effort
- Request additional alarms
- Conduct a PAR--**withdraw crews if needed**
- Assign RIC--**assign Rescue Sector**
- Don't abandon firefighting positions
- Provide **reinforcement to firefighting efforts**
- Assign Chief officer to Rescue Sector
- Assign Safety Sector
- Expand Command organization
- Special call Chief Officers
- Establish Treatment and Transportation Sectors
- Open/unlock all doors
- Ventilate, maintain **tenability**
- Provide lighting
- Coordinate & control search and rescue efforts
- Assess need for technical rescue teams
- Monitor structural stability of building
- Control Media—**Designate PIO**
- Welfare Sector/Branch
- Dispatch to monitor all radio frequencies

 <p>Standard Operating Guidelines</p>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.09: Fire Control</b>			
	<b>Effective Date:</b>	July 2015	<b>Revision Date:</b>	June 2015
	<b>Approved by:</b>	Emergency Services		

## **Purpose**

It is suggested to first stabilize fire conditions by extending, where possible, an aggressive well-placed and adequate offensive transitional fire attack effort and to support that aggressive attack with whatever resource and action is required to reduce fire extension and to bring the fire under control.

A critical Command decision (both initial and ongoing) relates to the offensive/defensive mode of the situation:

### **A. Offensive Strategy**

Transitional attack and related support directed toward quickly bringing the fire under control.

### **B. Defensive Strategy**

Exterior attack directed to first reduce fire extension and then bring the fire under control.

Command must declare which strategy is being used, as part of the on-scene report and at each notification of elapsed time.

Command must define offensive/defensive strategy based upon a standard risk management profile evaluating:

1. Fire extent
2. Structural conditions
3. Entry capability
4. Ventilation profile
5. Viable potential for rescue
6. Resources

## **Basic Offensive Plan**

1. Take Command
2. First line--fast, Transitional attack
3. Provide support activities (i.e., ventilation control)
4. Do primary search
5. Second line--backup first/take to interior to extinguish
6. Pump water
7. Quickly evaluate progress and react
8. Continued safety throughout incident

## **Basic Defensive Plan**

1. Take Command
2. Evaluate fire spread/write-off lost property
3. Identify key tactical positions
4. Prioritize fire streams
5. Provide big, well placed streams
6. Pump water

7. Quick determination on additional resource
8. Surround and drown
9. Continued safety throughout incident

 <b>Standard Operating Guidelines</b>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.10: Fire Ground Safety</b>			
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	<b>Approved by:</b>	Emergency Services		

**Purpose**

The purpose of this guideline is to discuss various issues that may be encountered on the fireground and how to safely evaluate and mitigate them.

**Tactical Positioning**

Positioning of operating companies can severely affect the safety/survival of such companies. Personnel must use caution when placed in the following positions:

1. Above the fire (floors/roof)
2. Where fire can move in behind them
3. Where a Sector cannot control position/retreat
4. When involved with opposing fire streams
5. Combining interior and exterior attacks
6. With limited access--one way in/out
7. Operating under involved roof structures
8. In areas containing hazardous materials
9. Below ground fires (basements, etc.)
10. In areas where a backdraft potential exists
11. Above/below ground rescue

The safety of firefighting personnel represents the major reason for an effective and well-timed **offensive/defensive** decision and the associated write-off by Command. The two strategies are based on a standard risk management plan that is to be employed at all structure fires.

**Within a Structured Risk Management Plan**

**WE WILL RISK OUR LIVES A LOT, IN A HIGHLY CALCULATED AND CONTROLLED MANNER TO PROTECT A SAVABLE LIFE**

**WE WILL RISK OUR LIVES A LITTLE, IN A HIGHLY CALCULATED AND CONTROLLED MANNER TO PROTECT SAVABLE PROPERTY**

**WE WILL NOT RISK OUR LIVES AT ALL TO PROTECT LIVES OR PROPERTY THAT ARE ALREADY LOST**

When operating in a defensive mode, operating positions should be as far from the involved area as possible while still remaining effective. Position and operate from behind barriers if available (fences, walls, etc.).

The intent is for personnel to utilize safe positioning where possible /available, in an effort to safeguard against sudden hazardous developments such as backdraft explosion, structural collapse, etc.

When operating in an offensive mode, be aggressively offensive. An effective, Transitional Fire Attack, directed toward knocking down the fire, eliminates most eventual safety problems.

Due to the inherent hazards of the immediate fire or incident scene, efforts will be made by Command to limit the number of personnel on the fireground to those assigned to a necessary function. All personnel will be:

1. Positioned in Staging.
2. Assigned to a task or operating within a sector.
3. Be assigned to a Resource, Staging, or Rehabilitation Sector if the crew has completed their assignment and no other assignment is available within a tactical sector until such time as they can be reassigned to an operating sector or released to in-service status.

The intent of this guideline is to minimize fireground confusion/congestion and to limit the number of personnel exposed to fireground hazards to only those necessary to successfully control the operation. Individuals or crews shall be restricted from wandering about the fireground or congregating in non-functional groups. If personnel have not been assigned to a sector or do not have a necessary staff function to perform, they shall remain outside the fireground perimeter.

When it is necessary to engage personnel in exceptionally hazardous circumstances (i.e., to perform a rescue), Command will limit the number of personnel exposed to an absolute minimum and assure that all feasible safety measures are taken.

In extremely hazardous situations (flammable liquids, LP gas, hazardous materials, etc.) Command will engage only an absolute minimum number of personnel within the hazard zone. Unmanned master streams will be utilized wherever possible.

In situations where crews must operate from opposing or conflicting positions, such as front vs. rear attack streams, roof crews vs. interior crews, etc., utilize radio or face-to-face communications to coordinate your actions with those of the opposing crew in an effort to prevent needless injuries. Command should notify Sector Officers or Company Officers of opposing or conflicting operations.

Ground crews must be notified and evacuated from interior positions before ladder pipes go into operation.

Do not operate exterior streams, whether hand lines, master streams, ladder pipes, etc., into an area where interior crews are operating. This procedure is intended to prevent injuries to personnel due to stream blast and the driving of fire and/or heavy heat and smoke onto interior crews.

When laddering a roof, the ladder selected shall be one, which will extend a minimum of 4'-6' above the roofline. This shall be done in an effort to provide personnel operating on the roof with a visible means of egress.

If possible, when laddering buildings under fire conditions, place ladders near building corners or fire walls as these areas are generally more stable in the event of structural failure.

When operating either above or below ground level, establish at least two (2) separate escape routes/means where possible, (such as stairways, ladders, exits, etc.), preferably at opposite ends or diagonal corners of the building or separated by considerable distance.

#### A. **Hot Zone**

The Hot Zone will be defined as any area that requires an SCBA, charged hoseline, special protective clothing, or in which Firefighting Personnel are at risk of becoming lost, trapped, or injured by the environment or structure. The following situations would be included inside the Hot Zone:

1. Entering a structure reported to be on fire
2. Operating in close proximity to the structure during exterior operations
3. Confined Space or Trench Rescues
4. Operating close to crane operations or close to swift water operations
5. Building collapse areas
6. Operating close to helicopter operations
7. Extrication operations

All fire fighters working in the hot zone will work in crews with a minimum of two personnel. The accountability system will be in place.

## B. Warm Zone

The Warm Zone will be defined as just outside of the Hot Zone where the firefighters start their operations on the fireground. This zone is where the fire fighter is not at risk of becoming lost, trapped, or injured by the environment or structure. The following functions could be done in this zone:

1. Forward fire apparatus working the incident (i.e.; engines, ladders)
2. Laying lines
3. HMRT and TRT developing tactics and strategies
4. Utility truck operations
5. Special equipment needs
6. Accountability Officer
7. Fire Investigations

If at any time firefighters in the Warm Zone become threatened, then this would become a Hot Zone.

## C. Cold Zone

The Cold Zone will be defined as outside of the Warm Zone where no one is at risk because of the incident, the following functions could be done in this area:

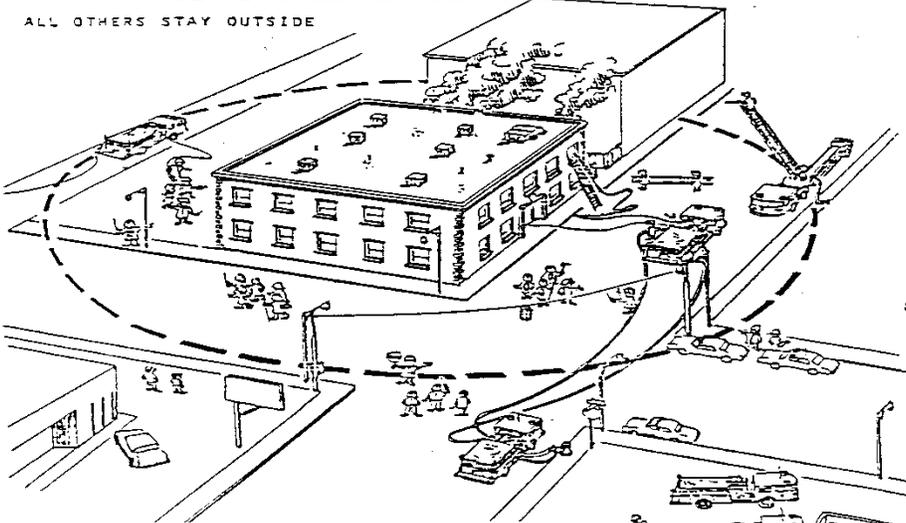
1. Command
2. Level I & Level II staging
3. Support and Staff personnel
4. Canteen
5. Rehab
6. Media
7. Law Enforcement Liaison
8. Interviewing The Responsible Party

## Example

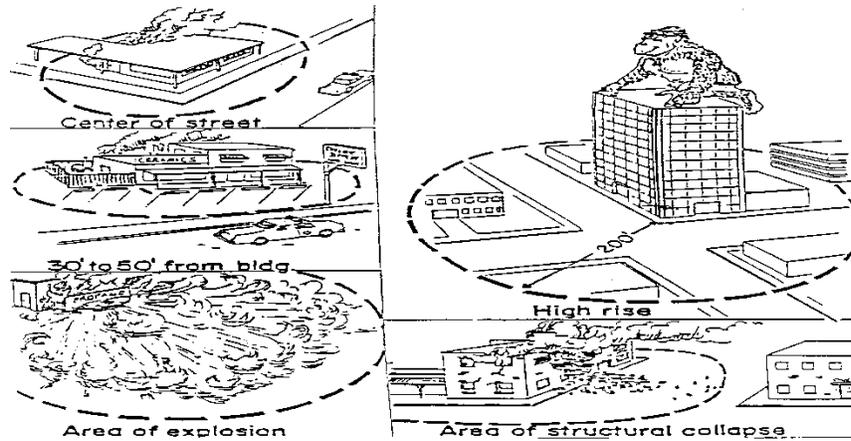
ALL PERSONNEL ENTERING THE FIREGROUND PERIMETER SHALL:

- WEAR FULL TURNOUTS
- HAVE CREW INTACT
- BE ASSIGNED TO A SECTOR

ALL OTHERS STAY OUTSIDE



## Example



### **Fireground Perimeters**

## Sectors

The safety of firefighting personnel represents a major reason for fireground sectorization. Sector commanders must maintain the capability to communicate with forces under their command so that they can control both the position and function of their companies.

Sector officers and company officers shall be able to account for the whereabouts and welfare of crews/crew members under their assignment.

Company officers shall insure that all crewmembers are operating within their assigned sector. Crews will not leave their respective sector unless authorized by the sector officer.

When crews are operating within a sector, company officers shall keep the sector officer informed of changing conditions within the sector area, and particularly those changing situations, which may affect the safety of personnel.

Hazards that will affect only a specific sector area should be dealt with within that sector and not necessarily affect the entire operation.

## Rehabilitation

In an effort to regulate the amount of fatigue suffered by fireground personnel during sustained operations, sector officers should frequently assess the physical condition of their assigned companies. When crewmembers exhibit signs of serious physical or mental fatigue, the entire crew should be reassigned to a Rehabilitation Sector if possible. Company officers should request reassignment to Rehabilitation Sector from their sector officer. The company officer's request shall indicate the crew's position/condition, etc., and shall advise as to the need for a replacement crew. Individual crews shall not report to the Rehabilitation Sector unless assigned by the Fireground Commander. Crewmembers should report to and remain intact while assigned to Rehab.

It is the on-going responsibility of Command to summon adequate resources to tactical situations to effectively stabilize that situation, and to maintain adequate resources during extended operations to complete all operational phases.

The rotation of companies will be utilized by Command during extended operations to provide effective on-going levels of personnel and effective and safe performance. Alarm will assist in coordinating the rotation of companies during such campaign operations.

It is the intent of this procedure to reduce the fatigue, injuries and stress experienced during difficult operations to a reasonable (and recoverable) level and is in no way intended to lessen individual and collective efforts expected of all members during field operations.

## **Safety Sector**

The recognition of situations which present inordinate hazards to fireground personnel and the proper response to safeguard personnel from those hazards is of critical importance to all fire operations.

Command has the responsibility to recognize situations involving a high risk to personnel and to initiate appropriate safety measures.

Command should establish a Safety Sector at incidents involving an excessive danger to personnel. Command should consider establishing a Safety Sector on any situation where it may be advantageous to the overall safety of operations.

Assigned personnel will respond automatically to multiple alarm incidents to establish a Safety Sector and will report to the Command Post upon arrival. When the need for specialized assistance is noted, Command should confirm the response of the appropriate personnel (Safety Officer, Fire Protection Engineer).

Command may designate any appropriate personnel to establish a Safety Sector when the need is indicated. This should be a high priority assignment.

The establishment of a Safety Sector or the presence of a Safety Officer in no way diminishes the responsibility of all officers for the safety of their assigned personnel. Each and every member shall utilize common (safety) sense and work within the intent of established safety procedures at all times.

## **Structural Collapse**

Structural collapse has been a leading cause of serious injuries and death to fire fighters. For this reason the possibility of structural collapse should be a major consideration in the development of any tactical plan.

Structural collapse is always a possibility when a building is subject to intense fire. In fact, if fire is allowed to affect a structure long enough, some structural failure is inevitable.

Regardless of the age and exterior appearance of the building, there is always the possibility that a principal structural supporting member is being seriously affected by heat and may collapse suddenly inflicting serious injury to fire fighters.

*Example: A 100' length of unprotected steel will expand 9" when heated to 1100° F.*

In the typical fire involved building, the roof is the most likely candidate for failure; however failure of the roof may very likely trigger a collapse of one or more wall sections. This is especially true if the roof is a peak or dome type, which may exert outward pressure against both the bearing and non-bearing walls upon collapse. In multi-story buildings or buildings with basements, the floor section above the fire may collapse if supporting members are directly exposed to heat and flames.

Knowledge of various types of building construction can be invaluable to the Fire Officer from a safety standpoint as certain types of construction can be expected to fail sooner than others. For example: under fire conditions lightweight truss and bar joist roof construction can be expected to fail after minimal fire exposure.

Structures have been known to collapse without warning but usually there are signs, which may tip off an alert fire officer. Action might be taken to avert any imminent hazard.

Signs of building collapse may include:

1. Sagging or otherwise distorted rooflines.
2. Time of fire involvement.
3. Cracks in exterior walls.
4. Bulges in exterior walls.
5. Sounds of structural movement--creaking, groaning, snapping, etc.
6. Smoke or water leaking through walls.
7. Flexible movement of any floor or roof where firefighters walk.
8. Interior or exterior bearing walls or columns--leaning, twisting or flexing.

The following construction features or conditions have been known to fail prematurely or to contribute to

early structural failure when affected by fire.

### **Contributing Factors:**

1. Buildings with lightweight truss, bar joist, or bowstring truss, roofs.
2. Buildings supported by unprotected metal--beams, columns, etc.
3. Parapet walls.
4. Large open (unsupported) areas--supermarkets, warehouses, etc.
5. Large signs or marquees--which may pull away from weakened walls.
6. Cantilevered canopies--which usually depend on the roof for support and may collapse as the roof fails.
7. Ornamental or secondary front or side walls--which may pull away and collapse.

Buildings containing one or more of the above features must be constantly evaluated for collapse potential. These evaluations should be of major consideration toward determining the tactical mode, i.e. offensive/defensive.

Command should consider the option of placing firefighters on adjacent unaffected roofs or on an elevated aerial device to monitor roof conditions for signs of weakening or collapse.

It is a principal Command responsibility to continually evaluate and determine if the fire building is tenable for interior operations. This on-going evaluation of structural/fire conditions requires the input of company officers advising their sectors and of sectors advising Command of the conditions in their area of operation.

Structures of other than fire protected /heavy timber construction are not designed to withstand the effects of fire, and can be expected to fail after approximately twenty minutes of heavy fire involvement. If after 10-15 minutes of interior operations heavy fire conditions still exist, Command should initiate a careful evaluation of structural conditions, and should be fully prepared to withdraw interior crews and resort to a defensive position.

If structural failure of a building or section of a building appears likely, a perimeter must be established a safe distance from the area, which may collapse. All personnel must remain outside this perimeter.

### **Evacuation**

Interior firefighting operations should be abandoned when the extent of the fire prohibits control or the structure becomes unsafe to operate within. When such conditions make the building untenable, evacuate, regroup, account for personnel, communicate and re-deploy.

Our primary concern, when a hazard, which may affect the safety of fire personnel, becomes apparent, is the welfare of those personnel. In an effort to protect personnel who may suffer the adverse effects of such hazards such as structural collapse, explosion, backdraft, etc., a structured method of area evacuation must be utilized, one which will provide for the rapid/effective notification of those personnel involved, and one which will be able to accurately account for those personnel.

The method of evacuation selected will vary depending on the following circumstances:

1. Immanence of the hazard
2. Type and extent of hazard
3. Perception of the area affected by the hazard

The emergency traffic announcement is designed to provide immediate notification for all fireground personnel of a notable hazard that is either about to occur, or has occurred.

The use of "Emergency Traffic" should be initiated only when the hazard appears to be imminent.

Any member has the authority to utilize the "Emergency Traffic" announcement when it is felt that a notable danger to personnel is apparent; however, considerable discretion should be applied to its use - emergency traffic announcements become ineffective if overused.

When an imminent hazard has been realized, the emergency traffic process should be initiated. Usually either

a company or sector officer will be the initiator. The initiator should describe the apparent hazard and order a positive response, usually to evacuate a particular area or section, according to the scope of the hazard.

If possible, the sector officers of those areas to be evacuated should request an acknowledgment of the emergency traffic dispatch from those crews to be evacuated.

Upon receipt of the emergency traffic evacuation order, company officers shall assemble their crews and promptly exit to a safe location, where the company officer will again account for all crew members. Shortly after the evacuation order, sector officers shall begin the process of accounting for all evacuated crews. When all affected crews and crewmembers are accounted for, the officers must be prepared to provide a PAR to the Sector Officer or Command. At this time a more specific determination as to the reality/extent of the hazard can be made and efforts initiated to re-deploy/redirect attack forces.

Building evacuation generally involves a shift from offensive to defensive as an operational strategy. In such cases, Command must develop a corresponding operational plan and must communicate that plan to all operating elements. This can be a difficult shift to complete, as units are committed to positions in an offensive manner. It is extremely important that everyone gets the word that a shift in strategy has been made. A change from offensive to defensive mode requires Command to initiate a PAR of all crews on the fireground.

Hazards noted of a less than imminent nature should usually be handled by a consultation of Command, sector officers and/or the Safety Officer, Fire Protection Engineer, company officers or outside agency authorities. These officers or specialists should make a determination as to the nature and possible effect of the suspected hazard, and advise Command so that a more knowledgeable decision as to the proper course of action can be made.

Crews retreating from interior operations often require hoseline protection. The personal protection afforded to firefighting personnel in such situations represents a major function of back-up lines.

### **Search and Rescue**

Search and rescue should be performed according to an efficient, well-planned procedure, which includes the safety of search crew personnel.

The object of the search effort is to locate possible victims, not create additional ones by neglecting the safety of the search crew.

Prior to entering the search area, all search team members should be familiar with a specific search plan including the overall objective, a designation of the search area, individual assignments, etc. This may require a brief conference among crewmembers before entering the search area to develop and communicate the plan.

Individual search activities should be conducted by two or more members with a minimum of one radio.

Company officers must maintain an awareness of the location and function of all members within their crew during search operations.

A brief look around the floor below the fire may provide good reference for the search team, as floors in multi-story occupancies usually have a similar layout.

Whenever a search is conducted that exposes search crews to fire conditions (particularly above the fire floor) the search team should be protected as soon as possible with a charged hose line, in order to ensure a safe escape route.

If search personnel are operating without a hose line, life lines should be used when encountering conditions of severely limited visibility.

### **High-Rise Safety**

Fire personnel conducting operations in high-rise buildings are faced with many non-typical hazards due to the design, elevation, limited access/egress, etc., inherent in these buildings. High-rise buildings containing a working fire area are to be considered a high hazard area.

## **Stairways / Elevators**

If a working fire is suspected in a high-rise building, the following procedures shall be adhered to:

1. Utilize stairways to go aloft if possible.
2. Elevators may be used to go aloft provided the following measures have been taken.
3. The elevator shaft must be checked to ensure that heat/fire have not damaged the hoist mechanism, etc. This can be done by checking the space between the doorframe and the elevator car and shining a light up the shaft. If smoke or fire is visible in the shaft, Do Not Use The Elevator.
4. Before using an elevator, the nearest enclosed stairway should be identified. Should the elevator stop at a floor with heavy SMOKE or intense heat, firefighters can then head directly for the stairs without losing time searching for them.
5. You must verify that the floor you are going to arrive at is uninvolved. This can be done by utilizing the following measures.

### **Elevators with Firefighter Service Feature**

1. Engage the Emergency Operations feature.
2. Take elevator to the floor two floors below the suspected fire floor.
3. Be prepared to close the elevator door immediately, usually by removing finger from the door control button, if fire or smoke is visible on the floor.

Elevators without the Emergency Operations shall not be used if a working fire is indicated.

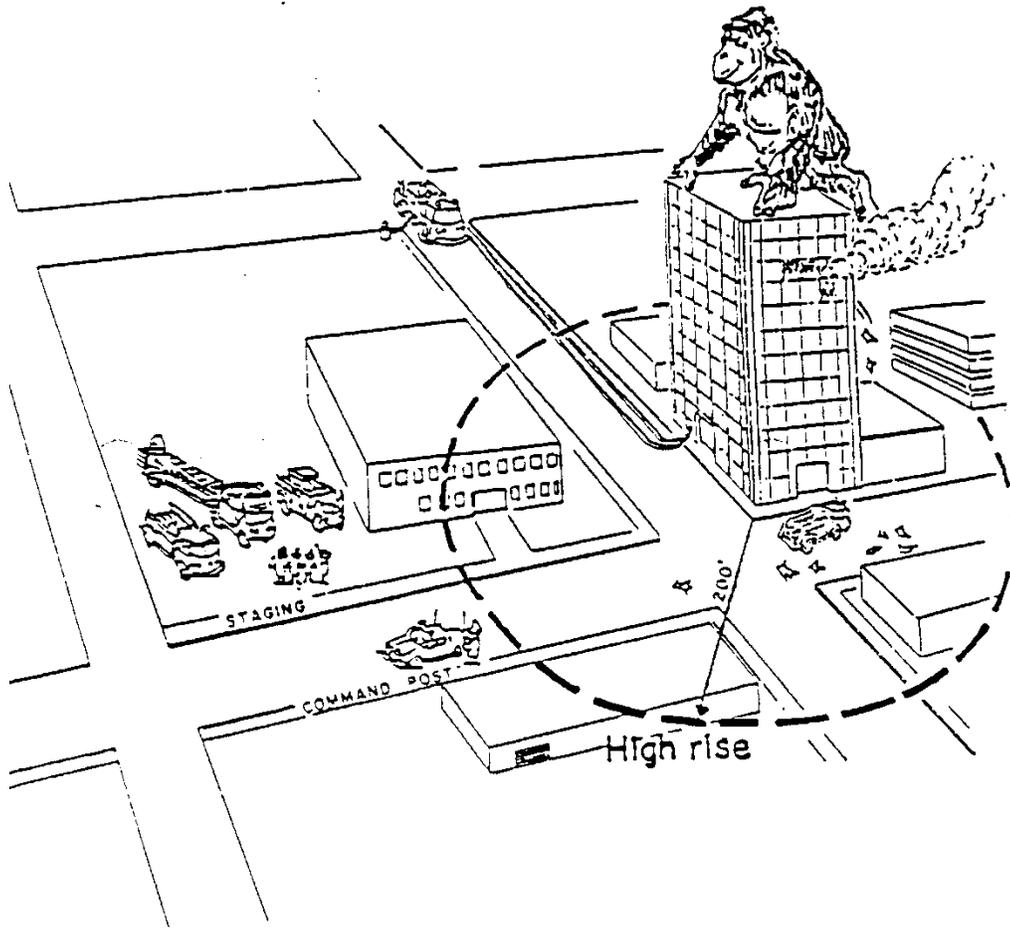
If elevators are used to transport personnel and equipment, beware of exceeding the maximum load capacity of the elevator.

When operating around a high-rise building where the potential hazards of falling glass and debris exist, a fireground perimeter shall be established approximately 200' from the building and shall be observed by all Fire personnel as a high hazard area.

A fireground perimeter will be at the discretion of Command, based on need.

Pumpers supplying water shall utilize hydrants outside the perimeter area when possible.

Command and staff support personnel shall remain outside the perimeter area unless entering the area to assist with interior operations



**Fireground Perimeter**

 <b>Standard Operating Guidelines</b>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.11: Thermal Imaging Camera (TIC)</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

The purpose of this guideline is to discuss various issues that may be encountered on the fireground and how to safely evaluate and mitigate them.

**Tactical Positioning**

Positioning of operating companies can severely affect the safety/survival of such companies. Personnel must use caution when placed in the following positions:

1. Above the fire (floors/roof)
2. Where fire can move in behind them
3. Where a Sector cannot control position/retreat
4. When involved with opposing fire streams
5. Combining interior and exterior attacks
6. With limited access--one way in/out
7. Operating under involved roof structures
8. In areas containing hazardous materials
9. Below ground fires (basements, etc.)
10. In areas where a backdraft potential exists
11. Above/below ground rescue

The safety of firefighting personnel represents the major reason for an effective and well-timed **offensive/defensive** decision and the associated write-off by Command. The two strategies are based on a standard risk management plan that is to be employed at all structure fires.

Within a Structured Risk Management Plan

**WE WILL RISK OUR LIVES A LOT, IN A HIGHLY CALCULATED AND CONTROLLED MANNER TO PROTECT A SAVABLE LIFE**

**WE WILL RISK OUR LIVES A LITTLE, IN A HIGHLY CALCULATED AND CONTROLLED MANNER TO PROTECT SAVABLE PROPERTY**

**WE WILL NOT RISK OUR LIVES AT ALL TO PROTECT LIVES OR PROPERTY THAT ARE ALREADY LOST**

When operating in a defensive mode, operating positions should be as far from the involved area as possible while still remaining effective. Position and operate from behind barriers if available (fences, walls, etc.).

The intent is for personnel to utilize safe positioning where possible /available, in an effort to safeguard against sudden hazardous developments such as backdraft explosion, structural collapse, etc.

When operating in an offensive mode, be aggressively offensive. An effective, coordinated interior attack operation, directed toward knocking down the fire, eliminates most eventual safety problems.

Due to the inherent hazards of the immediate fire or incident scene, efforts will be made by Command to limit the number of personnel on the fireground to those assigned to a necessary function. All personnel will be:

1. Positioned in Staging.

2. Assigned to a task or operating within a sector.
3. Be assigned to a Resource, Staging, or Rehabilitation Sector if the crew has completed their assignment and no other assignment is available within a tactical sector until such time as they can be reassigned to an operating sector or released to in-service status.

The intent of this guideline is to minimize fireground confusion/congestion and to limit the number of personnel exposed to fireground hazards to only those necessary to successfully control the operation. Individuals or crews shall be restricted from wandering about the fireground or congregating in non-functional groups. If personnel have not been assigned to a sector or do not have a necessary staff function to perform, they shall remain outside the fireground perimeter.

When it is necessary to engage personnel in exceptionally hazardous circumstances (i.e., to perform a rescue), Command will limit the number of personnel exposed to an absolute minimum and assure that all feasible safety measures are taken.

In extremely hazardous situations (flammable liquids, LP gas, hazardous materials, etc.) Command will engage only an absolute minimum number of personnel within the hazard zone. Unmanned master streams will be utilized wherever possible.

In situations where crews must operate from opposing or conflicting positions, such as front vs. rear attack streams, roof crews vs. interior crews, etc., utilize radio or face-to-face communications to coordinate your actions with those of the opposing crew in an effort to prevent needless injuries. Command should notify Sector Officers or Company Officers of opposing or conflicting operations.

Ground crews must be notified and evacuated from interior positions before ladder pipes go into operation.

Do not operate exterior streams, whether hand lines, master streams, ladder pipes, etc., into an area where interior crews are operating. This procedure is intended to prevent injuries to personnel due to stream blast and the driving of fire and/or heavy heat and smoke onto interior crews.

When laddering a roof, the ladder selected shall be one, which will extend a minimum of 4'-6' above the roofline. This shall be done in an effort to provide personnel operating on the roof with a visible means of egress.

If possible, when laddering buildings under fire conditions, place ladders near building corners or fire walls as these areas are generally more stable in the event of structural failure.

When operating either above or below ground level, establish at least two (2) separate escape routes/means where possible, (such as stairways, ladders, exits, etc.), preferably at opposite ends or diagonal corners of the building or separated by considerable distance.

#### A. **Hot Zone**

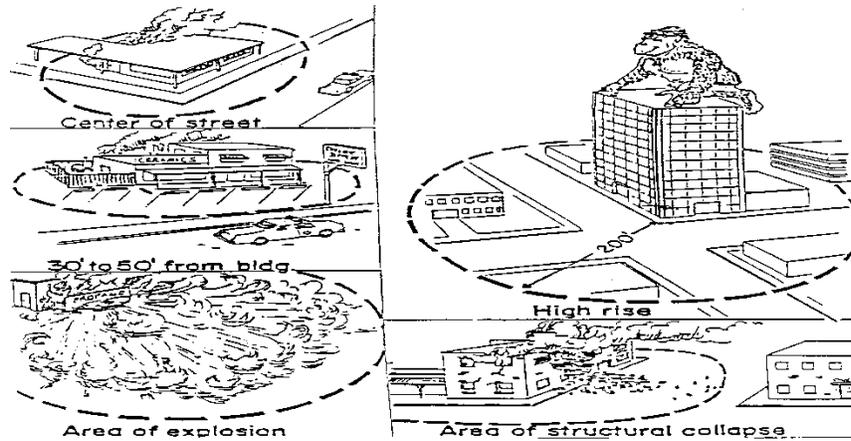
The Hot Zone will be defined as any area that requires an SCBA, charged hoseline, special protective clothing, or in which Firefighting Personnel are at risk of becoming lost, trapped, or injured by the environment or structure. The following situations would be included inside the Hot Zone:

1. Entering a structure reported to be on fire
2. Operating in close proximity to the structure during exterior operations
3. Confined Space or Trench Rescues
4. Operating close to crane operations or close to swift water operations
5. Building collapse areas
6. Operating close to helicopter operations
7. Extrication operations

**ALL FIRE FIGHTERS WORKING IN THE HOT ZONE WILL WORK IN CREWS WITH A MINIMUM OF TWO PERSONNEL. THE ACCOUNTABILITY SYSTEM WILL BE IN PLACE.**



## Example



Fireground Perimeters

## Sectors

The safety of firefighting personnel represents a major reason for fireground sectorization. Sector commanders must maintain the capability to communicate with forces under their command so that they can control both the position and function of their companies.

Sector officers and company officers shall be able to account for the whereabouts and welfare of crews/crew members under their assignment.

Company officers shall insure that all crewmembers are operating within their assigned sector. Crews will not leave their respective sector unless authorized by the sector officer.

When crews are operating within a sector, company officers shall keep the sector officer informed of changing conditions within the sector area, and particularly those changing situations, which may affect the safety of personnel.

Hazards that will affect only a specific sector area should be dealt with within that sector and not necessarily affect the entire operation.

### **A. Rehabilitation**

In an effort to regulate the amount of fatigue suffered by fireground personnel during sustained operations, sector officers should frequently assess the physical condition of their assigned companies. When crewmembers exhibit signs of serious physical or mental fatigue, the entire crew should be reassigned to a Rehabilitation Sector if possible. Company officers should request reassignment to Rehabilitation Sector from their sector officer. The company officer's request shall indicate the crew's position/condition, etc., and shall advise as to the need for a replacement crew. Individual crews shall not report to the Rehabilitation Sector unless assigned by the Fireground Commander. Crewmembers should report to and remain intact while assigned to Rehab.

It is the on-going responsibility of Command to summon adequate resources to tactical situations to effectively stabilize that situation, and to maintain adequate resources during extended operations to complete all operational phases.

The rotation of companies will be utilized by Command during extended operations to provide effective on-going levels of personnel and effective and safe performance. Alarm will assist in coordinating the rotation of companies during such campaign operations.

It is the intent of this procedure to reduce the fatigue, injuries and stress experienced during difficult operations to a reasonable (and recoverable) level and is in no way intended to lessen individual and collective efforts expected of all members during field operations.

## **B. Safety Sector**

The recognition of situations which present inordinate hazards to fireground personnel and the proper response to safeguard personnel from those hazards is of critical importance to all fire operations.

Command has the responsibility to recognize situations involving a high risk to personnel and to initiate appropriate safety measures.

Command should establish a Safety Sector at incidents involving an excessive danger to personnel. Command should consider establishing a Safety Sector on any situation where it may be advantageous to the overall safety of operations.

Assigned personnel will respond automatically to multiple alarm incidents to establish a Safety Sector and will report to the Command Post upon arrival. When the need for specialized assistance is noted, Command should confirm the response of the appropriate personnel (Safety Officer, Fire Protection Engineer).

Command may designate any appropriate personnel to establish a Safety Sector when the need is indicated. This should be a high priority assignment.

The establishment of a Safety Sector or the presence of a Safety Officer in no way diminishes the responsibility of all officers for the safety of their assigned personnel. Each and every member shall utilize common (safety) sense and work within the intent of established safety procedures at all times.

## **Structural Collapse**

Structural collapse has been a leading cause of serious injuries and death to fire fighters. For this reason the possibility of structural collapse should be a major consideration in the development of any tactical plan.

Structural collapse is always a possibility when a building is subject to intense fire. In fact, if fire is allowed to affect a structure long enough, some structural failure is inevitable.

Regardless of the age and exterior appearance of the building, there is always the possibility that a principal structural supporting member is being seriously affected by heat and may collapse suddenly inflicting serious injury to fire fighters.

Example: A 100' length of unprotected steel will expand 9" when heated to 1100° F.

In the typical fire involved building, the roof is the most likely candidate for failure; however failure of the roof may very likely trigger a collapse of one or more wall sections. This is especially true if the roof is a peak or dome type, which may exert outward pressure against both the bearing and non-bearing walls upon collapse. In multi-story buildings or buildings with basements, the floor section above the fire may collapse if supporting members are directly exposed to heat and flames.

Knowledge of various types of building construction can be invaluable to the Fire Officer from a safety standpoint as certain types of construction can be expected to fail sooner than others. For example: under fire conditions lightweight truss and bar joist roof construction can be expected to fail after minimal fire exposure.

Structures have been known to collapse without warning but usually there are signs, which may tip off an alert fire officer. Action might be taken to avert any imminent hazard.

Signs of building collapse may include:

1. Sagging or otherwise distorted rooflines.
2. Time of fire involvement.
3. Cracks in exterior walls.
4. Bulges in exterior walls.
5. Sounds of structural movement--creaking, groaning, snapping, etc.
6. Smoke or water leaking through walls.
7. Flexible movement of any floor or roof where firefighters walk.

## 8. Interior or exterior bearing walls or columns--leaning, twisting or flexing.

The following construction features or conditions have been known to fail prematurely or to contribute to early structural failure when affected by fire.

Contributing Factors:

1. Buildings with lightweight truss, bar joist, or bowstring truss, roofs.
2. Buildings supported by unprotected metal--beams, columns, etc.
3. Parapet walls.
4. Large open (unsupported) areas--supermarkets, warehouses, etc.
5. Large signs or marquees--which may pull away from weakened walls.
6. Cantilevered canopies--which usually depend on the roof for support and may collapse as the roof fails.
7. Ornamental or secondary front or side walls--which may pull away and collapse.

Buildings containing one or more of the above features must be constantly evaluated for collapse potential. These evaluations should be of major consideration toward determining the tactical mode, i.e. offensive/defensive.

Command should consider the option of placing firefighters on adjacent unaffected roofs or on an elevated aerial device to monitor roof conditions for signs of weakening or collapse.

It is a principal Command responsibility to continually evaluate and determine if the fire building is tenable for interior operations. This on-going evaluation of structural/fire conditions requires the input of company officers advising their sectors and of sectors advising Command of the conditions in their area of operation.

Structures of other than fire protected /heavy timber construction are not designed to withstand the effects of fire, and can be expected to fail after approximately twenty minutes of heavy fire involvement. If after 10-15 minutes of interior operations heavy fire conditions still exist, Command should initiate a careful evaluation of structural conditions, and should be fully prepared to withdraw interior crews and resort to a defensive position.

If structural failure of a building or section of a building appears likely, a perimeter must be established a safe distance from the area, which may collapse. All personnel must remain outside this perimeter.

### **Evacuation**

Interior firefighting operations should be abandoned when the extent of the fire prohibits control or the structure becomes unsafe to operate within. When such conditions make the building untenable, evacuate, regroup, account for personnel, communicate and re-deploy.

Our primary concern, when a hazard, which may affect the safety of fire personnel, becomes apparent, is the welfare of those personnel. In an effort to protect personnel who may suffer the adverse effects of such hazards such as structural collapse, explosion, backdraft, etc., a structured method of area evacuation must be utilized, one which will provide for the rapid/effective notification of those personnel involved, and one which will be able to accurately account for those personnel.

The method of evacuation selected will vary depending on the following circumstances:

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The emergency traffic announcement is designed to provide immediate notification for all fireground personnel of a notable hazard that is either about to occur, or has occurred.

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Any member has the authority to utilize the "Emergency Traffic" announcement when it is felt that a notable danger to personnel is apparent; however, considerable discretion should be applied to its use - emergency

traffic announcements become ineffective if overused.

When an imminent hazard has been realized, the emergency traffic process should be initiated. Usually either a company or sector officer will be the initiator. The initiator should describe the apparent hazard and order a positive response, usually to evacuate a particular area or section, according to the scope of the hazard.

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Search and rescue should be performed according to an efficient, well-planned procedure, which includes the safety of search crew personnel.

The object of the search effort is to locate possible victims, not create additional ones by neglecting the safety of the search crew.

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Company officers must maintain an awareness of the location and function of all members within their crew during search operations.

A brief look around the floor below the fire may provide good reference for the search team, as floors in multi-story occupancies usually have a similar layout.

Whenever a search is conducted that exposes search crews to fire conditions (particularly above the fire floor) the search team should be protected as soon as possible with a charged hose line, in order to ensure a safe escape route.

If search personnel are operating without a hose line, life lines should be used when encountering conditions of severely limited visibility.

### **High-Rise Safety**

Fire personnel conducting operations in high-rise buildings are faced with many non-typical hazards due to the design, elevation, limited access/egress, etc., inherent in these buildings. High-rise buildings containing a working fire area are to be considered a high hazard area.

## **Stairways / Elevators**

If a working fire is suspected in a high-rise building, the following procedures shall be adhered to:

1. Utilize stairways to go aloft if possible.
2. Elevators may be used to go aloft provided the following measures have been taken.
3. The elevator shaft must be checked to ensure that heat/fire have not damaged the hoist mechanism, etc. This can be done by checking the space between the doorframe and the elevator car and shining a light up the shaft. If smoke or fire is visible in the shaft, Do Not Use The Elevator.
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### **Elevators with Firefighter Service Feature**

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2. Take elevator to the floor two floors below the suspected fire floor.
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Elevators without the Emergency Operations shall not be used if a working fire is indicated.

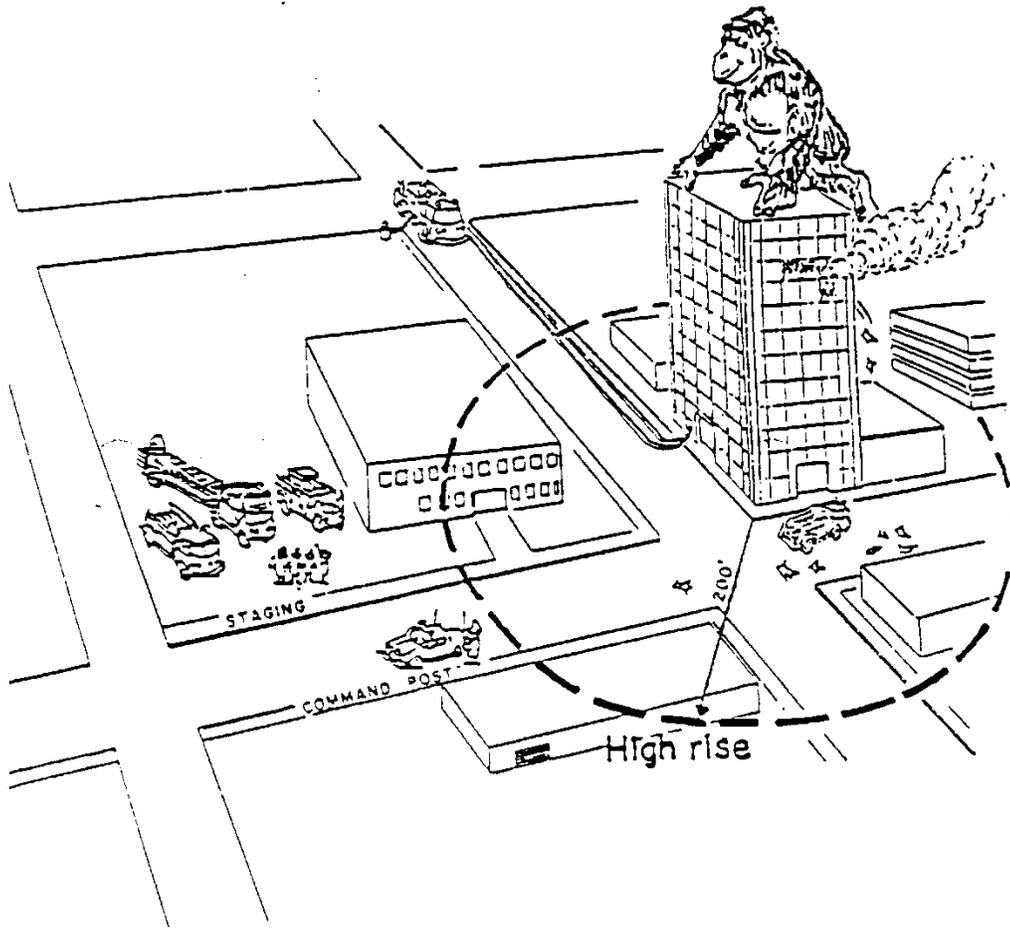
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When operating around a high-rise building where the potential hazards of falling glass and debris exist, a fireground perimeter shall be established approximately 200' from the building and shall be observed by all Fire personnel as a high hazard area.

A fireground perimeter will be at the discretion of Command, based on need.

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**Fireground Perimeter**

 <b>Standard Operating Guidelines</b>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.12: Self Contained Breathing Apparatus (SCBA)</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

Superstition Fire & Medical District (SFMD) personnel are expected to respond and function in areas of atmospheric contamination and will be equipped with self-contained breathing apparatus (S.C.B.A.) and trained in its proper use and maintenance.

Members will achieve a **non-leaking** facepiece-to-skin seal **with the mask**. Facial hair will not be allowed at points where the S.C.B.A. facepiece is designed to seal with the face. Individual members will be accountable for compliance with this requirement.

Each member of the Operations Division will be accountable for one (1) S.C.B.A. and will check the condition of that S.C.B.A. at the beginning of each shift, after each use, and at any other time it may be necessary to render the equipment in a ready state of condition. Each member will be accountable for their personal facepiece and regulator (as applicable). Each member is also required to undergo a medical examination annually if they are expected to respond and function in areas of atmospheric contamination (IDLH).

Company officers will assign a specific S.C.B.A. to each crewmember. Each crewmember will be responsible for the proper use and function of that S.C.B.A.

If an S.C.B.A. is found to be functioning improperly, it shall be taken out of service, red tagged, reported, and replaced immediately. Replacement S.C.B.A.'s shall be obtained from the on duty BC/BSO or shift assigned S.C.B.A. technician.

The intent of the S.C.B.A. guideline is to avoid any respiratory contact with products of combustion, super-heated gases, toxic products or other hazardous contaminants.

The use of breathing apparatus means that personnel shall have facepiece in place, breathing air from the supply provided. Where appropriate, Airline-Supplied Breathing Apparatus may be used in place of S.C.B.A.

**SCBA Use**

Self-Contained Breathing Apparatus shall be used by all personnel operating:

1. in a contaminated atmosphere
2. in an atmosphere which may suddenly become contaminated
3. in an atmosphere which is oxygen deficient
4. in an atmosphere which is suspected of being contaminated or oxygen deficient

This includes all personnel operating:

1. in an active fire area
2. directly above an active fire area
3. in a potential explosion or fire area, including gas leaks and fuel spills
4. where products of combustion are visible in the atmosphere, including vehicle fires and dumpster fires
5. where invisible contaminants are suspected to be present (i.e. Carbon Monoxide during overhaul)
6. where toxic products are present, suspected to be present, or may be released without warning
7. in any confined space which has not been tested to establish respiratory safety

In addition to the above, S.C.B.A. shall be worn by all personnel operating at fire incidents above ground, below ground or in any other area which is not, but which may become contaminated by products of combustion or other hazardous substances.

Premature removal of S.C.B.A. must be avoided at all times. This is particularly significant during overhaul when smoldering materials may produce increased quantities of carbon monoxide and other toxic products. In these cases S.C.B.A. must be used or the atmosphere must be changed.

In routine fire situations, the decision to remove S.C.B.A. shall be made by Company Officers, with the approval of Sector Officers, based on an evaluation of atmospheric conditions. Prior to removal, fire areas shall be thoroughly ventilated and, where necessary, continuous ventilation shall be provided.

If there is any doubt about respiratory safety, S.C.B.A. use shall be maintained until the atmosphere is established to be safe by testing. Safety Sector personnel shall be responsible for this determination. This is required in complex situations, particularly when toxic materials may be involved.

An evaluation of all members of the Operations Division in the use of the S.C.B.A. shall be conducted annually. Each member shall be able to demonstrate a high level of proficiency and compatibility with the S.C.B.A. under conditions which simulate those expected as a job requirement. Each member shall also demonstrate an effective facepiece to skin seal of the S.C.B.A. facepiece.

 <p>Standard Operating Guidelines</p>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.13: Roof – Ventilation Sector</b>			
	<b>Effective Date:</b>	July 2015	<b>Revision Date:</b>	June 2015
	<b>Approved by:</b>	Emergency Services		

**Purpose**

To identify the responsibilities and objectives of fireground roof and ventilation operations.

**Procedure**

Command should establish a Ventilation or Roof Sector during fire operations to evaluate roof conditions and/or to complete roof ventilation. Ladder companies should be strategically placed to allow safe access to the roof, emergency exit from the roof, and in tactical positions that would permit effective defensive operations if needed. Roof operation responsibilities will be assigned to company or chief officers who must be on the roof to supervise crews.

Safe roof operations are paramount. Crews assigned to a roof should enter from a safe area and must have a secondary means of egress to escape or retreat to a safe refuge (such as a structurally sound roof surface) if conditions deteriorate. Ventilation or Roof Sector may utilize its own protective hose line as needed.

The first firefighters to reach a roof must quickly evaluate conditions to assure the roof is structurally sound before attempting to work on it. The degree and extent of any signs of weakness must be considered before committing personnel above the fire. Once on the roof, the sector officer and his/her firefighters must evaluate their route and “sound the roof” as they proceed. A constant re-evaluation of roof safety must be maintained throughout roof operations. Time and fire conditions will be constantly working to weaken roof structures.

Before assigning a Ladder Company to ventilation operations, consideration should be given to the “big picture” and how the IC anticipates utilizing these companies following ventilation activities. For instance, Command should consider the designation “Ventilation Sector” if they expect to reassign the Ladder crew to support PPV and other ground based ventilation operations upon completion of vertical ventilation. This will help avoid having to change their designation from “Roof Sector”. Conversely, the “Roof Sector” designation should be used when Command anticipates leaving a crew on a roof following vertical ventilation activities to monitor fire and roof conditions from a safe location (such as at a strip mall fire).

**Roof Types**

**A. Residential Commercial Tile Roofs**

No firefighter shall operate on the roof of a residential structure fire covered with tile shingles. It is unsafe to operate on these roofs under some fire conditions. Alternatives to roof ventilation must be addressed. Extreme caution must be used when operating on commercial tile roofs. Sector officers must keep a close watch on roof and attic conditions and be prepared to exit quickly.

**B. Bow String Roofs**

If there is any evidence that the fire has penetrated the attic or involves the truss area officers must exercise extreme caution before committing crews to the roof. The IC must proceed cautiously and constantly reevaluate conditions whenever committing crews to roof operations on bow strung roofs.

**Ventilation or Roof Sector Responsibilities**

The initial Sector Officer must report to Command the following conditions:

1. Roof design and construction (flat, peaked, bowstring, etc.)
2. Structural conditions

3. Fire conditions or effects of fire on roof
4. Locations of fire walls
5. Locations of heavy objects that are affected by fire conditions
6. Ventilation plan

The objectives of Ventilation or Roof Sector operations include:

1. Determining a safe working surface.
2. Complete adequate size ventilation hole(s) and achieve effective ventilation. Generally 10% of the total roof area.
3. Coordinate vertical ventilation with interior crews.
4. Coordinate fire control operations as directed by Command.
5. Maintain roof-top monitoring of roof structure and fire conditions.
6. Communicate with Interior Sector
7. Provide progress reports to Command.

It may be necessary to establish a “Roof Sector” in a position remote from the fire-involved roof to keep a watchful eye on roof conditions, where imminent collapse will occur. Such a location may be a ladder pipe or adjacent building.

Adequate size ventilation holes must be cut and opened if ventilation is to be successful. Ventilation hole(s) of at least 10% of roof surface of the involved area is a rule of thumb to consider. Ventilation must always be coordinated with fire attack.

In some cases, more than one hole will be required to meet the 10% objective. As one hole is opened, the Sector Officer should direct the opening of additional holes in adjacent areas. Crews must move from the first hole towards safer areas with each consecutive ventilation hole. **\*\*Caution\*\* Additional holes consume time. The Sector Officer must constantly evaluate the structural stability of the roof as it relates to changing fire conditions and time.**

The Sector Officer must advise Command when ventilation holes are completed and any change it may have on the roof conditions.

The Sector Officer must monitor the radio at all times. The Sector Officer should attempt to shield the radio from the noise of the operation or step a short distance away to a safe area to minimize background noise.

Roof ladders shall be used for operations on any roof where the roof pitch presents a problem or crews cannot effectively operate aerial ladders or aerial platform appliances.

All Ventilation or Roof Sector personnel will wear full protective clothing and equipment when operating above a fire. SCBA with face pieces connected will be worn at all times while operating above a fire.

 <p>Standard Operating Guidelines</p>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.14: Heat Stress Management</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

### **Purpose**

The purpose of this guideline is to establish responsibilities for minimizing the effects of heat stress to our members. The following practices are to be implemented from May 15<sup>th</sup> to September 15<sup>th</sup> or as needed when temperatures are expected to exceed 105 degrees or when the combination of air temperature and humidity equal a humidity index of 105 degrees.

### **Member's Responsibilities**

1. Maintain proper rest/nutrition regimen
2. Observe appropriate work/rest cycles
3. Hydrate before, during, and after each shift (minimize coffee, tea, and cola products)
4. Inform supervisor of any ill effects to heat

### **Company Officer's Responsibilities**

1. Outside cardiovascular activity should be limited to a maximum of 30 minutes.
2. A minimum of 64 ounces (2 quarts) of fluid should be consumed during each 24 hour shift.
3. Work/rest cycles--request a relief company and assignment to rehab after crew has consumed two bottles of air.
4. Request additional resources as necessary.

### **Command Responsibilities**

1. Establish a Rehabilitation Sector on all working fires.
2. Consider Replenishment when full Rehab Sector is not needed.
3. Assign companies to Rehab Sector. Companies should remain in rehab for a minimum of 20 minutes and meet rehab criteria before re-assignment.
4. Utilize the practice of first company in, first company out routine.
5. Request additional resources as necessary.

### **Organizational Responsibilities**

1. Assure that the Rehabilitation Unit is operating and maintained
2. Assure that there is a Carbon Monoxide (CO) monitor available on RH264
3. Assure there are appropriate and adequate fluids, foods and supplies on RH264
4. Provide adequate training on Rehab Sector Responsibilities

 <p>Standard Operating Guidelines</p>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.15: Loss Control</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

This guideline should describe how to reduce and/or eliminate certain losses experienced during and following fires or other types of incidents.

**Introduction**

There is "value added" to the quality of service when firefighting includes loss control functions. Loss control involves methods of minimizing loss in each of the tactical priorities through all phases of firefighting. Throughout each of the three (3) tactical priorities, the safety and survival of firefighters, customer service, and loss control functions are continuously addressed.

1. Search & Rescue = All Clear
2. Fire Attack = Fire Under Control
3. Property Conservation = Loss Stopped

This procedure will discuss the elements of loss control and how they are integrated at emergency incidents.

**Loss Control**

The loss experienced by the owners/occupants of a structure as a result of a fire is devastating. Primary and secondary loss can be minimized through active loss control efforts. There are many opportunities for effective loss control during property conservation, but the other two tactical priorities (rescue and fire control) present significant loss control opportunities.

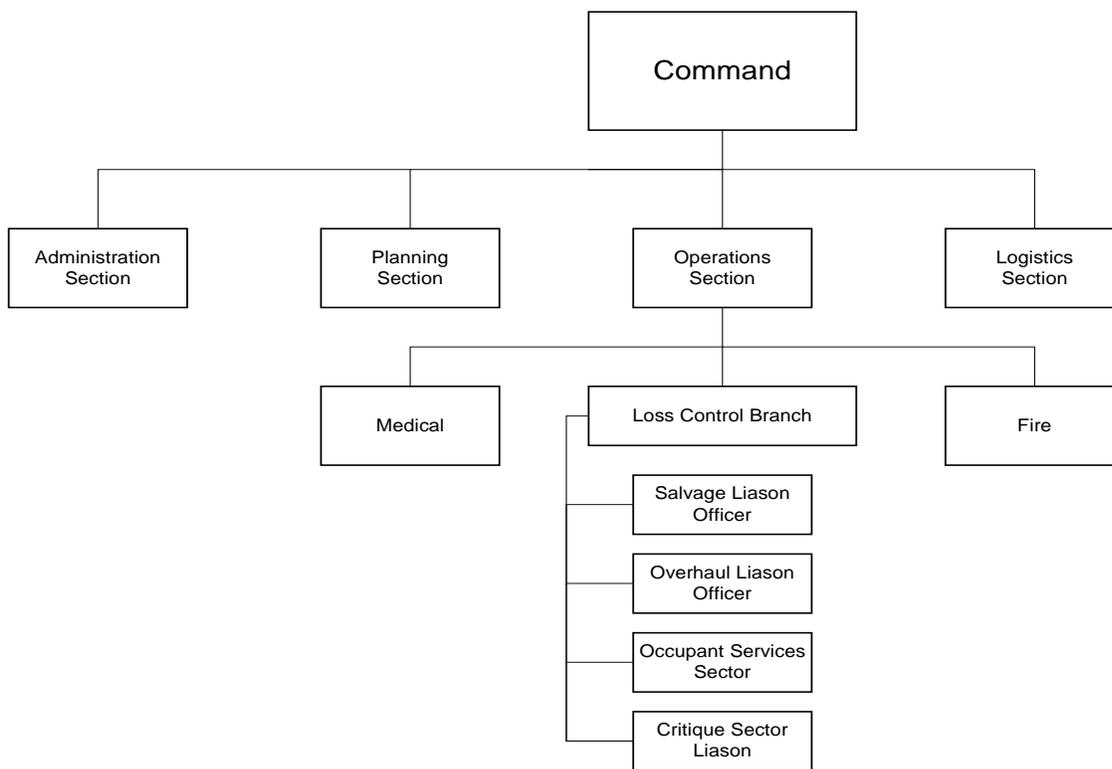
In addition to the psychological and emotional injuries our customers may suffer, the building suffers the effects of fire including charring, water, smoke, structural, and content damage. The structure becomes weakened by the fire. The building is unsecured and open to the elements of nature, as well as open to looting. The ceiling and walls throughout the house are damaged by smoke. Furniture receives water and smoke damage. Appliances (refrigerator), swimming pools, and aquariums are without the electricity they need to preserve food and clean the water. Through effective loss control efforts we can intervene in all aspects of the incident and take specific measures to minimize loss.

In many cases the occupant does not have insurance to replace damaged or destroyed belongings. This is especially true for apartment occupants and low-income families. The property and belongings we save may be all that these customers have left.

An important element of loss control is to extinguish the fire. Fighting the fire from the unburned portion will affect loss control. This needs to be regularly reinforced with members. Fire attacks from the burning portion will usually push heat and smoke through the building and increase loss.

Performing skills like forcible entry and ventilation should be done with loss control in mind.

Loss control may operate as a sector or a branch. When assigned as a branch, loss control may include several sectors.



## **Water Damage**

The most significant thing we can do to reduce damage is to put the fire out. As the fire travels so does the damage. An aggressive interior attack may be the best step towards enhancing loss control efforts. Knowing that water will do significant damage to dry wall, furniture, and carpeting, means we have to control how much water is used. If possible, adjust the nozzle to allow for appropriate gallonage as required. Do not wet down the attic unnecessarily, put the water directly on the fire and burning embers. The use of Class A foam in firefighting is another method of reducing water damage.

Water acts as a corrosive to pressed gypsum board (dry wall). It breaks the bond used in making the board. Most houses and commercial structures we encounter will have gypsum board on the walls and ceilings. When water is left to sit on gypsum board it will seep in and ruin the board. Company Officers and firefighters should be aware of the damage to drywall by direct water spray and over spray. Reduce and eliminate over spray and it will minimize loss and water build up on the furniture. Standing water on wooden counter tops is damaging because it can cause delamination, staining, and cracking. For loss control purposes, wipe off counter tops and table tops with a dry towel not allowing water to sit and penetrate the surface. Furniture sitting in puddles of water will be damaged. Water will migrate up the wooden legs of furniture or into overstuffed material and cause it to soak, crack, and stain. Place blocks under legs of the furniture, to raise it up and out of the water. If blocks are unavailable, canned goods from the home can serve the same purpose. Cover exposed furniture and other materials with salvage covers or plastic.

When water has filled the attic space and is pooling on the ceiling board gypsum use a drill or a screwdriver as a hole punch to allow the water to escape. Water sitting on the gypsum board will eventually seep through; by drilling a small hole we can possibly save the ceiling and the hole is easily patched.

## **Carpeting/Floor Coverings**

Water on carpeting in itself is damaging. It is made worse by soot and broken glass being ground in when stepping on the carpet. Hall runners should be used to avoid staining and grinding in soot.

When a window is broken, to make entry, the glass on the carpet may cause the need for replacement, especially if the glass is ground in. When possible throw a salvage cover over the glass under the window to prevent the grinding by footsteps. If debris is covering a relatively good carpet or flooring, it should be shoveled out and swept off.

## **Smoke Damage**

Unless interrupted, the hot smoke produced by fire will move throughout a structure. This can be achieved through vertical or horizontal ventilation. After fire control, closing or opening doors in the structure will help reduce smoke damage during ongoing ventilation efforts.

Once the fire is extinguished and the embers cooled it is necessary to continue to exhaust smoke. Avoid blowing it throughout the structure and continue to ventilate during overhaul. Take smoldering materials such as a couch/mattress outside for overhaul.

When appropriate, turn off the HVAC system in the building. The HVAC system could expose the remainder of the structure and might contaminate the air handling system (which could require its replacement).

Work to protect the structure. If possible, when checking for extension by pulling ceiling, do not pull drywall from corners, it may require that both walls and ceiling be replaced and cause additional loss. Cut small inspection holes, preferably 6" x 6," to check attics. Remember to relieve excess water in the attic space and to reduce loss, drill/poke drainage holes into the ceiling.

## **Building Packaging**

Just as we package a patient for transport in EMS we should also package a house or structure when we're finished. Each room should be completely ventilated, this will reduce smoke damage. The furniture should be covered with plastic. Water on counter tops and wooden furniture should be wiped off. The furniture should be raised up (blocked) to prevent water damage. Excess debris should be cleared off the floor. It will make the rooms look much cleaner and help alleviate the traumatic impact of the fire for our customers.

Debris should be brought outside, completely extinguished, kept away from the entrance, be covered with plastic, and anchored. Companies should select an appropriate location for outside piles of debris. Debris in high travel areas should be avoided. Minimize trauma to the customer by helping to make the scene appear less devastating. Consideration should also be given to the safety of neighborhood children and pets.

Customer valuables such as photo albums, video and audio tapes, clothing and other keepsakes need to be carefully wrapped and placed in boxes, with direction from the occupant when possible. Contents of the box should be marked on the outside for easier retrieval. Do not bag or box wet items. They will need time to dry before packaging.

"Securing" the fire scene is a function of loss control. Securing refers to actions required to protect the structures and contents from damage or looting after fire companies have departed from the scene. Access holes where ceilings were pulled, roofs, or walls that were opened should be "squared up" on structural members except where special hazards are present (i.e., asbestos, etc.) and covered with plastic/fur strips or plywood to protect the structure from the elements of weather. Roof ventilation holes and broken windows should be covered with plastic or other materials to reduce weather damage and deter vandalism. The rolled plastic is ideal for this use. For safety reasons, remaining glass shreds should be removed from the frames of broken windows prior to installing covers and always prior to leaving the scene.

## **Additional Customer Service Elements**

Performing loss control is a mark of excellence in service delivery. It is a "signature" of professionalism in our craft. We should continually try to add quality and value to our work. In some cases, where safe to do so, escorting the customer through the fire area can help him/her see and visualize what we did and the need for overhaul operations. Also, proper loss control measures should be completed prior to any walk through. Act like the place is yours and the people who own and occupy it are your loved ones ... This usually will lead us in the right direction.

In many cases, wearing dirty turnouts into a home on EMS or service calls can soil the furnishings. By keeping our turnouts clean, we could avoid unnecessary damage to flooring, walls or furniture. Simply hose off boots and pants after each fire call to eliminate or minimize loss created by dirty turnouts. This will also help to keep them decontaminated.

Loss control measures may have to be suspended due to fire investigation needs. In this case, fire companies

may have to return after the fire investigation to complete loss control activities.

Part of the customer service effort is managing our conduct and behavior appropriately. We should be on our best behavior when working on the emergency scene.

The pets we encounter are often times considered by the owners a part of the family. While our primary mission is for the protection and care of people, we should attempt to provide an appropriate level of care and respect to animals in distress. Whenever feasible and safe to do so and as part of our commitment to customer service, we should display an open, caring concern for pets and animals when dealing with a full range of situations.

On larger incidents loss control will be a significant part of the operation and additional resources/alarms may be necessary to insure the effectiveness of loss control efforts.

Loss control efforts will increase the value our customers place on our work. There is no question that we should strive to improve our services. Loss control is an area where we can always improve.

 <p>Standard Operating Guidelines</p>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.16: Salvage</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

To describes guidelines for conducting salvage operations. Virtually every fire, small or large, produces a need for some form of salvage operations.

Salvage includes activities required to stop direct and indirect fire damage in addition to those required to minimize the effects of firefighting operations. This includes losses from water, smoke, and firefighting efforts.

Salvage operations must be aimed at aggressively controlling loss by the most expedient means. Salvage objectives are:

1. Stop or reduce the source of damage
2. Protect or remove contents

Command will provide salvage at all fires or other incidents posing potential damage to property.

Salvage operations most often involve early smoke removal and covering building contents with salvage covers or plastic. In some cases, the contents of all threatened areas, where appropriate, can be removed to a safe location. When removal is not practical, contents should be grouped in the center of rooms, raised off of the floor and covered to provide maximum practical protection.

The following items should be considered when addressing salvage.

1. Type, value and location of contents
2. The extent and location of the fire
3. Recognition of existing and potential damage sources
4. Estimate of required resources

**Extent and Location of Fire**

Salvage efforts should begin in areas most severely threatened by damage. In most cases that will be areas directly adjacent to or below the fire area. Additional salvage activities should expand outward until all areas of potential loss are secured.

**Recognition of Existing and Potential Damage Sources**

All firefighting activities have the potential to damage property and contents. The key to successful salvage is to distinguish between excessive damage, and damage that is required to reduce potential fire damage. Aggressive loss control activities reduce the damage incurred during firefighting operations.

**Type, Value and Location of Contents**

Replacement price and value should be primary considerations when performing salvage operations. It is often difficult to separate value from price, however, salvage crews should weigh the worth (value) of items in addition to their dollar cost. Business records, for example, have extremely high value to business owners while their price represents only the paper they are printed on. Pictures, wall paintings, family mementos, etc., may have very high personal value to the property owner.

### **Estimate of Required Resource**

An early request for manpower and salvage equipment can significantly reduce loss. The first company assigned to salvage should consider the size-up factors and request sufficient resources to stabilize the situation.

### **Salvage Equipment**

Common salvage equipment includes salvage covers and boxes, rolled plastic, hall runners, brooms and squeegees. In addition, the Phoenix Fire Department loss control unit is equipped with a large assortment of these standard items as well as other specialized salvage equipment

Where salvage covers must be left on scene, arrangements should be made for pickup later. Command or the loss control officer should schedule a return walk through by the Fire Department to insure post-incident damage is not occurring.

### **Customer Service**

Command and/or the loss control officer should meet with the property owner or responsible party, to determine/identify the salvage priorities. The earlier this can be done, the greater the opportunity to identify high value/priority items or areas. In some cases, when safe to do so, allowing the property owner/occupant to be escorted through the building by Fire District personnel can be of great assistance to the loss control operation.

 <p>Standard Operating Guidelines</p>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.17: Occupant Services Sector</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

The purpose of this guideline is to establish the role and responsibilities of the Occupant Services Sector.

**Occupant Services Sector**

The Occupant Services Sector should be established by the Incident Commander at all working structure fires, and as early in the incident as is practical. The Occupant Services Sector should also be established at any other incident where the need is identified; Fire, EMS, Special Operations, etc.

The Occupant Sector is a critical extension of our service delivery, and serves as the liaison between the Fire District and those citizens (responsible parties) directly or perhaps indirectly involved in or affected by the incident.

If necessary, Command will request additional resources in order to establish the Occupant Service Sector. An additional Engine, Ladder, or Battalion Chief is acceptable. If necessary, at prolonged incidents, in order to return fire companies and personnel to service, Command may assign staff personnel to this function. The Occupant Services Sector responsibilities may extend beyond the termination of the incident.

**Responsibilities**

The Occupant Services Sector should consider offering the following services to the Occupant/responsible parties. It should be noted that other Occupant service needs may be identified and should be addressed as part of the Department's Occupant service goals.

1. Carry out responsibilities under supervision of Loss Control Officer.
2. Explain what happened, what we are doing and why, how long we expect to take until the incident is under control.
3. Obtain from Occupant/responsible party, any significant information regarding the structure and/or its contents that might assist Command tactically with the operation. Inform Command of this information.
4. Provide cellular telephone access.
5. Communicate the location to which evacuees have been sent. (Notify the Investigations Sector of this location also when passing on this information.)
6. Identify any mental health needs of Occupants/responsible parties, as well as any spectators or evacuees (effects of shootings, mass casualty, highly visible critical rescue, etc.).
7. Notify Red Cross, Salvation Army, or other relief agencies.
8. Notify other necessary agencies and/or individuals.
9. Provide coordination of salvage efforts with the loss control officer.
10. Where safe to do so, and after approval from Investigations Sector, coordinate a "walk-through" of the structure with the responsible party.
11. Determine the location of valuables in the structure and notify Command/Loss Control officer.
12. Work with Loss Control and proper utility services to restore power, gas and water, as quickly as possible to reduce additional losses through a loss of business to affected Occupants.
13. Coordinate site security.

- a. Fire watch
  - b. Private Security Company
  - c. Necessary insurance services
  - d. Any services identified as necessary and possible
14. Assist the Occupant in notifying insurance agents, security services, restoration companies, etc.
  15. Provide blankets, and a shelter, where practical to do so, (i.e. an apparatus cab, neighbor's house, etc.) To get Occupants out of the weather and at a single location.
  16. Provide on-going service and support until the Occupant indicates our services are no longer needed.

The Occupant Services Sector shall report to Command unless a Loss Control Branch/Section is assigned, at which time he/she shall report to the Loss Control Officer.

### **Mental Health Needs**

Occasionally, the public is witness to a critical life-threatening event that can have substantial psychological impacts on them. Additionally, witnesses may have misunderstandings of Fire District Operations that cause a delay in removal of the patient (i.e. trench collapse, an electrocution rescue that is delayed due to energized contact, etc.). Addressing these issues early, on-site, or as soon as possible following the event, can minimize these misunderstandings, and reduce psychological effects, and produce improved relations with the public.

The Occupant Services Sector should consider additional help for these needs. Assistance and advice on availability of mental health services can be obtained through the Employee Assistance Program Contractor, the American Red Cross, coordination through Mesa Fire Department CISM team, and in some cases through the victim's personal medical insurance. Support from a Chaplain or local clergy may also be available.

### **American Red Cross Services**

For residential fires where the Occupant has suffered a loss of living quarters and clothing, the American Red Cross may be used to provide support. The American Red Cross can provide some clothing, food, toiletries, and arrange for temporary shelter/housing for the Occupants. When contacting the Red Cross, provide the following information:

1. Address of the incident.
2. Address where victims can be contacted.
3. Phone number of contact location.
4. Number of displaced persons with information on age, sex, etc.
5. Fire District Incident No.

 <b>Standard Operating Guidelines</b>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.18: Tactical Support Activities</b>			
	<b>Effective Date:</b>	July 2015	<b>Revision Date:</b>	June 2015
	<b>Approved by:</b>	Emergency Services		

**Purpose**

Tactical support activities are those functions that assist active fire control and rescue operations. They generally include forcible entry and ventilation. Command must cause these support functions to be completed in a timely and effective manner. Increased fire loss is often associated with a lack of support operations not a lack of water.

We ventilate a building principally for two reasons:

1. To prevent mushrooming
2. To gain (and maintain) entry

Vertical ventilation as close to the seat of the fire as possible is the most effective form of ventilation in working interior fire situations. The timing of ventilation becomes extremely important and must be coordinated with fire attack activities. Portable radio communications between engine and ladder companies facilitate this interaction. Ventilation should be initially controlled to slow progress of the fire and reduce fire flow in the structure. Once the transitional attack moves from the exterior to the interior, ventilation should be centered around making the environment more tenable for the interior attack.

Fire will naturally burn out of holes in roofs, regardless if you cut the hole or if the fire creates one. If the fire burns through the roof it will generally do so directly over the fire. If Ladder Companies cut the roof they must locate ventilation holes in a manner that will support rescue activities and fire control. If ventilation holes are cut in the wrong place, the fire will naturally be channeled to them and potentially expand loss.

We ventilate to improve interior conditions. The best operating position to determine if a building requires ventilation as well as the location and timing of that ventilation is the Interior Sector. Interior Sector and supporting forces must communicate in order to effectively coordinate the support effort effectively.

Operation of handlines on roofs is for fire control efforts of the attic space and not for interior operations. Do not operate hose lines, particularly ladder pipes, down ventilation holes. Doing so will force superheated gases and products of combustion back into the fire area and onto firefighters and victims. Be cautious of hose lines to roofs--"candle moth" syndrome tends to overpower personnel operating on roofs when fire and smoke come out vent holes. Operate roof lines only for the purpose of protecting personnel and external exposures, unless Command orders a coordinated roof attack.

If ladder crews cannot get on the roof to ventilate because of advanced fire, Command should begin to think about a change in strategy and declare "marginal" conditions or switch to a defensive operation.

Forcible entry involves a trade-off in time versus damage; the faster you force--the more damage you do. The more critical the fire, the less important forcible entry damage becomes and vice versa. If the fire is progressing and you must go in and attack from the unburned side, don't waste time trying to pick the locks--force the door with the appropriate tools.

The provision of access many times will determine if the fire is cut off and extinguished or not. These access-oriented activities generally involve pulling ceilings, opening up concealed spaces and voids, and the activities required to direct fire attack efforts on hidden fire. Such operations beat up the fire building and must be done in a timely and calculated manner, and must consider how the introduction of air into the fire area will allow the fire to grow if it is not extinguished quickly. If you locate fire working inside a concealed space, get ahead of it, open it up and cut it off after hoselines are in place, charged and manned.

Beware of the premature opening of doors, holes, access efforts, etc. before lines are placed and crews are ready to go inside. Doing so may allow additional air and oxygen to feed the fire and contribute to its growth or the ignition of smoke and unburned fuels. Good timing requires effective communication between engine and ladder companies.

 <p>Standard Operating Guidelines</p>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.19: Attack Teams</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

In many tactical situations it is desirable to group companies together in Sectors to achieve more effective results. This consolidates the efforts of the companies toward tactical goals and makes Command more manageable.

**Attack Teams**

The Attack Team is an extension of this concept in which companies are assigned on the fireground in groups to work toward a specific goal and/or in a specific area. An Attack Team is an effective size operational group for many fireground tasks and provides a sound basis for the creation of sectors which may be built upon as the incident progresses.

A standard Attack Team consists of two engine companies plus a ladder company. The basic grouping of two engine companies and one ladder provides for adequate water supply and support capability to perform strong tactical operations. In most cases these "Teams" will be created on the scene from individual companies assigned by Command. The companies may be assigned at one time to assemble an Attack Team starting with a single company and adding resources as they become available. In other situations Command may be able to assign a full Attack Team directly from Staging. The Attack Team will either report to an existing Sector Officer or will become the nucleus of an additional Sector.

In the early deployment of companies at an incident, Command should try to identify tactical requirements in terms of Attack Teams and Sectors. An Attack Team assigned to establish a Sector should be able to perform as an effective unit, as well as, set up a Sector structure. One of the company officers will assume the role of Sector Officer until a designated Sector Officer is assigned by Command.

Sector Officers should try to structure requests for additional resource in terms of Attack Teams, whenever possible. Where this type of assignment is feasible it leads to more effective teamwork. The officer may request single companies or special units when the need is indicated.

**Attack Team Deployment**

A common deployment for an Attack Team involves a "forward" pumper supplied by one or two lines from a "key" pumper on a hydrant. With this configuration the Captain of the "forward" engine company normally becomes the Attack Team leader and initial Sector Officer

This group could be assigned to take one side of an involved building and would be capable of significant action in either an offensive or defensive mode. Command would have the option of assigning a Sector Officer to supervise the tactical activity.

The deployment of first response units may be such that there are insufficient resources to place a full attack team at each strategic position. Command may elect to assign a single unit to a position and assign subsequent arriving units to fill out the team, as they arrive. In this case, the first engine would usually lay a supply line to the forward position and begin operations. The later arriving engine would pump the line or reverse a secured supply line to the hydrant and pump both lines. Personnel from the second Engine and the Ladder Company join the first crew at the attack location.

A strategic decision could be made by Command to utilize a full attack team in the most critical strategic position and leave less urgent positions for later arriving units.

 <p>Standard Operating Guidelines</p>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.20: Brush and Wildland Fires</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

To serve as an operational guideline when brush or wildland fires are encountered.

**Declaration of Wildland Fire**

Occasionally, the District will respond to a brush fire that consumes multiple acres, often in areas isolated from ground access. These fires typically demand a significant command and support staff to manage and will often require resources from other Fire Departments and Government agencies.

Command will be responsible for requesting all needed resources. Any fire exceeding 50 acres will be declared as a "Wildland Fire." Once a fire reaches this benchmark, command will advise Alarm that the mode of operations has reached the "Wildland Fire."

Staff Officers will respond to multiple alarm wildland and brush fires as they do other multiple alarm incidents and report in to their pre-assigned responsibilities or staging. Command will assign this staff support as needed.

The following additional resources will be included for the incident:

- A. FIRST ALARM BRUSH
  - 1. Rehab Unit
  - 2. Canteen Unit
- B. Second Alarm Brush
  - 1. Staff and Command Officer Response
  - 2. Port-A-Potties
  - 3. Refueling Truck
  - 4. Mechanics
  - 5. Radio Technician
  - 6. Multiple Spare Radios
  - 7. Weather Reports

The Incident Commander will be responsible for developing and staffing the sections necessary to support incident needs. Each Section Chief will be responsible for developing an effective organization within each section to support Fire Operations.

**Key Factors**

The following factors have a critical effect on the burning characteristics of a wildland fire. Command must maintain an awareness of these conditions and be prepared to react quickly, pessimistically and well ahead of the fire. The factors are: WEATHER, FUEL, and TOPOGRAPHY.

**Weather**

Command must be aware of constantly changing weather conditions. During a normal day, local winds will change 180 degrees near midday and usually become gusty during the afternoon. Morning winds are normally East to West and afternoon winds are usually West to East. Fire spread will usually slow down in the evening AS HUMIDITY INCREASES (25%) and increase during the midmorning hours AS THE HUMIDITY

DECREASES (15%).

Command should always be aware of the fire conditions, weather conditions and time of day. Remember that a large WILDLAND fire can create dangerous convection currents that cause erratic fire behavior and spot fires far in advance of the fire head. Heavy winds also produce similar results.

Hot and dry conditions produce extremely rapid fire spread. A slight decrease in relative humidity will cause a significant increase in fire intensity. During extreme days surface-wetted fuel will dry in a few minutes.

### **Fuel**

Most of the fuel in our area is relatively light and burns very rapidly. It is not expected to burn in any area for more than a few minutes and may not require extensive overhaul. Once an area has been burned, usually only the heavier fuel (tree stumps, etc.) need to be MOPPED UP. MOP UP is necessary to prevent embers from being blown into new fuel.

### **Topography**

Fire burns uphill much more rapidly than downhill. On an uphill slope, the fire will tend to crown over the top and start spot fires a considerable distance down the receding slope. A large free-burning fire will tend to create its own convection currents and spot fires may be started. Access is often the most serious problem with topography.

Companies with considerable brush fire potential should size-up areas with regard to fuel, topography and extent of exposure to structures. Particular attention should be paid to access roads and accessible areas where apparatus may travel. Natural fire breaks and potential exposure problems should be noted on the area maps provided for this purpose.

### **Command**

On major incidents establish a Command Post and geographic sectors as soon as possible. The Command Post should be in a location that will be safe and not have to move if the fire changes direction. Supporting elements should be able to setup at the Command Post. Select a site where a helicopter may land in close proximity to the Command Post.

### **Tactics and Strategy**

Brush fires often present a large area of rapidly spreading fire. The critical decision is often where to attack the fire to the best advantage.

The basic brush fire philosophy will be to aggressively stop the forward progress of fire whenever possible. Protection of exposures is the primary goal when immediate control is not possible.

A direct water attack is the fastest control evolution available to counteract wildfire spread. Clearly, many situations will not support this possibility and Command must be prepared to readjust strategy which may make it necessary to develop a defensive strategy to protect exposures while allowing the fire to burn to a location better suited for control. In these cases, it may be best to use vehicle access to position apparatus to protect exposed structures and allow the main body of fire to pass by.

When water is in short supply, it is usually most effective when applied to burning material instead of wetting fuel in advance. Seriously exposed structures should be kept wet while exposed.

As fire spread becomes more critical, Command must be prepared to special call additional attack units by specific companies or to request assistance by standardized alarm responses. This determination must be made early.

On large open grass fires, Command must take advantage of natural fire barriers that will assist in control measures, such as: dry sandy washes, roads, trails, rock outcroppings, patch fuels, etc.

Command must quickly develop a fire-fighting plan. The following is a list of size-up considerations that greatly affect tactics and strategy.

1. Location of fire head or heads. The fast moving part of the fire.
2. Pertinent burning conditions--weather, time of day, etc.
3. Type of fuel--light, heavy fuel.
4. Exposures--improvements, buildings, crops, etc.
5. Size of fire and rate of speed.
6. Special hazards--hot spots, spot fires, developing heads.
7. Manpower needs.
8. Fuel continuity.
9. Accessibility into fire area.
10. Water resource—tenders, hydrants, etc.
11. Line of retreat. How can I escape?

During interface fires involving brush and structures it may be necessary to retain a 2-1 structural assignment in staging and be prepared to assign those units to conduct structural firefighting if needed. These staged resources will be turned out and equipped to carry out interior structural fire fighting.

### **Mop-Up**

When addressing mop up operations, Command should:

1. Determine the distance inside the control line to be overhauled (for small fires, this may be the entire burn area).
2. During rehab of mop up crews, ensure at least two firefighters remain in the area to monitor for re-ignition or spread of fire.
3. Schedule for follow-up checks by crews to ensure the fire is out in mopped up perimeter.

### **Suppression**

After primary line work is completed and a fire is called "Under Control," many things remain to be done to make the fireline safe and put the fire out. This work is called mop up. The objective of mop up is to put out all fire embers or sparks to prevent them from crossing the fireline.

A certain amount of mop up work is done along with line building. Mop up becomes an independent part of fire fighting as soon as the spread of the fire is stopped and all line has been completed. Ordinarily, mop up is composed of two actions; putting the fire out, and disposing of fuel either by burning to eliminate it, or removing the fuel so it cannot burn.

The principles of mop up follow:

1. Start work on each position of line just as soon as possible after line construction and burning out are completed. Treat most threatening situations first.
2. Allow fuel to burn up if it will do so promptly and safely.
3. On small fires, all fire should be extinguished in the mop up, where quantities of burning material are not so large as to make this obviously impractical.
4. On large fires, completely mop up enough of the area adjacent to the line to be certain no fire can blow, spot, or roll over the fireline under the worst possible conditions.
5. Search for smoldering spot fires.
6. All smoldering material that is not put out with water or dirt should be spread well inside of lines.
7. Eliminate or put into safe condition all fuel of great inflammability, such as rotten logs and snags that are outside but near the control line.
8. Eliminate all burned trees inside of line that could, under most adverse weather conditions, throw sparks over line or fall over the line.
9. Put all rolling material into such a position it cannot possibly roll across the line.

10. Look for indications of hot spots. Some are gnats swarming, white ash, ground which shows pin holes, and wood boring insects. Feel with hands for possible smoldering spots. (Use caution to prevent burning of hands and fingers.)
11. Use water wherever possible and practical in mop up.
12. Use water sparingly, but use enough to do the job. Match the amount of water to the job.
13. Adding Class-A foam to water will greatly increase effectiveness in mop up of deep-burning fuels.

### **Personnel Safety**

In the wildland fire setting a proper brush uniform not only increases fire fighter safety it also is much more comfortable and functional. A proper brush uniform consists of leather ankle high boots. Nylon hiking boots are inappropriate because of the melting and sticking potential of the nylon. Flamex uniform pants and a fatigue shirt will be used in conjunction with a brush jacket. Hats should be worn to prevent heat absorption from the highly vascular scalp area.

Structural firefighting gear is not designed for wildland firefighting and should not be utilized for wildland fires. Safety equipment should include work gloves and eye protection. Particle masks are recommended and extras should be carried along to replace wet or clogged masks which inhibit air flow and cause CO<sub>2</sub> rebreathing.

Remember that heat is a major safety problem and all personnel should be kept well hydrated. All personnel should have access to drinking water and carry canteens or similar water containers. Sterile water bottles can be cleaned, filled with drinking water, and carried in the brush jacket pockets.

Wildland firefighting is a physically demanding operation and members should be fit and prepared mentally for a very hot, fast moving, and dangerous environment.

### **Scene Safety**

- A. Wildland fires are fast moving and extremely dangerous. These scenes require that all personnel understand these basic wildland firefighting orders.
  1. Size-up! Base all actions on current and expected behavior.
  2. Pay attention! Know what the fire is doing at all times.
  3. Have escape routes. Captains should identify them and make sure the crew knows about them.
  4. Maintain good communications. Between Command, Sectors and Crews.
  5. Give clear instructions and follow the order model to ensure they are understood.
  6. Maintain control of personnel. Captains must account for all crewmembers at all times.
  7. Post a lookout (if needed, working uphill, on windy day, etc.)
  8. Keep informed on weather, wind direction, forecast, etc.
  9. Remember safety first, fight fire aggressively but safely.
  10. Be alert, keep calm, think clearly, act decisively.

### **Crew Safety**

Wildland fires demand that Captains maintain a high level of awareness regarding crew accountability. Crew members can easily become spread out and not visible in rugged and rocky terrain. Captains must maintain communication with and control over crewmembers to ensure a safe operation. Wildland firefighting will still employ the buddy system. Watch out for each other.

### **Command Responsibilities**

The first arriving company officer that assumes Command must address the life safety, fire control, and loss control benchmarks. In a wildland fire setting the life safety benchmarks must include firefighters as well as civilians. Command must have a plan that includes safety zones for firefighters and equipment. These zones should be established early on to ensure all incoming resources are aware of them. Individual sectors can

establish safety zones depending on need or location. Safety zones should be easily accessible and large enough to support rehab sectors and equipment caches. Aerial operations should not be located near safety zones.

1. Command should be concerned itself with strategy and allow sectors to decide tactics
2. Make early offensive/defensive decisions
3. Gather adequate resources
4. Think ahead - way ahead
5. Support sectors
6. Protect and rehab firefighters

### **Aerial Operations**

A direct attack on a wildland fire may be carried out by aerial resources. Several public and private helicopter services, fixed wing, and slurry bombers are available to the Mesa Regional Dispatch Center. Aerial attacks should be considered where ground crews cannot access the fire. NOTE: See Air Operations for more detail. Otherwise a coordinated ground attack should be established to contain and control brush and wildland fires.

Water and slurry when dropped from aerial firefighting units can severely injure ground crews if they are struck by the water. When aerial operations are underway ground crews must maintain constant communication with their Sector Commander to be informed on the location of the water drops. When water drops will expose ground crews they must move 200' off the line, uphill and perpendicular to the fire line.

 <p>Standard Operating Guidelines</p>	<b>Series: 202</b>	<b>Volume II:</b> Standard Operating Guidelines
	<b>202.21: Overhaul</b>	
	<b>Effective Date:</b> September 2014	<b>Revision Date:</b> September 2014
	<b>Approved by:</b> Emergency Services	

## Purpose

To provide enhanced customer service by reducing property damage after fire control and/or overhaul. At all structure fires, it should be the Incident Commander's responsibility to ensure that proper measures have been taken during salvage and overhaul to reduce the possibility of a rekindle.

## Definitions

### **A. Post fire inspection**

Walk-through inspection of the structure to monitor for rekindles after fire control, and at scheduled intervals after the fire incident has been terminated.

### **B. Room / contents fire**

Fires that are contained to the room or area of origin and do not extend past the drywall and it's penetrations for duct work, plumbing and electrical.

### **C. Structural Fire**

Fires that extended into the wooden or other combustible building materials that make up the supporting members of the structure.

These fires may extend from room and contents fires or originate in the structural members themselves.

### **D. Fire watch**

Continuous standby of fire personnel to monitor for rekindles after a fire incident has been terminated.

### **E. Responsible party**

Owner, property manager, occupant

### **F. Thermal Imaging Camera- (TIC)**

## Procedures

For fires involving "room and contents" only, the Incident Commander will determine the necessity of post fire inspection.

At "structural fires", The Incident Commander should schedule post fire inspections at 2, 4 and 8-hour intervals post incident termination. These inspections should be performed by a different crew/individual than the crew/individual that conducted the original salvage and overhaul operation. The Incident Commander may also consider utilizing Law Enforcement to patrol the scene during the first 2 hours post-incident.

At fires involving the structure, cellulose insulation, or where extension into concealed spaces has occurred (e.g., attic walls, floor spaces), the Incident Commander should schedule crews to do a post fire inspection at 2, 4 and 8-hour intervals. Example: Command of the incident is terminated at 0800 hours; a walk-through should be done at 1000 hours, 1400 hours, and then at 2200 hours to reduce the possibility of a rekindle.

A high index of suspicion should be considered for the following conditions.

1. Fire that has spread to cellulose type insulation.
2. Fires in multi-family dwellings where the occupants in adjacent suites have been allowed back into their homes.

3. Fires that occur in or around tightly framed components, such as windows and doors.
4. Fires in confined or compartmentalized structural areas.
5. Fires in floor systems or under the structure. Sub floors and utility chases etc.
6. Other conditions that may likely result in a secondary fire.

Conventional firefighting methods of overhaul should be utilized to identify, expose and extinguish all possibility of hidden fire. Class A foam may also be used as it helps to penetrate deep compiled goods and concealed spaces; however, it should not be considered a fail-safe. Foam may also impede the Fire Investigators ability to locate the source of the fire and thus should be used after the investigator has determined the source of the fire, or has finished the investigation. Thermal imagers are also encouraged during the post fire walk through to identify any hidden fire.

For larger incidents or incidents involving special circumstances, the Incident Commander may choose to continue the post fire walk-through schedule for a longer period or utilize a fire watch for continuous monitoring of the scene. A callback crew, or a fire department service vehicle staffed with one or two members may be used to continue fire watch until released by command.

### **Post Fire Inspection**

Post-incident inspections include a walk-through of the building or areas that are safe to enter. Crews should search for any evidence of smoke or remaining hot spots. An examination of contents below salvage covers should be conducted. In some cases, additional openings in the structure may be required.

Command will be responsible for ensuring that the fire area has been thoroughly overhauled and no hidden fire remains. The company officer last leaving the scene will be responsible for ensuring total fire extinguishment. A post fire inspection will be performed prior to the last fire department unit leaving the scene. Command will be responsible for an assessment of the need for additional post fire inspections over the following twelve hours, with their plan coordinated through Alarm.

Before scheduling post fire inspection(s), the Incident Commander or his/her designee should obtain permission from the Responsible Party (RP) to re-enter the structure.

When possible, the Incident Commander should secure a key from the property owner in the event fire operations needs to re-enter the structure to complete the investigation, initiate fire watch, or conduct post fire inspections.

### **Hidden Fires**

Fire suppression operations may not detect small pockets of fire concealed in construction voids or hidden under debris. Overhaul crews, when safe to perform, should thoroughly search the fire scene to detect and extinguish these hidden fires or "hot spots". Floor, wall or ceiling areas showing evidence of extensive decomposition due to fire should be thoroughly examined during overhaul. Additional areas to check include wooden door jambs, air conditioning vents and registers, baseboards, door and window casings, and around light fixtures and electrical outlets. Thermal imaging cameras, foam application, axes, pike poles, and Halligan tools are most commonly used for this purpose. TIC's can be a valuable tool when looking for hidden fire/hot spots. TIC's by themselves may be unable to detect smaller hot spots that are capable of rekindling. Foam application during overhaul cannot guarantee complete suppression of all materials (especially cellulose insulation) and does not eliminate the need for thorough overhaul procedures.

Attic fires pose a special hazard for rekindle where insulation has been exposed to fire. Large areas can receive fire damage and can be located in difficult to reach areas. In some cases, all insulation must be removed to extinguish all remnants of fire. Plenum spaces, soffits and pipe chases should receive careful inspection as they provide possible routes for fire to spread throughout a structure. Failing to overhaul these areas invites fire extension to uninvolved building areas.

### **Defensive Fires**

Overhaul activities as described above may not be conducted on structures that have been declared Defensive Fires. Firefighter safety prohibits standard overhaul activities in structurally compromised buildings. Hidden

fire/hot spots will continue to have water applied from exterior positions until complete extinguishment.

### **Evidence Preservation**

Companies performing overhaul should continuously weigh the importance of preserving evidence with the desire to immediately remove debris and completely extinguish all traces of fire. In some cases, it may be necessary to monitor spot fires until investigators arrive on the scene. Where it is possible, evidence should remain untouched, undisturbed and in its original location. Where circumstances prohibit this, evidence should be removed under the direction of a fire investigator.

### **Customer Relations**

The Occupant Services Sector should be established by the Incident Commander at all structure fires. The Occupant Service Sector Officer should establish contact with the responsible party to assess their needs and serve as a liaison between the responsible party and Command.

Every effort should be made to assist the responsible party in notifying insurance agents, family members etc., and to answer any questions they may have.

When declared safe by Command, the Occupant Services Sector Officer should allow the responsible party to enter the structure to remove personal items. Allowing the property owner or occupant the opportunity to remove personal possessions and valuables is excellent customer service and a loss control opportunity. This may also help the responsible party understand the need for overhaul operations.

### **Securing the Fire Scene**

Securing the fire scene is also a function of overhaul. Securing refers to actions required to protect the structure and contents from any further loss after fire suppression companies have departed from the scene. Roof ventilation holes and broken windows should be covered to reduce weather damage and deter vandalism; rolled plastic is ideal for this use.

For safety reasons, remaining glass shards should be removed from the frames of broken windows prior to installing covers and always prior to leaving the scene. If necessary, doors and windows may need to be boarded up to prevent unauthorized entry or vandalism. The Incident Commander will have a list of board up companies to utilize in this event.

Securing the scene also includes the actions required to insure the safety of all persons likely to visit the incident scene. Once a hazard zone is established during firefighting operations, it must not be abandoned prior to removing or stabilizing the hazard. Overhaul companies must provide a means of identifying and guarding hazards that cannot be removed or stabilized. Barricades, hazard tape, and the posting of guards are all suitable methods depending upon the severity of hazard.

 <p>Standard Operating Guidelines</p>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.22: Positive Pressure Ventilation</b>			
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	<b>Approved by:</b>	Emergency Services		

### **Purpose**

This guideline identifies the tactical application of positive pressure ventilation during structural fire operations and other techniques for use.

### **Benefits**

Positive pressure ventilation (PPV) has many benefits to fire operations. They include:

1. PPV rapidly removes heat and smoke from the building
2. PPV improves the atmosphere--thus improving patient survivability profiles.
3. Rapid removal of smoke improves the firefighter's ability to conduct search and rescue operations and loss control operations.
4. The improved atmosphere and visibility increases the firefighter's ability to conduct attack/extinguishment operations.
5. The improved atmosphere reduces firefighter heat stress.
6. PPV reduces losses caused by smoke and fire damage to the structure.
7. PPV can reduce the need for and risk of roof ventilation at many fires.

### **Application**

All ladder companies and some engine companies are equipped with high volume positive pressure fans. Command should order PPV where appropriate and early in the operation. Ladder Companies should expect to apply PPV and crews should dismount apparatus planning to take fans to the fire scene.

### **Placement of Fans**

Positive pressure fans should be coordinated with interior fire attack hose lines and placement of exhaust openings.

Fans should be positioned 12-15 feet back from the entry point. The objective is to create a pressure "cone" effect around the door. This position will also allow access for crews to enter the building.

Where additional fans are required, placing two or more fans in "tandem"--one behind the other is more effective than side by side.

### **Tactical Considerations**

Positive pressure ventilation is effective only when applied properly. Four major conditions are required:

1. An "exit" for the pressurized air must be provided and must be located in the fire area. This is generally a window, door or other opening.
2. Positive pressure ventilation must be injected to support interior fire control efforts.
3. Ceilings should be intact to prevent extension of the fire into attic areas by PPV pressurization.
4. Transitional attack from the exterior is complete and crews are moving to interior operations.

It will be the company officers responsibility to ensure that these three requirements are completed prior to injecting positive pressure into the structure.

## **Controlling Air Flow**

Air flow from PPV must be controlled throughout the operation. Too many openings or exit points reduce the effectiveness of PPV. In some cases, windows and doors that are already open may need to be closed to direct the air flow into the fire area, or the most densely affected smoke area.

When an area is cleared of smoke it may need to be sealed off and another exit created in another part of the structure to direct the air flow into the next area to clear.

Company officers or Sector officers will be responsible for coordinating this effort.

## **Positive Pressure for Exposure Control**

In some cases, PPV can be used for exposure control. This is most effective with common attics (i.e., strip shopping centers, apartment complexes) or where separating walls may have been breached (i.e. plumbing, cracks, etc.).

The objective is to introduce PPV ahead of a moving fire and force it back into the fire area.

An exit point in the fire area is needed in most cases.

For exposure control, the fans(s) would be placed at an entry point at most severe exposure first. If a heavy smoke condition exists, it may be beneficial to create a temporary opening (i.e., door) to allow an exit for the pressure and smoke. Once smoke has cleared, the exit should be closed, the building sealed, so that it will "over pressurize" the exposure. An opening in the ceiling will be required to pressurize the attic area. Over pressurized air will force hot gases back down common attic spaces towards the fire area. This can prevent fire spread extension.

The second most critical exposure would then receive PPV in a similar manner.

The next priority would be the fire occupancy.

## **Multi-Story / High-Rise / Below Grade Structures (i.e. Parking Garages/Basements)**

Multi-story high-rise or below grade structure fires require greater coordination and additional fans.

Stairwells should be used to direct air flow from PPV. A stairwell should be selected. An exit in the fire area (i.e., window) is a first choice. In some situations, a stairwell on the opposite side of the fire area can be used. An exit for the exhaust must be obtained. A roof door is appropriate.

Multiple fans may be required. Two or more fans may be needed at the ground level of the building. Additional fans may be needed on landings at various levels in the stairwell. A fan will be needed at the entry to the fire floor.

Multi-story high-rise or below grade positive pressure ventilation is complex. A Ventilation Sector should be established to coordinate all aspects of PPV on all floors.

## **Positive Pressure for Exposure Control**

In some cases, PPV can be used for exposure control. Do not use if a common attic is shared and exposure has ceiling openings into the attic space.

For exposure control, the fans(s) would be placed at an entry point at most severe exposure first. If a heavy smoke condition exists, it may be beneficial to create a temporary opening (i.e., door) to allow an exit for the pressure and smoke. Once smoke has cleared, the exit should be closed, the building sealed, so that it will "over pressurize" the exposure. The objective is to pressurize the exposure area to prevent smoke from entering not feed more air into the attic space.

## **Large Buildings**

Buildings with large square footage may require multiple fans, perhaps at more than one location to effectively remove smoke. These situations are more complex and require close coordination of PPV with all sector officers. Command should consider a Ventilation Sector to coordinate all ventilation operations in large buildings. Phoenix Fire Vent 1 should be considered/requested in these situations.

## **Precautions**

Positive pressure ventilation can create problems if not effectively managed, monitored, and coordinated. Be aware of the problems listed below and take appropriate corrective action.

1. An exit must be in the burned area or the fire may be pushed into the unburned portion.
2. Because of positive pressure, a "blow torch" effect of fire blowing far out of the exit may occur. This is normal and predictable; adjacent exposures may need to be protected.
3. Do not direct a fire stream into an operating PPV exit point.
4. All concealed spaces including attic areas need to be checked for extension.
5. Company officers and/or sector officers will be responsible for monitoring and coordinating the application of PPV.
6. Gas powered fans do produce carbon monoxide and breathing apparatus may be required when PPV is used during overhaul operations.

 <b>Standard Operating Guidelines</b>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.23: Wildland Deployment</b>			
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	<b>Approved by:</b>	Emergency Services		

**Purpose**

It is intent of this guideline to facilitate the distribution of Wildland assignments so that members have the opportunity to increase their experience level and also to assist them in completing position task books. This guideline will help ensure the equitable distribution of wildland assignments and allow the SFMD to assign crews in an expedient manner.

**Procedure**

1. The Arizona State dispatch center will contact the City of Mesa Regional Dispatch Center when a request for wildland resources is initiated from the East Central Arizona Wildland Response Team (CAWRT).
2. Upon receiving the page from the City of Mesa Dispatch Center. The SFMD Wildland coordinator will obtain permission from the Operations Chief to deploy resources to the wildland assignment.
3. Following approval from the Operations Chief, the Wildland coordinator will contact the on-duty Battalion Chief to send an email/text notification to the wildland team members.
4. Team members will be given 10 minutes to respond to the request for manpower. The Battalion Chief or his/her designee will form a list of the personnel who responded.
5. The Battalion Chief will create a list of personnel who responded and make selection based first on seniority and second on lowest total wildland hours (\*\*this is only for the 1<sup>st</sup> assignment of the season, subsequent assignments are based on lowest wildland hours). The assignment of personnel will be divided into engine bosses, engineers, firefighters and trainees (as required).
6. After personnel have been assigned to a wildland deployment, Telestaff should accurately reflect the wildland hours a person has accumulated during the assignment.
7. Wildland hours will be “zeroed” every January 1st.

 <b>Standard Operating Guidelines</b>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.24: High-Rise Strategy</b>			
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	<b>Approved by:</b>	Emergency Services		

**Purpose**

This guideline will describe how to respond to high-rise operations.

High-rise fires present unique problems to firefighters accustomed to operating at ground level, primarily those of access, rescue, fire control, exposure protection, ventilation, and personnel safety. Successful high-rise fire operations are initially offensive, using aggressive positions and postures in all tactical tasks and functions.

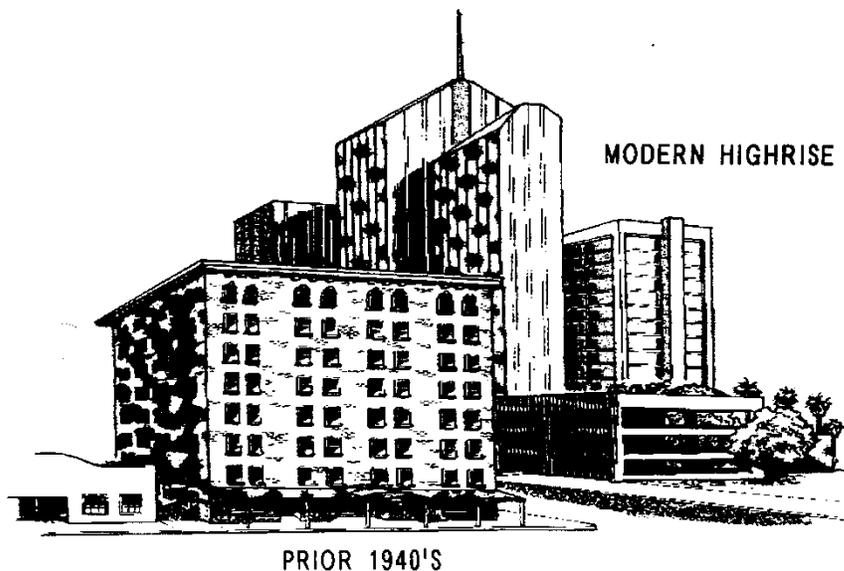
**High-Rise Incident Overview**

Access, to the building is complicated by the possibility of falling glass, by building setbacks, and is often limited to only one face of the building. Access to floors beyond the reach of aerials is limited to stairwells, which are typically closely spaced in the “core” area of the floor. The location of the stairwells may, or may not be at the unburned portion of the floor, and may cause the firefighters to enter directly into the fire rather than from the “outside in” as we are accustomed.

Rescue of occupants trapped on the involved floor is slow, and if they are too high to be evacuated by aerials, rescue is compounded by the necessity of using the stairs and possibly going through the fire to reach them. If the occupants do reach the stairwells, a building population (larger than the number of firefighters on duty) may be attempting to descend the same stairs from which we must stage, extend hose, and fight fire.

Fire Control is compounded by the inevitable delayed response to the fire floor, and by increasingly more severe fire loads in larger, more open, and lighter weight structures.

Prior to the 1940's, high-rise floors were relatively small, utilizing operable windows for natural light and ventilation. These predominantly steel-framed structures were encased and subdivided with heavy masonry walls, (and the codes we use today for fire resistance of structural members were based on the then, normal fire loading of 8000 B.T.U.'s per pound of contents). The result was slow moving fires in small compartments with the building mass absorbing much of the energy of the fire.



Modern high-rises are as much as 75% lighter in mass than these earlier buildings. They are also taller, with open landscaped floors as large as 20,000 sq. ft. The content loading in a modern high-rise can generate as much as 2-1/2 times the B.T.U. output of the fires from which the fire codes were derived.

These large, open floors provide ample oxygen and fuel, and high-rise fires are capable of reaching flashover in less than 10 minutes. Couple this with a typical response time of 20 minutes to the fire floor and you may find a fire on arrival that is already beyond the ability of hand lines to control, and beyond the limits of the structure to contain. There are other problems. Because high-rise buildings are tightly sealed to contain the conditioned air, they present a serious potential for backdrafts. Add to this a potential for open shafts, unprotected vertical openings in remodeled and new structures, electrical hazards, and unrelieved heat and smoke and it should be apparent how difficult the extinguishment of a high-rise fire can become.

The exposures are stacked vertically (the direction the smoke convection and heat conduction want to go), and the size of the lines used to effect control and protect exposures is limited to those that can be deployed and connected in stairwells. Multiple avenues of extension through the floors exist. Most will resist fire to some extent, but a serious fire will eventually find some opening to the upper (and lower) levels.

Placing multiple lines to cover the numerous exposure points on the floor above is a slow and cumbersome task. It is very difficult to get adequate resources above an extending fire in time to stop it.

Safety is a primary concern because of poor egress/escape, unforgiving fire behavior, excessive heat and smoke, panic of occupants, and fatigue of firefighters.

Providing ventilation for attacking crews, without extending the fire to upper floors, is also very difficult. High-rise floors in the Phoenix-Metro area are tightly sealed, predominantly fixed glass compartments that are designed to resist the travel of smoke and fire to the upper levels. This is beneficial for limiting fire extension, but it also serves to impound the heat and smoke on the fire floor. We cannot ventilate vertically through the concrete slabs to the floor above, we can only ventilate horizontally and mechanically. Ventilation is usually accomplished by breaking the glass from the floor above. This exposes the floors above to flame, the firefighters on the fire floor to unpredictable winds, and persons on the ground to broken glass. If ventilation is not accomplished, the fire gases and heat will eventually pressurize into the core and extend to other floors.

Even when ventilation is effected, it may be sometime before the heat is lifted and vision improves because the heat is impounded in the slabs above and below, and will continue to generate steam from water from the

hose streams. A high-rise floor fire is like an above-ground basement fire, and the firefighters must be prepared for a lengthy, punishing operation.

### **Resource Demand**

Resources required to control and extinguish a high-rise fire are substantial. Experience with major high-rise fire reflects the need for 200-300 fire personnel. In addition, a major support effort and Command structure is required to maintain a campaign firefighting effort.

### **Evacuation Policy**

The evacuation route available to occupants of a high-rise building is normally limited to two stairways. The stairways are also the prime access route for firefighting forces to make an attack.

Occupants in the immediate fire area should first be evacuated as quickly as possible to three floors below the fire floor or other safe environment. Further evacuation should be based on risk to the occupants, since premature evacuation often hinders fire control efforts and adds to general confusion at the scene. The determination of risk and the decision to evacuate should be made by personnel on the floor and coordinated by Command.

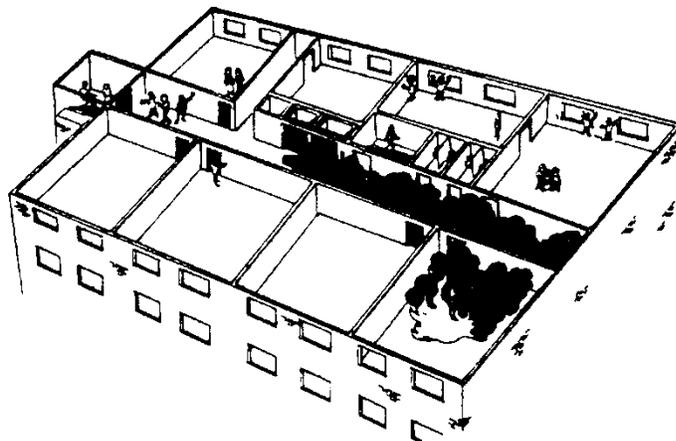
Subsequent evacuations should be managed to avoid interference with operations as much as possible (see Evacuation Sector). If sufficient police personnel are available at the scene, they may be used to good advantage in assisting with evacuation. Police assistance may be most valuable in controlling evacuees in the Lobby and preventing re-entry.

### **High-Rise Tactical Operations**

The **Tactical Objectives** in a high-rise fire are:

**Secure and maintain a viable Exit stairwell.** We may not be able to control the fire in time to prevent extension to the remaining occupied floors. We must protect the way out and our way in.

**Rescue any immediately threatened occupants.** An aggressive offensive, coordinated attack has proven to be the most effective tactical option in the majority of high-rise fire situations. Rescue, in most cases, should be limited to those in immediate danger on the fire floor(s). The remaining occupants should be kept in or removed to safe refuge within the building.



1. **Stop the production of life threatening heat and smoke by extinguishing the fire.** Continuous relief of heat and smoke and proper application of water on the fire floor(s) until extinguishment.
2. Manage the spread of existing heat and smoke throughout the building by pressurizing the stairwells, controlling the building H.V.A.C., and, if possible, cross ventilation of the fire floor. As soon as possible relieve the pressure of heated, toxic gases to prevent them from moving into the core and onto other unoccupied floors.

3. Start Property conservation early and address loss control in all objectives.

### **Immediate Priorities**

The **initial arriving units** to a fire in a high-rise building should be concerned with:

1. Requesting additional resources if there is evidence of a fire.
2. Establishing Command and Lobby Sector. Assessing lobby conditions, verifying actual fire and fire location(s).
3. Providing, or verify, a continuous water supply.
4. Supporting the sprinkler system (if present)
5. Identifying the fire floor.
6. Providing for the life safety of persons in immediate danger.
7. Obtaining keys from interior lockbox. Distributing keys, stair phones, and schematics to crews.
8. Recalling and assuming control of the elevators.
9. Assessing stairs, designating firefighting/evacuation stairs.
10. Providing for search and extinguishment on the fire floor.
11. Providing for firefighter safety, survival, accountability, and welfare.

### **Initial Attack**

Initial Attack should consist of at least three (3) companies, preferably 2 engines and 1 ladder. The officer leading the attack will be responsible for selecting the method of ascent to the reported fire area (elevator, stairs) depending on conditions and safety concerns. The annunciator panel must be checked for additional information prior to ascending to fire floors.

As soon as the fire floor is reached and identified, the officer will give Command a progress report of conditions on the fire floor, immediate needs, and a confirmation of the actual fire floor(s) number. Command should then establish the fire floor as a Sector (Floor 16 = Sector 16).

When a building has multiple standpipes, the fire floor Sector Officer must advise Command where water is needed and Command will confirm the availability of pumped water to that particular riser.

At least one member shall remain in the lobby area as Lobby Sector and to gain control of all elevators using Emergency Recall or Fire Feature. Lobby Sector must maintain accountability for attack companies and their method of ascent.

The Initial Attack companies will go upstairs with only SCBA's, bottles, portable radios, flashlights, hose packs, and forcible entry tools. If access is via an elevator, an extinguisher should also be taken. Other equipment will be pooled in the lobby until a Resource Sector is established (See Resource Sector).

### **Water Supply**

Command or the initial engine on the scene should have an engine from the 1st assignment spotted on a hydrant sufficiently close to the connections for the standpipe/sprinklers to properly supply the system. In most cases, it is best to have the engine at a hydrant away from the risk of falling glass, but in very tall buildings the pumper must be located at the base of the tower to provide adequate pressures. If there are multiple standpipes, hose must be connected to each inlet. If the chosen hydrant is not close to the dedicated fire department access, then the crew and equipment can be dropped at the designated entrance and the Engineer continue to the hydrant to make the connections (the Captains and crewmembers may assume Lobby control functions in many cases). Dry standpipes should be pressurized according to standard hydraulic calculations. In wet systems, the lines should be wetted, but not pressurized until verification that the fire pump is not operating. Wet systems may require that the fire engine duplicate the system's pressure provided by the fire pump. Lobby may be able to verify the building fire pump operation from the Fire Control Room or by sending a crewmember to the pump room.

The pump operator should take a position away from the hazard of falling glass until pumping operations are

necessary. The pump operator should take shelter in engine cabs during pump operations to be protected from falling glass and other debris.

### **Access**

Companies must use extreme caution when approaching the building due to the possibility of falling glass (expect falling glass and don't loiter outside). Access to the building should be through a predetermined door as close as possible to the Fire Control Room. If the building does not have 24-hour security, an exterior lockbox should be provided containing a key to the exterior door. An interior lockbox should be provided at, or in, the Fire Control Room containing elevator recall/operation keys and master keys to the building (at least four sets).

One set of keys, a stair phone, and a copy of the building floor plan should be issued to the officer going to the fire floor and a second set to the officer going to the floor above. At least one set of keys should be retained in Lobby to access fire pump rooms, main electric rooms, etc. Access to the upper floors should be by elevator if possible. Elevators provide a faster, less fatiguing method of getting to upper floors and permit more equipment to be carried.

Occupants may be exiting the stairs and impeding firefighters. Most high-rises in the Phoenix-Metro area have only two exit stairwells and both are required when an evacuation is in progress. A majority of the high-rise buildings in the Phoenix-Metro area are equipped with A.N.S.I. Phase I and II elevator override functions. Firefighters should utilize the least occupied stairs to avoid the crush of descending occupants.

If the stairs are full of smoke, provide fan pressurization at the base to prevent the consumption of air bottles before reaching the fire floor. Crews should limit hand carried equipment to hose packs, forcible entry tools, and bottles.

### **Lobby Sector**

1. Open interior lockbox, remove keys, and access fire control room.
2. Distribute keys, stair phones, and pre-fire plans to crews.
3. Identify fire location(s) utilizing alarm panel, witness reports.
4. Recall and assume control of elevators. Assess for FD use.
5. Verify fire pump is running (water may need to be flowing before pump is activated). If there is no fire pump, cause standpipe to be charged by communicating with Command.
6. Identify attack and evacuation stairwells (Attack from the stairs with a roof opening, if possible, so that smoke entering the stairs through the door you enter with a hose line can be exhausted.).
7. Verify stair pressurization, if present. If not, fan pressurize as soon as possible.
8. Verify auto stair door unlocking.
9. Verify air handler status. Shut down if not known to be beneficial.
10. Direct Security, if available, to remove occupants exiting to the exterior through lobby or down stairs to a position away from the area of failing glass or debris.
11. Activate building intercom, but do not silence alarm or direct occupants in a mode of evacuation until conditions are known -- until a size-up and report is made by crews on the fire floor and vertical extension is assessed on floor above.
12. Verify emergency generator operation if building power is interrupted.
13. Account for members going aloft. Only the 1st Alarm units will split crews, all other units operating in the building should remain intact. All units must be accounted for by Unit I.D. and PASSPORT. Any crew or individual operating in the building shall have full protective gear, radio, forcible entry, and/or keys, and where possible, spare air bottles. If the elevators are inoperable or unsafe for use, then the ascent must be made by using the stairs.
14. Evacuate any occupants trapped in elevators at Lobby level.
15. Divide the Lobby floor into areas for staging and treatment of occupants and staging of

incoming firefighters and equipment.

The tasks assigned to Lobby are numerous and demanding. Command should provide additional resources as necessary to assure that critical tasks are accomplished.

### Elevators

To expedite time of arrival to the fire floor and to avoid the occupants -descending the stairs, crews should utilize elevators whenever safe and possible. Erratic elevator operation, however, has been the cause of numerous firefighters deaths, so the following conditions must be met before use.

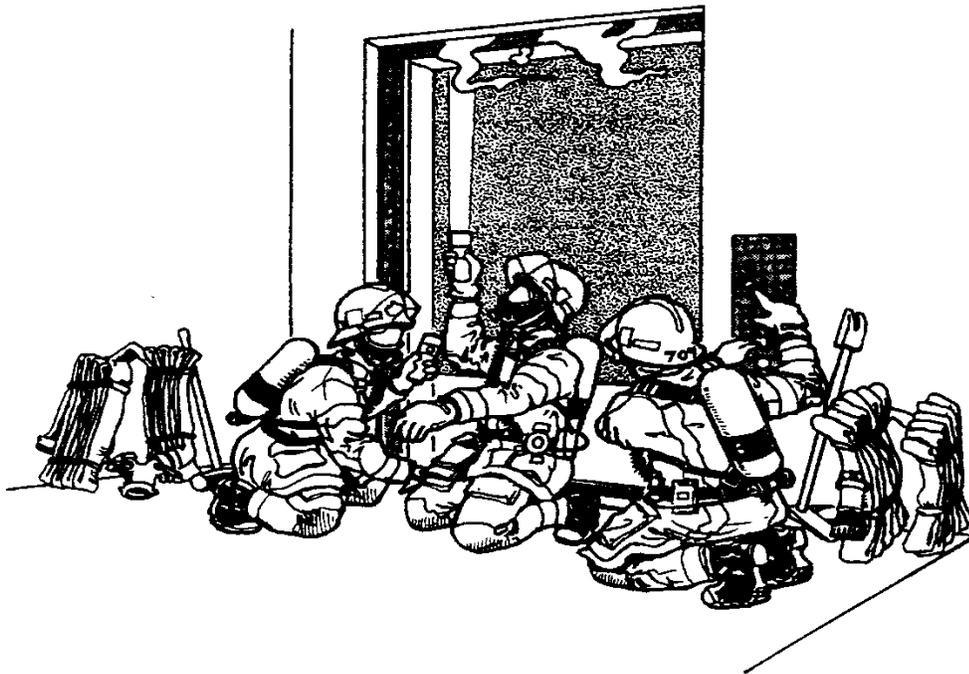
1. Only elevators having A.N.S.I. II “fire feature” may be used for fire department operations (A.N.S.I. Phase I provides for automatic recall of elevators when designated alarms are activated. A.N.S.I. Phase II provides for key activation and use of the recalled elevator cars).
2. The shaft must be clear of smoke.
3. Only members trained in the operation, use, and methods of escape from elevators will operate the cars.



4. Only one crew (with the operator) and equipment at a time will use the car to avoid overload, and to permit room for emergency maneuvers in the car.
5. Crew and operator must be fully dressed with S.C.B.A. face pieces in position for quick donning before ascent.
6. A radio, forcible entry tools, step ladder, water extinguisher, and spare bottle should remain in the car with the operator.
7. Elevators that travel through a blind shaft should not be used. A blind elevator shaft is defined as the portion of a shaft where normal landing entrances are not provided. If an elevator whose shaft terminates below the fire floor is present, use that car. If not, utilize an elevator that serves all floors, that is remote from the fire floor, such as a freight elevator.
8. Elevators with door opening restrictors should not be used unless forcible entry tools are left in the car. At present Arizona codes do not provide for side exiting and top hatches are bolted shut.
9. Avoid using the radio in or near the elevator control room. It may disrupt elevator controls.
10. Know where the stairwells are prior to entering the elevator.



11. Crews beginning the ascent should attempt to stop the car at the first typical tower floor, but not over five floors, to verify that the 'fire feature' is working. While stopped at that floor, note the relationship of the elevator to the closest exit stairs in the event the car does become erratic and the door opens into flame on the fire floor.
12. If the Lobby or Fire Control Room position indicator showed cars not returned to Lobby, it may be possible to combine the floor check with a search for the stalled cars on the way up. If the car performs properly, continue the ascent to two floors below the indicated fire floor, stopping every 5-7 floors to check the elevator operation. Check the shaft for smoke every time you open the door.



### **Emergency Elevator Conditions**

Normal elevator operations, fire features, and the interlock safeties are all electronic programs and can be made erratic or inoperative by excessive heat and smoke. No one should use an elevator in a fire situation that is not trained to self-extricate from the car under emergency situations.

If you see smoke under pressure, or an accumulation of smoke so great you cannot see the top of the shaft, exit the car at that point and climb the remaining floors. If the "fire feature" is still operational, the operator should exit and allow the car to be recalled to Lobby on "bypass". If the shaft is still clear, continue the ascent.

Should the car, at any time, become erratic and unresponsive to operator commands, activate the Emergency Stop (The rebound from this sudden stop might place the car in an overload condition if it were it loaded with two crews and equipment). If the Emergency Stop fails, pry open the car door and trip the interlock. If that fails, put on your face pieces, get low in the car, and if the door opens onto the fire floor, move to the stairwell under whatever protection you can gain from the extinguisher.

The elevators should not be used for occupant evacuation until fire control is achieved, unless the shaft is made of concrete or masonry, and does not open to the fire floor. The occupants do not have self-contained breathing apparatus or turnouts to shield them from smoke flashing in the shaftway, nor are they prepared to climb down the shaft, or make the drop to a misaligned floor from a stalled car.

The members of the Technical Rescue Team and the (Phoenix Fire Dept) High-rise Teams, however, are trained in these operations and while elevator use at fires can be dangerous, the benefits of arriving at the fire floors fresh, in a fraction of the time, with a full tank of air, necessitates use of the elevators, when safely possible.

## **Stairwells**

A first priority for Command/Lobby is the identification of the attack and evacuation stairwells and a size-up of smoke conditions in each. If the stairs exit into the lobby, the size-up can be made by Lobby Sector. If the stairs exit to the exterior, Command/Lobby must send runners with keys to assess each stair condition.

At the time of arrival to a significant fire, the occupants may be descending both stairs, as most high-rises require both stairs for effective evacuation. Any smoke in the stairwells at this point is probably the result of smoke pressure on the fire floor escaping into the stairs as the occupants exited the fire floor.

If the building is equipped with automatic stair pressurization, it may be effective at this point, if most of the other doors in the stairwell are kept shut. In practice, a mass evacuation will cause most of the doors to be open a substantial amount of the time, with result in a loss of pressurization and significant smoke accumulating in the stairs. It is doubtful that with the fire loading now encountered in a high-rise that the pressure created by building stair pressurization will be sufficient to contain the smoke pressure generated by a fully involved floor fire.

The purpose of built-in stair pressurization is to maintain a positive pressure in the stairwell and impound the smoke on the fire floor. Experience has shown that a small fire will be accelerated by the incoming air if the door is left open, but that most of the smoke will be held on the fire floor.

A primary objective of the first arriving units is to maintain a smoke-free exit way both for occupants leaving the building and for firefighters staging and preparing to extend hose.

A large volume fan should be placed at the opening to all stairs to pressurize the stairwell and to provide an upward current of air. This will help to hold the smoke out of the stairs and will allow the occupants to descend into a cleaner environment with every step.

In buildings where the stairs continue to the basement level(s), the fans should be placed at that location to keep the noise out of the lobby. Gas fans placed in stairs without a roof opening should be replaced as soon as possible with electric fans to prevent an accumulation of carbon monoxide in the shaft.

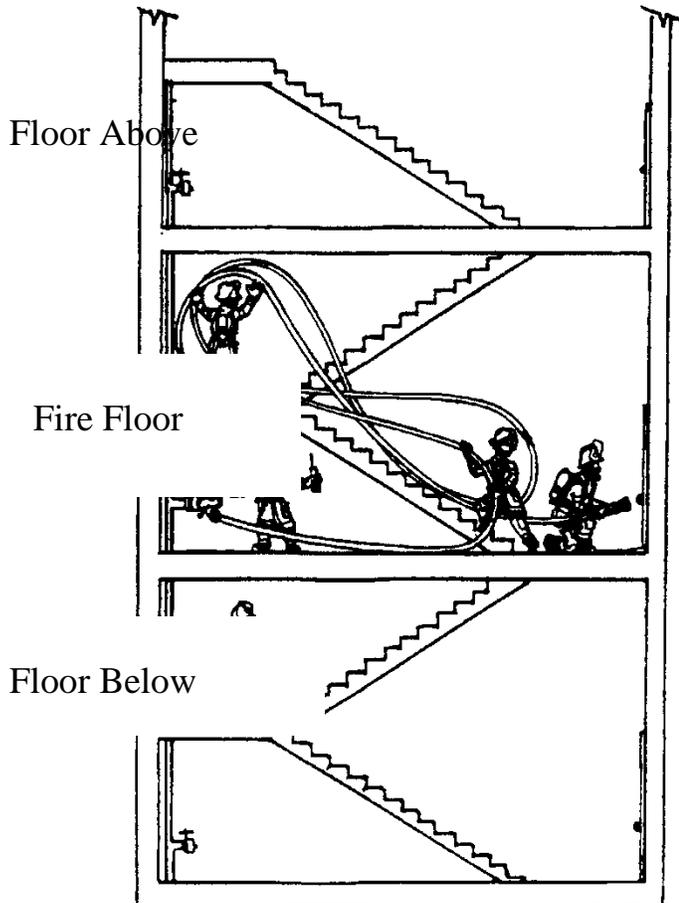
Evacuation of the smoke trapped in the upper stairwell requires a roof opening. If the building is not equipped with stair pressurization, but the stairwell is either open to air or has a dampened opening at the top, the smoke can be fan exhausted by fire department crews using P.P.V. with large volume (22,000 C.F.M.) fans. **Do not leave the fans unsupervised.**

A company with radio, keys, and spare bottles should be sent to the roof door as soon as possible as Roof-Sector. Their task is to open the stair door or hatch at the roof and provide an outlet for smoke.

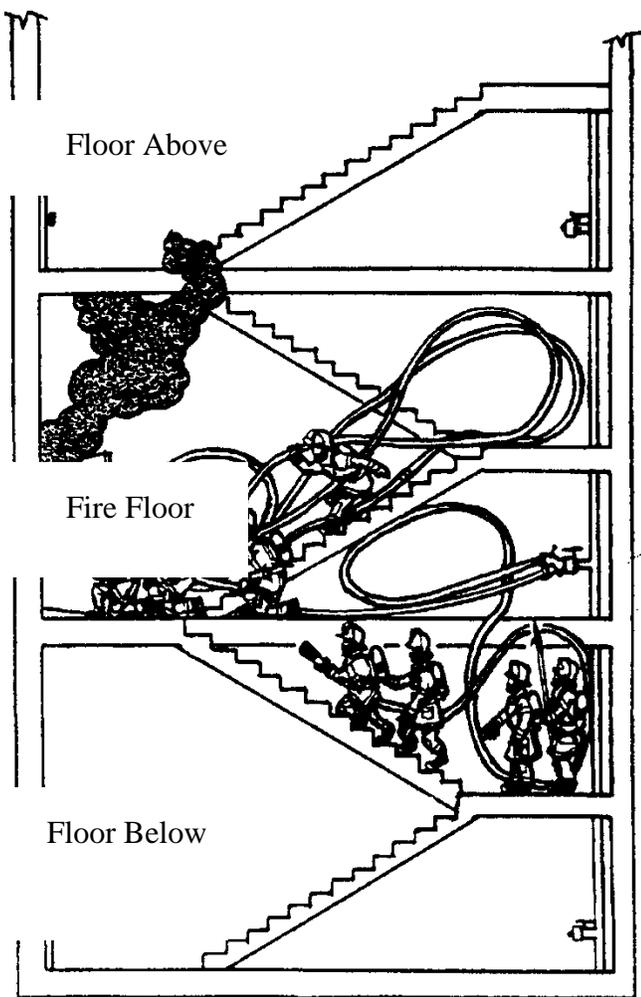
When firefighters open the stairwell door to advance hose lines on the fire floor, significant smoke will enter the stairwell. Occupants descending from upper floors must be allowed to pass before opening the door and exposing them to hot gases and flame. Persons entering the stairwell after the door is opened and fire attack is initiated, should be directed across the building to the evacuation stairs when possible.

## Extending Hose Lines for Initial Attack

The possibility of backdrafts--the possibility of flare-ups from the sudden loss of windows--and the high probability of flashover temperatures all require that the initial attack line be charged before entering the floor. The easiest manner to extend hose onto a fire floor is to stretch it up the attack stairwell and pull it down as you advance onto the floor. Crews should layout the dry hose approximately 6" from the outside wall as they progress up the stairs.



When charged, the hose will expand against the wall without kinking. The firefighters extending hose on the upper landings will be exposed should the fire flash out the stair door and up the stairs. A back-up line with a fog nozzle should be in place before opening the door to advance the attack line, both to protect the attack crew and the firefighters in the stairwell.



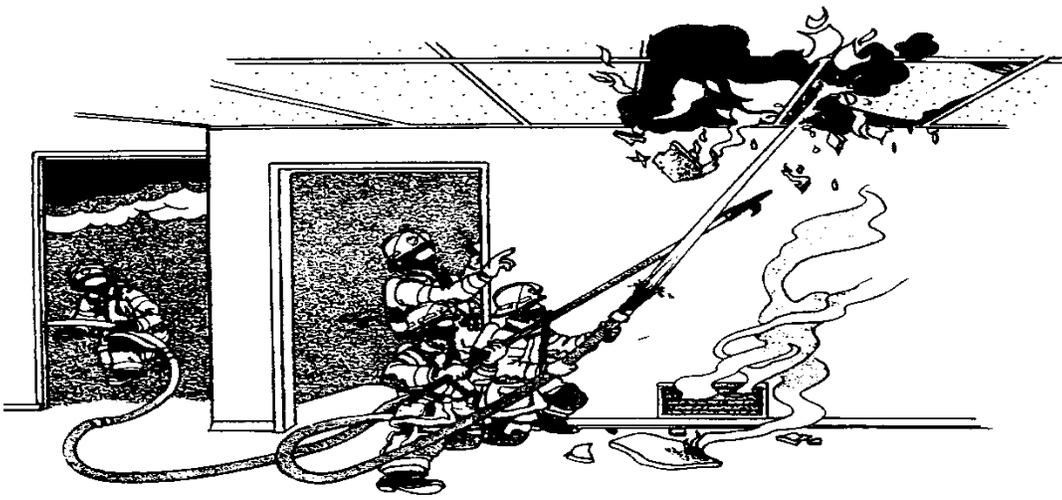
Connect both the attack line and the back-up line to the gated wye on the fire floor and assume a position below the level of the stair door as the door is opened or forced.

Heat from a fire near the stair door may have warped or expanded steel doors or jambs and they may have to be forced even though they are unlocked. Crews must insure that composite type stair doors are not consumed by the fire before occupants descending from above have passed. Protect these wood veneer, gypsum filled doors with fog streams.

### **Initial Attack Considerations**

Crews preparing to enter the fire floor should be aware of the floor layout, including the locations of the elevator, stairs, and floor subdivisions or zones. They should also be aware of the distribution pattern of the supply and return air systems. Smoke and heat under pressure will migrate to the lesser pressure of open shafts and return air ducts, usually located in the core. Crews may be crawling at floor level in limited vision, and the officer must select the most unobstructed approach, with the flow of heat away from the firefighters as much as possible.

Crews will most likely be advancing from a stair located in the 'core' of the building. If the core is surrounded by an open, un-subdivided floor plan, the potential for fire wrapping around the core exists. To protect against this, the officer in charge of the fire floor should create a backup line in the opposing direction to protect the point of entry/egress. Fire can also communicate overhead in the plenum space above the dropped ceiling. An additional line may be required to cool and protect this area.



Crews advancing on a high-rise fire should employ a straight stream or narrow angle fog when possible. This is both to reduce the amount of local steam production and to provide the maximum reach and volume for hose streams. The objective of the attack line is to create the greatest amount of steam conversion at the point of fuel gas generation (the seat of the fire), benefiting from cooling and smothering at that point. Steam created by directing fog streams into other heated areas will serve to reduce the overall heat on the floor, but will also penetrate the turnouts and hoods of the firefighters, making their progress toward the seat of the fire slower - if not impossible.

For safety reasons, the initial line should be equipped with a fog nozzle. High-rise buildings are tightly sealed and present a great potential for backdrafts. In addition, the increasingly volatile loads created by synthetic furnishings and materials have accelerated the rate and intensity of burn. At the same time the structures are becoming more lightweight and decreasing in total mass. The result is an increased potential for rapidly rising temperatures and flashover before arrival. The loss of windows can also suddenly accelerate the fire as driving winds bring new oxygen to the flame.

The plenum space above the dropped ceiling may represent the largest unobstructed space on the floor, as much as 25% of total floor volume. If fire conditions permit, crews should check the space for fire extension by pushing up one of the panels, but not in an area where impinging heat will impede the progress of the attack line. If high heat prevents standing and visually inspecting this space, hose streams can be used to rip down the panels, but crews must assess whether this will aide or impede their attack.

Firefighters advancing on a fire may find their progress blocked by partial walls or other subdivisions of the floor. Space dividing panels sometimes can be knocked down, and permanent walls of gypsum on steel studs may be breached to provide nozzle access to the fire.

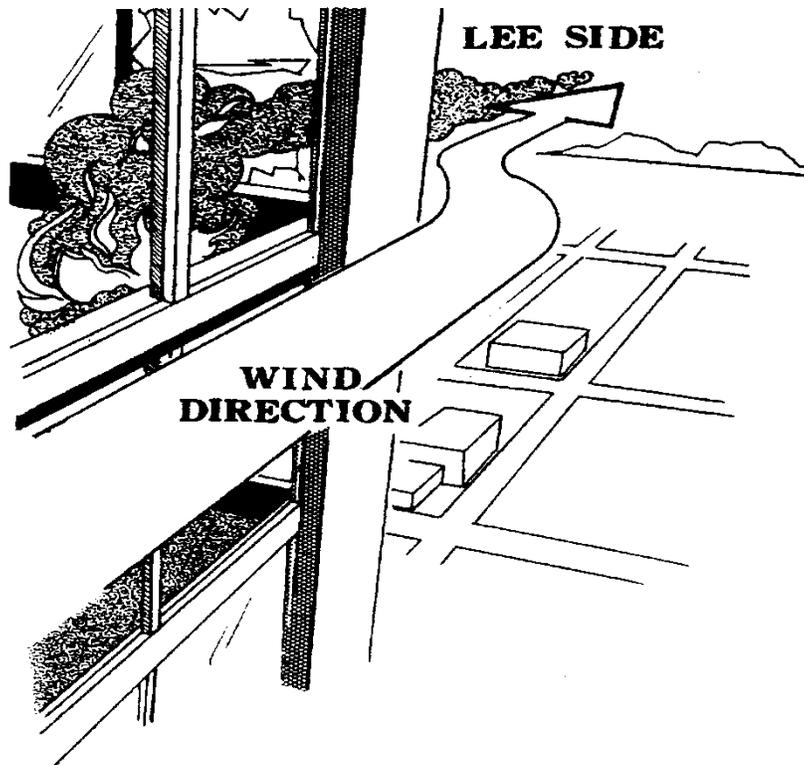
Where possible, crews should attempt to flank the fire and convecting gases. Core area fires are the most difficult because the fire often involves both stair areas. Fires near the exterior walls are easier to flank and confine, but are more prone to rapid extension to the next level through broken glass.

Rescue on the fire floor is most difficult when the core area is involved. The core fire may have prevented occupants from reaching the stairs. Firefighters removing occupants may have to remove them back to the stairs.

Firefighters should search any involved floor with a charged line and use it as a reference point when searching. If the smoke is dense, return to the line after sweeping each room or area, to orient yourself.

Providing ventilation on the fire floor is extremely difficult. Every effort must be made not to break the glass with hose streams until knockdown is achieved or wind conditions are known, as the sudden addition of wind driven oxygen may accelerate the fire beyond the limits of the attack line. Building exhaust systems, if present, may be employed to some advantage and the windows may be broken from above or below in a coordinated manner after wind direction and intensity are verified or after fire control. Crews on the upper, or lower floors, are not moving in smoke and heat and can determine the location of the lee side of any winds by removing a

panel. Ventilating on the lee side reduces the potential for gusts pushing flame into the attack crews, but winds acting upon a high-rise are unpredictable and frequently change direction and speed. Be cognizant of conditions in the building and achieve ventilation as soon as possible when crews are in hot, vulnerable tactical positions ... or pull the crews out. Crews must use extreme caution, to protect against falling, if windows have been removed. Some glass panels extend to the floor level.



The severity of the heat in a serious fire may limit the time a firefighter can be on the fire floor to ten minutes or less. Units in the first 2-1 should provide for rotation of crews from the less exposed positions on the floor above, and in the stairs, to taking a turn on the attack line. Command must provide for the immediate and continuous relief of these initial crews until fire control is achieved. Crews rotating off the floor and through Rehab can be assigned to the less demanding sectors and tasks remaining to be accomplished, such as beginning a property conservation effort on the floors below.

### **Floor Above**

The objectives of the crews operating on the floor above are to evacuate the floor, to assess and control vertical extension of the fire, and when possible, to provide ventilation for the floor below. In a protracted fire, the floor above will be subjected to intense heat, and any occupants must be removed as soon as possible to safe refuge.

Vertical extension must be checked in:

1. Elevator shafts
2. Supply air ducts/return air ducts/make up air ducts
3. Utility shafts (pipes, electrical chases)
4. Dumbwaiter/trash chutes/mail chutes
5. Auto-ignition through failed window glass or mullions
6. Around floor slabs at spandrels
7. Auto-ignition through floors and raceways and expansion joints or cracks caused by floor

failure.

#### 8. Floor materials directly above fire area.

All rooms and closets on the floor above must be opened for inspection. Dropped ceiling panels should be removed to locate the supply/return ducts and observe conditions in the plenum. Hollow columns and pipe chases may be checked by making small holes with a Halligan Tool.

A hose stream must be introduced at each point of extension including flooding the floor if the fire is communicating to the carpet and padding. *Caution must be observed in putting water into electrical distribution areas, including raceways in the floor.* Hose lines on the floor above can be introduced from the evacuation stairs if the floor is clear of smoke. If not, bring them down from upper landings in the attack stairway. The numerous points of possible extension require multiple lines. If present, house hose lines can be utilized for areas requiring a reduced volume, such as duct shafts. Care must be exercised not to breach shaft openings, breach spandrel panels, or break glass until necessary and hose lines are in place. If fire extends through the lower windows and melts the mullions or breaks out a window on the floor above, direct a fog stream into the opening, but avoid hitting the remaining glass if possible. The sudden cooling would cause the loss of additional panes and expose the entire floor to flame impingement.

Before ventilating from the floor above, the firefighters must first determine the direction of any winds. Winds at altitude can be many times stronger than at ground level and the introduction of wind gusts and new air on the fire floor could overwhelm the attack crews. The direction of wind at surface level may or may not be the same at higher elevations due to the effects of stratification, or disruptions in flow caused by other buildings.

If no wind is detected at ground level and the location of the fire on the floor below is known, then firefighters should begin the ventilation operation directly over the fire.

Crews on the floor above should place pressure tape, if available, on the window to be broken (if not tempered), advise Command that glass will be failing, break the panel by tapping, and pull the majority of the glass onto the floor.

Tempered and even double-pane, insulated glass is very difficult to break with lightweight tools such as a pike. Recessed windows and decorative screens will make this task even more difficult.

If strong winds are encountered at the upper level, crews must first locate the lee side of the wind by breaking out additional panels. If the lee side proves to be at the unburned end of the floor, it is inadvisable to vent until fire control is achieved, as smoke and heat will flow to the reduced pressure at the opening; quite possibly right over or through the attack team(s). Again, if ventilation is not possible and there is excessive heat on the fire floor withdraw the firefighters.

#### **Safety on the High-Rise Incident**

1. Do not operate alone. A minimum for any task except the elevator person is two firefighters with a radio. Maintain a PAR at all times.
2. Maintain full PASSPORT accountability, PASS alert, and radio protocols.
3. Wear full protective gear at all times. Conditions can change rapidly.
4. Do not operate on an involved floor without a charged hoseline.
5. Do not allow doors to lock behind you.
6. Carry the necessary forcible entry tools.
7. Be alert to backdrafts. High-rises are tightly sealed buildings. Feel metal jambs when assessing interior doors. A high-rise floor can have many compartments.
8. Be cautious of open shafts or windows. Barricade all openings as soon as possible. Vision on the floor may be reduced even after ventilation because of impounded heat.
9. Monitor your air closely. There is no diving out a window, as at ground level. 'Out' may be a 100' crawl back to smoke-filled stairs.
10. If you are sent into remote areas of the building, take a spare bottle. If you have not reached or completed your objective by the time the first bottle is spent, use the second to immediately leave. *You cannot dependably break an upper window for air in a high-rise—especially in*

*winter time. Both the pressure of fire gases in the cores and the upward winter time stack will bring smoke to the opening.*

11. Maintain a 200 foot clear perimeter around the building.
12. Do not attempt to change bottles in smoke.
13. Do not store bottles in the stairwell. You can trip and if the bottles get loose, they are dangerous to descending occupants.
14. Use the hoseline as a reference point when searching in smoke. Return to it after sweeping each room. If you become disoriented, remember female couplings take you back to the stairs.
15. Be cautious of your back-swing when forcing doors and windows in smoke.
16. Especially, do not follow the tool out a window.
17. Shut off the floor electricity as soon as possible at the subpanel or in the main electric room. Be cautious of the electricity when breaching walls or pulling ceiling.
18. Do not direct streams into the subpanel room or closet. Water leaking under the door can disrupt power to the tower.

### **Accountability**

PASSPORT accountability will be maintained in high-rise fires in the following manner:

#### **A. Initial Attack Companies.**

The initial companies to enter the high-rise building may leave their PASSPORTS on the dash of their apparatus.

#### **B. Lobby Sector Activation.**

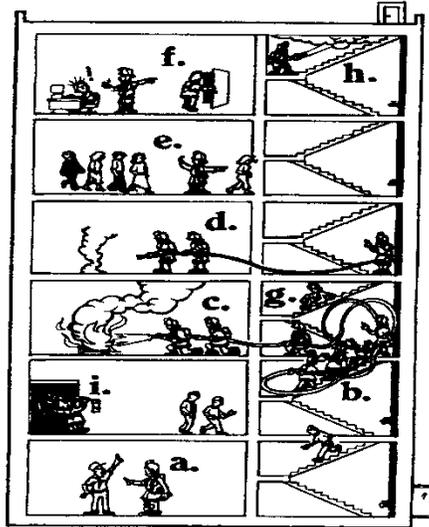
Upon the activation of the Lobby Sector, all companies sent into the building will turn in their PASSPORTS to the Lobby Sector Officer (or designated Accountability Officer). The Lobby Sector Officer must retrieve any PASSPORTS left on apparatus of initial arriving companies already in the building. Companies arriving in Lobby without a PASSPORT must have a 'make-up' PASSPORT using tags from their helmets or other make-up tags.

#### **C. Resource Sector Activation.**

Once the Resource Sector is established, PASSPORTS of crews operating above Lobby will be delivered to the Resource Sector Officer. The Lobby Sector will maintain PASSPORTS of support crews not assigned to the hazard zone (i.e., fire floor). The Resource Sector Officer will assign Accountability Officers to the stairwell doors in Resource. PASSPORTS will be collected from crews leaving Resource to a hazard zone (i.e., fire floor) and returned to crews returning to the Resource Sector. Accountability Officers will monitor duration times of crews assigned to hazard zones and report any delayed/overdue crews. Standard PAR benchmarks will be utilized for high-rise operations.

## Summary

- A. Determine location & progress of fire.
- B. Backup line in place before fire door opened.
- C. Assess progress of attack crews.
- D. Defensive Line above fire floor.
- E. Consider full scale evacuation
- F. Initiate floor by floor search
- G. Relieve crews on attack lines.
- H. Check all upper floors for smoke & fire.
- I. Safety check elevators.



In the event the fire cannot be controlled, the officers must also advise Command that full scale evacuation should begin, as there can be no safe refuge in the building, especially above the fire, unless the fire floor is controlled.

Command, at this point, must provide for the integrity of the evacuation stairs and initiate a floor-by-floor search and evacuation of the upper floors. Flowing hose lines, however, cannot be abandoned and Command must also provide for continuous relief on the attack lines.

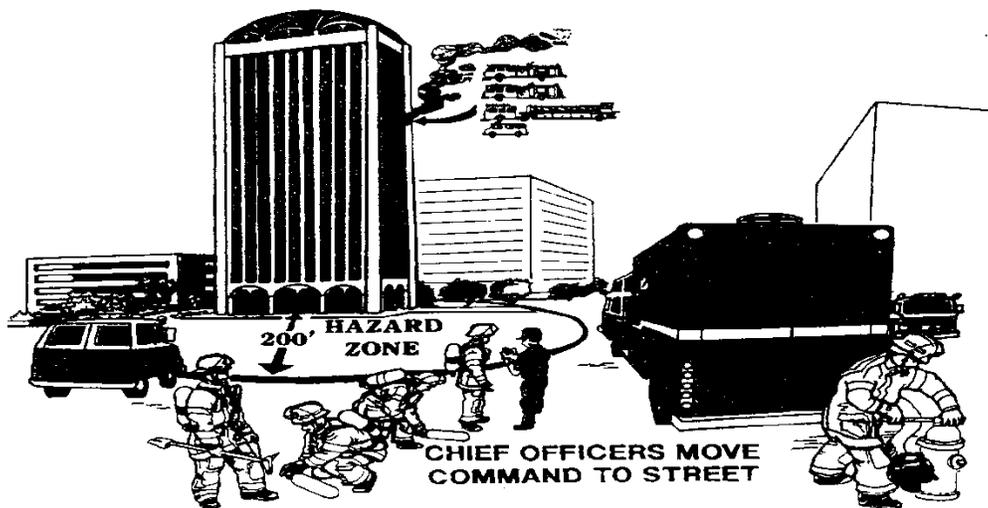
These procedures have outlined the critical objectives and tasks of the first responding units. They are intended to provide the best chance of stopping a serious fire, controlling extension of fire and smoke, and are designed to be placed in operation with the first assignment.

## Command Strategies

The first arriving engine or ladder units are likely to be the most familiar with the specific characteristics of the involved building, and when they are the first to arrive, they should retain Command until the first Battalion Chief arrives. If possible, company level Command can be mobile. The logical place for the initial arriving Company Officer to establish Command in a high-rise is in the lobby. Most of the information needed by Command is available in the lobby/fire Control Room (verification of actual fire and fire locations, number, and conditions of occupants exiting into lobby, location of elevators, status of fire pumps, stair pressurization, emergency generators, air handlers, etc.). By locating the initial company-level Command in the Lobby, much unnecessary radio traffic and confusion are eliminated. Command can communicate directly to crews on the fire floor by stair phone if portables prove unsatisfactory and to the Alarm Room by outside line.

At the first indication of actual fire or smoke, Command should escalate the response to a minimum three alarms, with the 2nd and the 3rd alarms in level-two staging. Command must inform the Staging Officer what crews and equipment he/she wants in lobby and how many alarms to maintain in staging.

The first arriving Chief Officer will establish a Command location in the street. This location should provide the best visual advantage, but be clear of any failing glass and debris. The first arriving Chief Officer should relieve the initial incident commander of the Command function and assign that officer to Lobby only. The next arriving Chief Officer-should report to the Command post and assume the Support Officer role.



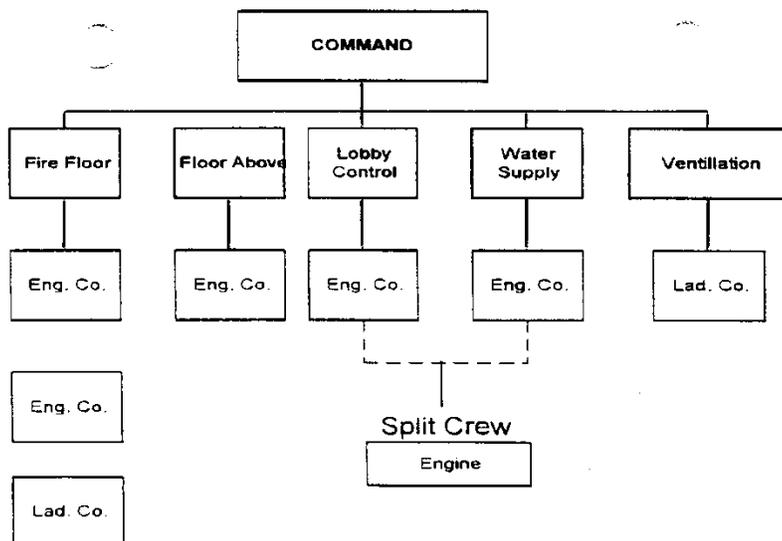
The immediate priorities of the first Command Officer are:

1. Establish strong Command position and transfer Command.
2. Verify that immediate priorities are being addressed.
3. Develop a strategic plan to address, rescue, fire control, and property conservation.
4. Provide for safety and accountability of firefighters.
5. Develop a strong Command organization.
6. Call for additional resources as needed.

### **Chief Officers**

First Alarm high-rise assignments will include four Battalion Chiefs. The first Chief Officer on scene should establish an exterior Command Post. The second Chief Officer should assume Support Officer duties. The third Chief Officer should be assigned to the Systems Branch. The fourth Chief Officer should be assigned to the fire floor sector. These assignments set the stage for the development of the Command structure outside and inside the building.

## Initial Attack Organization



## Expanding the Command Organization-Working Fire

A working fire in a high-rise may not be controlled by the Initial Attack Companies. In such a case, the operation becomes prolonged and escalates into a major operation.

A strong organization is required to support a firefighting force above ground. The principal objective of this supporting organization is to provide the firefighting sectors with resources to operate effectively and to assist in solving some of the major problems involved in high-rise structures.

Command must start to identify and build this organization as quickly as possible after assigning units needed for Initial Attack. These elements can be expanded upon as the availability of personnel increases.

The major elements which need to be considered in most working high-rise situations are:

1. Fire Floor Sector
2. Lobby Control
3. Floor Above (Extension)
4. Systems Branch (fire panel, stairwell, phones/communications, elevators, keys, building R.P./engineer)
5. Ventilation
6. Resource Sector
7. RIC crew(s)
8. Level II Staging
9. Floor Below (Property Conservation)
10. Evacuation
11. Rehab
12. Safety
13. PIO
14. Occupant Services

In addition to these elements, many or all of the Sector functions associated with standard operations may be required.

## Staging

Standard Level I Staging will be used by all First Alarm companies. Level II Staging should be established by Command when requesting multiple alarms. Any apparatus parked in close proximity to the building, by companies assigned to the interior, should be moved to a Level II area as time permits. No apparatus should be parked within 200 feet of the building.

All apparatus should remain in this Staging Area unless needed for a specific purpose. Enclosed vehicles may be employed to move personnel and equipment from the Staging Area to the building, unless they are providing a water supply.

## Resource Sector/Branch

Early establishment of a Resource Sector/Branch is essential to reduce the time-factor in placing fire crews in fire attack positions. As soon as a Resource Sector is established, firefighting personnel and portable equipment (i.e., SCBA, hose, tools, etc.) should be immediately deployed from Staging to the Resource Sector.

## Rapid Intervention Crews

Rapid Intervention Crews (RIC's) will be maintained in the Resource Sector. At least one four-member company will be assigned this duty. Additional RIC's may be assigned to other locations as needed. (See Rapid Intervention Crews)

## Systems Branch

The Systems Branch should be implemented early during a working high-rise fire. The Systems Branch Officer will be responsible for managing the following sectors:

### Lobby Sector

Lobby Sector -- The Lobby Sector will be responsible for elevators (control and track), liaison with building engineers, organize lobby for transition of evacuation, resources, treatment and firefighter access, remote air (utility trucks).



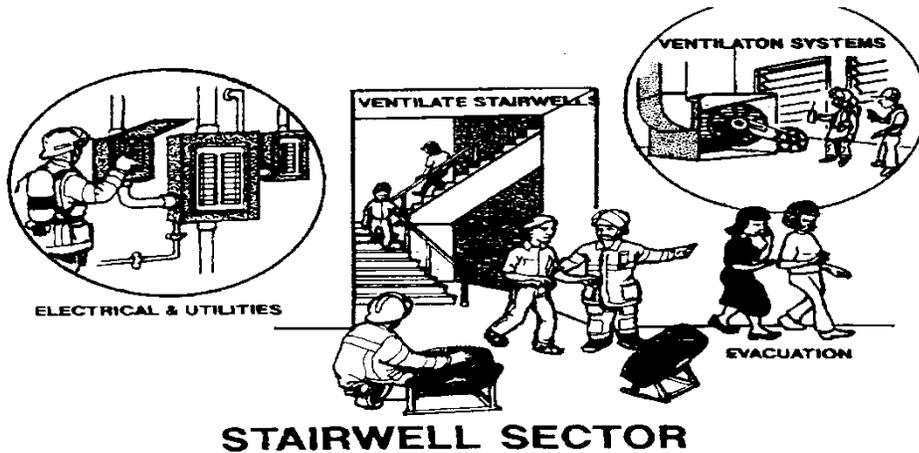
### Communication Sector

Communications Sector -- The Communications Sector will be responsible for phone systems, intercom systems, fire panel, making sure all floors have phones where needed.



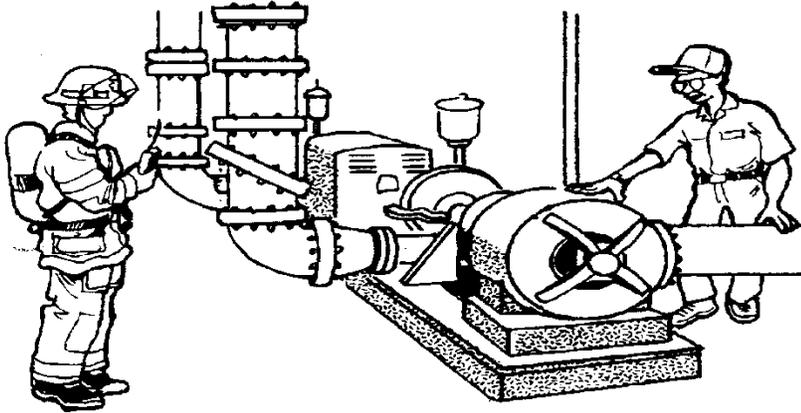
**Stairwell Sector**

Stairwell Sector -- The Stairwell Sector will be responsible for selecting evacuation and firefighting stairwells, pressurization by building systems or fans, all electrical and other utilities to the building, all ventilation systems for building (HVAC), verify auto stair door unlocking.



**Water Sector**

Water Sector -- The Water Sector will be responsible for building fire pumps, all connections internal and external, generator, restrictors, and pressure reducers.



## **WATER SECTOR**

### **Working Fire Organization**

### **Expanding Organization**

### **Campaign Fire**

Campaign situations are those incidents, which require large forces of personnel and equipment to control and continue for long periods of time. A campaign situation in a high-rise fire would be a fire involving an entire floor or more. The commitment of personnel to firefighting may require several sectors for tactical supervision and a full array of supporting sectors, branches, and sections would be activated.

As the incident escalates to a campaign event, the Command organization must continue to expand. All Section level positions (Operations, Planning, Logistics, and Administration) will need to be implemented and staffed. Furthermore, additional Branch levels may be needed.

A communications plan for channel allocation must be established. Logistics will require its own channel. Each Branch should have its own separate channel when practical. The Accountability Officers and each of the section level operations may require a separate radio channel. If separate channels are not possible, then components should be concisely grouped to provide for the most effective use of the channels available.

### **Chief Officers**

Additional Chief Officers will be required as the incident escalates. Command must ensure that adequate Chief Officers are Special Called or re-called from off-duty status early.

In addition to these elements a standard array of staff function sectors would be established and report to Command. Most of these (P.I.O., Safety, and Investigation) are established automatically by arriving staff personnel. Senior Command Staff would provide support at the Command Post as necessary.

 <b>Standard Operating Guidelines</b>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.25: Rehabilitation Sector</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September
	<b>Approved by:</b>	Emergency Services		

**Purpose**

As an organization, the Superstition Fire & Medical District (SFMD) feels that no member will be permitted to continue emergency operations beyond safe levels of physical or mental endurance. The purpose of the Rehabilitation Sector is to decrease the risk of injury/illness that may result from extended operations under adverse conditions.

**Rehab Sector**

The Rehabilitation Sector, radio designation REHAB, will provide the following services:

1. Medical assessment and /or treatment and/or transportation for injuries/illnesses
2. Replenishment - rest, hydration and refreshments
3. Initial stress management support
4. Reassignment determination

A Rehab Team will be utilized wherever possible to establish and manage the Rehab Sector. This team will consist of:

1. Rehab Unit
2. Utility Vehicle
3. Ambulance
4. ALS Company
5. Designated Sector Officer with Crew
6. Peer Support Team Member, as needed

A Rehab Unit will be dispatched on all working fires or greater incidents. Command will be responsible for determining if a full Rehab Sector or replenishment only is appropriate. It may be necessary at times to establish more than one Rehab Sector. When multiple rehab sectors are established, each sector will assume a geographic designation consistent with the location at the incident site, i.e., Rehab South, Rehab North.

At incidents involving large loss of life, or extended rescue operations (i.e., trench rescue, plane crash or train wreck), a Peer Support Team may be contacted and assigned to Rehab Sector.

The Rehab Sector and Rehab vehicle(s) should be located in the most advantageous location which is in a safe, smoke free environment.

The Rehab Sector will be divided into the following four sections:

**A. Section A: Entry Point & Member Triage**

Entry point Rehab Sector personnel will:

1. Monitor the entry point and determine if decontamination is needed
2. Collect and place passports on status board
3. Log member entry on Rehabilitation Sector Personnel Log (Once the incident is terminated, the Rehab Sector Personnel Log will be given to the Incident Commander)
4. Take vital signs and assess need for medical treatment

Members will be triaged as follows:

1. Any member who has a pulse rate greater than 120 and/or has a medical complaint will be directed or moved to Section C, Medical Treatment and Transport, for additional assessment and treatment. (The entire crew will report to Section C.)
2. Members that do not require medical attention will report to Section B, Hydration and Replenishment.

#### **B. Section B: Hydration and Replenishment**

Personnel should be provided supplemental cooling devices (where available), fluid and electrolyte replacement, and the proper amount of nourishment.

#### **C. Section C: Medical Treatment and Transport**

An ALS company and an ambulance crew will staff this sector. Personnel reporting here will receive evaluation and treatment for injuries or illness. The ALS Company will monitor members:

1. Pulse, Blood Pressure, Body Temperature and CO levels

The Rehab medical personnel, in conjunction with medical direction, will be responsible for determining a member's final Section C disposition. Final dispositions include:

1. Allowed to return to emergency operations
2. Not allowed to return to emergency operations
3. Transportation to a medical facility for further evaluation and/or treatment.

Rehab medical personnel will consider the following criteria when making this recommendation.

1. 20 minute resting heart rate above 100 beats per minute
2. Body temperature greater than 101 F
3. Systolic blood pressure less than 100
4. Diastolic blood pressure greater than 105
5. CO level > 10% (SFMD LP15 monitors are set to alarm at 10% or higher)
6. Any anginal equivalent

Any member requiring transportation will receive a baseline 12-Lead EKG, IV and high flow oxygen if CO > 10%.

The ALS Company assigned to Section C will provide crew status reports to the Rehab Sector Officer. Final dispositions may include:

1. Extended medical attention and /or transportation needed or
2. Crew approved to move to Section D, Reassignment

#### **D. Section D: Reassignment**

The member(s) assigned to Section D will:

1. Notify the Rehab Sector Officer that a crew is ready for redeployment. The new assignment will be communicated to the crew's officer, or
2. Advise the Rehab Sector Officer that a partial crew is available for reassignment.

All personnel leaving Rehab will retrieve passports from the Rehab Sector Officer.

It is the responsibility of the Rehab Sector Officer to frequently update Command with information regarding the number of crews, their availability for reassignment, and the status of injured personnel.

#### **E. Replenishment**

The Incident Commander may use the radio designation Replenishment instead of Rehab, when shorter work cycles, and lower ambient temperatures do not require the need for a full Rehab Sector. Crew replenishment shall include a rest period, electrolyte fluids, and snack protein foods. Units such as Utility and Support apparatus should carry a small supply of these products and be prepared to provide this service. Once crews have rested and received adequate replenishment, they may assemble their gear and return to available status.

The Incident Commander may choose to consult with the Command Staff or Company Officers when uncertain about whether or not Replenishment can be used instead of Rehab.

 <p>Standard Operating Guidelines</p>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.26: Water Supply and Stream Management</b>			
	<b>Effective Date:</b>	July 2015	<b>Revision Date:</b>	June 2015
	<b>Approved by:</b>	Emergency Services		

**Purpose**

This guideline provides direction in determining water supply needs and selecting the most effective hose line size.

**Overview**

Adequate water supply during fire attack operations has a critical impact on fire control outcomes. A good water supply and adequate GPM flows from attack lines result in good outcomes. Delayed or limited water supply and inadequate GPM flows leads to delayed fire control, increased risk to firefighters and victims, and greater fire loss. The use of excessive amounts of water, leaking couplings or nozzles may increase loss inside the structure.

**Hydrant Water Supply**

First due companies approaching the scene with any evidence of a working fire in a structure should lay their own supply line. There would be few exceptions to this guideline (i.e., obvious critical rescue requiring a full crew, unsure of actual fire location in multi-unit building complex, etc.).

**Pumped Water**

Pumped water supply may be necessary when large volumes of water are required on the fire ground. This normally occurs later in the attack operation when apparatus-mounted master streams, portable ground monitors, ladder pipes, or multiple high-GPM attack lines are in operation.

Generally, first alarm companies should lay their own supply lines to cover all critical tactical positions before pumped water is considered. A non-pumped, 500 foot long 4" supply line can flow 800 GPM. Most initial attack operations, including apparatus mounted master stream operations can be adequately supplied without pumped water.

In most cases, the need for pumped water occurs later in the first alarm assignment or as the second alarm companies arrive. Command should address the need for pumped water as ladder pipes or multiple apparatus mounted master streams are ordered into operation and assign engine companies to pump lines.

When pumped water is initiated, Command should maintain control of key hydrants and order pumped water on a priority basis.

Automatic Aid partners should schedule opportunities to train with water supply differences.

**Engine Mounted Master Streams**

Engine Mounted Master Streams offer very large GPM flows (500 to 1,000 GPM), quick operation, reach and penetration. A solid bore tip offers greater reach, penetration, with a more intact stream than a peripheral nozzle that is set on straight stream.

Engine Mounted Master Streams should be considered for structures that are well involved, beyond rapid reach of attack lines, for exposure protection, and situations that pose an unusual safety risk to firefighters.

**Handlines**

The objective of the attack hose line choice is to provide enough GPM flow to overcome the volume of fire

being produced, or adequate flow to effectively cool and protect exposures.

The 1 ¾" inch attack line can be used for most small fires (i.e., one or two rooms in a residential fire). The company officer however should order 2" or 2 ½" attack lines for a larger volume of fire.

### **Basic Attack Hoseline Placement**

When operating in the offensive attack mode, attack hose lines of adequate volume should be advanced inside the fire building in order to put water on the fire and to control access to halls, stairways, or other vertical and horizontal channels through which people and fire may travel.

1. The first stream should be operated at the seat of the fire from an exterior position if at all possible.
2. The second stream should be placed between the fire and persons endangered by it.
3. When no life is endangered, the first stream should be placed between the fire and the most severe exposure or unburned areas.
4. A third hose line should protect a secondary means of egress (always bear in mind the presence of Fire personnel operating in opposing positions).
5. Additional hose lines should cover other critical areas or when covered, back up in place hose lines.
6. Whenever possible, crews should position hose lines in a manner and direction that supports rescue activities, begins confinement, protects exposures, and controls loss.

When a change from offensive to a defensive operation occurs, crews should pull hand lines out of the fire building only if safe to do so. Do not delay exit from the building for the sake of salvaging a few feet of hose and a nozzle if conditions are deteriorating rapidly, unless the line is needed for crew protection during exit operations.

### **Fire Stream Characteristics and Considerations**

Fire control forces must consider the characteristics of fire streams and choose the most effective nozzle and stream for the task:

1. Solid Stream: Greater penetration, reach and striking power. Less steam conversion.
2. Peripheral: Increased heat absorption/expansion. Shorter reach. Most effective in confined spaces and protecting exposures.

Choose the proper sized attack hose line:

1. 1-1/2" Line: Fast, mobile, low volume, 125 GPM.
2. 1-3/4" Line: Fast, mobile, greater volume, 175 GPM.
3. 2" Line: Reasonable speed, mobility and variable volume. Depending on pump pressure and an automatic nozzle, up to 350 GPM.
4. 2-1/2" Line: Slow/difficult to move. Volume at 250 GPM. Large B.T.U. absorption
5. Elevated Master Stream: Mostly stationary, slow to set up - maximum water, 500 to 1000 GPM.
6. Engine mounted master stream: Fast, large volume, great reach and penetration, 500 to 1000 GPM.

Offensive attack activities must be highly mobile--as mobility is slowed, attack activities begin to become more defensive in nature and effect. Many times effective offensive operations are often referred to as "aggressive."

### **Fire Stream Considerations**

An offensive attack mode should achieve an effect on the fire quickly--consequently, backup judgments should also be developed quickly. If you apply water from a transitional offensive attack position and the fire is knocked down, react quickly and deploy the interior hoseline to fully extinguish the fire. Think ahead!

Predict where the fire is going to go and put crews in position ahead of the fire.

Beware of hose lines that have been operated in the same place for long periods. Fire conditions change during the course of fire operations (most things will only burn for a limited time) and the effect of hose line operation must be continually evaluated. If the operation of such lines becomes ineffective, move, adjust, or re-deploy them.

Beware of the limitations of operating nozzles through holes. The mobility of such streams is necessarily limited and it is generally difficult to evaluate their effectiveness. Sometimes you must breach walls, floors, etc. to operate --realize the limitations of such situation.

When utilizing crews with hand lines to enter basement fires, crews should not open nozzles until they can see and/or are near the fire--crews should not use fog streams when operating in basement fires. Steam production will be extensive. Straight streams should be used. Prior to entering the basement, crews should be certain no exterior window wells or man doors are open to allow for fire flows through their means of ingress and egress.

If attack crews are committed to inside operations, Command must closely coordinate exterior streams--particularly ladder pipes and engine mounted master streams. Extreme caution should be taken with interior and exterior attacks in the same building. Either designate one geographic area of the building as a defensive operation and the other as offensive or coordinate pulling crews out of the building prior to an exterior heavy stream knockdown is made. Know when to shut down nozzles--many times continuing operations of large streams prevents entry and complete extinguishment. Operation of fire streams into smoke must be done near or at the seat of the fire. If you are unsure of the location of the seat of the fire withhold fire streams until you are certain.

Have hose lines ready during forcible entry operations. Attack crews should be fully protected and supervised before forcible entry is initiated.

Company officers and Sector Officers must assume responsibility for the effectiveness of their fire streams. These officers must maintain an awareness of where fire streams are going, their effectiveness and then report the general operational characteristics back to the Sector Officer or Command. Company officers must be aware that nozzle diameter adjustment or nozzle tip reduction may be necessary in order to produce an effective stream.

Ladder pipes are particularly useful and effective when operated on large open-type fires. A good general rule is that you have written off the building (or portion) when you initiate ladder pipe operations and you are essentially in a defensive mode. Ground crews should be advised and repositioned to a safe area before ladder pipes go into operation.

When positioning ladder pipes to protect adjacent exposures (common walls) during defensive operations, the ladder's turntable should be lined up with the wall to be protected, to permit the most effective operation.

Do not apply water to the outside of a roof and think you are extinguishing the fire. Such water application may offer effective exposure protection; but, if part of the roof is intact, it will shed water just like it was built to do and will prevent water from reaching the seat of the fire. This is particularly true of ladder pipe operations.

Only operate hose streams through ventilation openings using a straight stream or a fog nozzle at less than 30 degree angle.

Once offensive operations change to a defensive mode, Command must prioritize hand line operations. Most often, hand lines will need to be shut down to provide adequate water supply for master streams.

 <b>Standard Operating Guidelines</b>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.27: Car Fires</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

## **Purpose**

This guideline identifies operational tactics for safe handling of motor vehicle fires.

## **Fire Control Operations**

The minimum level of protection for fire fighters is full protective clothing and breathing air from their SCBA. Captains must wear full protective clothing in order to directly supervise crews.

The minimum size of hoseline is the 1 ¾" hand line.

## **Apparatus Placement**

Apparatus should be placed upwind and uphill of the incident, if possible, to afford protection from hazardous liquids and vapors and reduce smoke in the work area.

Consideration must be given to using the apparatus as a barrier, to shield the incident scene from traffic hazards. Warning lights should be left operating, in conjunction with the use of traffic cones where needed. The use of flares by fire and police personnel should be used with caution; consider the potential for ignition of flammable liquids and vapors.

Additional consideration should be given to positioning the apparatus at an angle to better allow the removal of any hose from the pre-connect cross-lay compartments.

## **Water Supply**

If the water carried on the responding apparatus will not be sufficient, early considerations must be given to additional water supply sources. A supply line or other engines/tenders may be required. Ladder companies may be used as an improvised standpipe at incidents on elevated freeways or parking garages.

## **Fire Attack**

A working fire involving the interior of the vehicle passenger compartment will damage the vehicle beyond repair. As such, the attack plan should consider the vehicle as a "write off" and a safe and appropriate approach and fire attack must be implemented.

Where patients are trapped in the vehicle, first water should be applied to protect the patients and permit rescue.

When rescue is not a factor, first water should be applied for several seconds to extinguish fire or cool down the area around any fuel tanks or fuel systems. This is especially important if the fuel tanks are Liquefied Petroleum Gas (LPG) or Liquid Natural Gas (LNG).

At least one member of the attack team must have forcible entry tools in his/her possession to provide prompt and safe entry into the vehicle.

## **Hazards and Safety Considerations**

1. Liquid Petroleum Gas (LPG) and Liquid Natural Gas (LNG) are common place as fuel for vehicles. Pressure release devices can create a lengthy "blow torch" effect, or should the pressure relief device fail, a BLEVE may occur. Vehicles may not be marked to identify this fuel hazard. If there is flame impingement on a visible LPG/LNG storage tank, take action to

- control the fire and cool the tank.
2. If vapors escaping from the storage tank relief valve have ignited, allow the LPG/LNG to burn while protecting exposures and cooling the tank. Flow of gas through piping can be controlled by shutting off the valve at the storage tank or emergency shut-off valve.
  3. Energy Absorbing Bumpers--Consist of gas and fluid filled cylinders that, when heated during a fire, will develop high pressures which may result in the sudden release of the bumper assembly. This could result in serious injury to anyone in its path. Bumper assemblies have been known to travel 25 feet.
  4. Batteries--Explosion hazard due to presence of hydrogen vapors. Avoid contact with battery acid. When the situation is stable, disconnect battery cables (ground cable first).
  5. Combustible Metals--Some vehicles have various parts made of combustible metals, such as engine blocks, heads, wheels, etc. When these metals are burning, attempts to extinguish them with water will usually add to the intensity of the fire. Large quantities of water, however, will cool the metal below its ignition temperature. After some initial intensification, the fire should go out. Dry chemical extinguishers can also be effective.
  6. Trunk/Rear Hatch/Engine Hoods--Hold-open devices may employ, along or in any combination with any of the following: springs, gas cylinders, extending arms, etc. When gas cylinders are exposed to heat, failure or rupture of these devices should be expected. Excessive pressure may develop in lift assists causing a trunk, hatch or hood to fly open with explosive force when the latch mechanism is released. To insure personal safety, be sure to allow sufficient clearance when releasing latches.
  7. Fires involving the trunk/cargo area should be approached with extreme caution. Contents may include toxic, flammable or other hazardous materials. Expect the worst!
  8. Fuel Tanks--May be constructed of sheet metal or plastic. A rupture or burn-through may occur with these tanks causing a rapid flash fire of the fuel. Do not remove gas cap, as tank may have become pressurized. Do not direct hose stream into tank, as this will cause pressurization of tank, with a possible result of burning fuel spewing from the tank fill opening.
  9. Interior--Well-sealed interiors of modern vehicles present the potential for backdraft. Use caution when opening doors or breaking windows. Appropriate approach, ventilation, and safety concerns must be considered. Have a charged hand line ready before making entry.  
**Conduct Search and Rescue on every vehicle!**
  10. Vehicle Stability--Tires or split rims exposed to fire may explode, causing the vehicle to drop suddenly. Expect exploding rim parts or tire debris to be expelled outward from the sides. Approach from the front or rear of the vehicle for maximum protection from potential flying debris. Some larger vehicles, such as buses, employ an air suspension system. When these systems are exposed to heat or flame, they may fail, causing the vehicle to SUDDENLY drop several inches.

 <b>Standard Operating Guidelines</b>	<b>Series: 202</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>202.28: Tire Fires</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

## Overview

Tire fires present a potential threat to the environment similar to an incident involving an oil tanker or a railroad tank car carrying flammable/combustible substances.

The average passenger car tire holds 2.5 gallons of oil. When exposed to extreme heat the tires reach a state of combustion where volumes of pyrolytic oil can be produced. This could turn the tire pile into a running oil fire. Exposure hazards associated with the smoke plume, water runoff, and soil include:

1. Volatile organic chemicals
2. Polynuclear aromatic hydrocarbons
3. Carbon monoxide
4. Heavy metals

These toxins can be absorbed either through the skin, mucus membranes, or respiratory system.

The success of any fire suppression operation begins at the company level. The company officer should familiarize his/her crew with all scrap tire piles located within their area of response. Information gathered should be entered into the tactical premise record for the specific locations allowing easy access on the MDT forms file for the Incident Commander.

Areas of consideration should include:

- A. Site location
- B. Type of operation
  1. salvage or recycling
  2. managed or unmanaged
- C. Tire piles composition
  1. whole
  2. burned
  3. shredded
  4. random stack
- D. Tire pile size
- E. Available equipment
- F. Hazards
- G. Exposures
- H. Utilities
  1. overhead wires
  2. underground gas, electrical, or communication
- I. Response conditions
- J. Geographical information
- K. Topography
- L. Emergency contacts

### **Deployment Services**

It is recommended that major tire fires be handled as hazardous materials incidents. The incident taker will obtain all available information from the caller to determine what's on fire. A hazardous 2&1 will be dispatched if it is determined that a tire pile is on fire.

### **Size-up**

Upon arrival, the company officer must determine the stage of combustion the tire pile is in.

1. Incipient
2. Free burning
3. Smoldering

The incipient stage of a tire fire begins with a point of ignition. Once a tire has gained an open flame front, the heat of the fire is absorbed by the surrounding tire material. Immediately separating the burning tire from the rest of the pile and/or applying water and foam could eliminate the threat to the remaining tires.

During the free burning stage, fire spreads quickly and there is a dramatic increase in smoke and heat. Use of water in this stage of a tire fire could increase the products of incomplete combustion like carbon monoxide and particulate matter. The cooled tires may continue to pyrolyze, producing large quantities of oil. A crust may form over the pile while internal temperatures reach about 2,000 degrees Fahrenheit. The smoldering stage has begun.

Oil not consumed by the fire may leach into the soil, pool, and begin to flow under the pile. Heat from the fire could ignite the oil, resulting in a three-dimensional fire. Products of incomplete combustion continue to be a health hazard.

During the initial size-up, the company officer has to determine if the fire can be extinguished quickly without endangering personnel. If the fire is in the free burning or smoldering stage the most immediate concern will be the life safety of firefighters and the community. Approach to the incident should be in accordance with tactics common to other potential hazardous materials incidents.

Initial size-up must evaluate the emergency in terms of:

1. Personnel safety
2. Public health
3. Environmental impact
4. Threatened exposures
5. Extent of fire
6. Need for additional resources, including PIO

### **Personnel Safety**

Awareness of the hazards involved in a tire fire can be the best personnel protection. Heat exhaustion and working in less than ideal conditions is a reality in a large tire fire. Command will want to prepare for total exposures, health hazards, and personal injury hazards.

Full turnout gear is the minimum level of protection required for everyone working the tire fire.

1. Boots
2. Turnout pants
3. Turnout coat
4. Gloves
5. Helmet
6. Nomex hood

## 7. S.C.B.A.

NOTE: Surgical gloves under the leather gloves will give added protection from contact with the contaminated water, oil, and mud.

The risk of exposure to toxic chemicals continues after the fire is out. Smoldering tires are as toxic as tires in a free burning state. Flying ash and contaminated soil are also potential hazards. The temptation to dress down for overhaul should be resisted until the hazardous materials team has determined the appropriate level of protective clothing required.

Command will establish a Lobby Sector to ensure personnel accountability. When multiple points of entry to the incident exist, geographic sectors should be established i.e., lobby north, lobby east, etc. Hazard sectors, zones, and Rehab sector will be established according to the Standard Operating Procedures.

The Incident Commander will establish a decontamination sector for all personnel leaving the fire area. All protective clothing, firefighting equipment, and apparatus will need to be decontaminated as well.

Sectors such as environmental, safety, PIO, and any other sectors/branches listed under "Command Concerns" in this procedure will be established as the incident progresses.

Personnel must be aware of other hazards involving scrap tire fires. Contact with rodents, mosquitoes, snakes, spiders, and scorpions will be reduced with protective clothing.

Be aware of the dangers of machinery and heavy equipment operating on the fire scene. Collapsing walls of tires can block escape routes or cut off water supplies.

### **Public Health**

Command should determine early whether to evacuate the surrounding areas. No strategy for managing the incident should bypass evacuation considerations, since burning tires are extremely difficult to extinguish.

An Evacuation Sector should be established early. The process will be managed according to the Evacuation Sector procedure.

### **Environmental Impact**

Command should size-up the potential environmental consequences of the fire and begin notifying the appropriate agencies. Emergency contacts can be notified according to the Environmental Sector procedure. Early notification will facilitate their timely placement into the Command structure and involvement in the incident.

Areas of concern will include:

1. Life safety
2. Proximity of wild lands
3. Potential toxic run-off
4. Bodies of water
5. Smoke plume
6. Wind direction/speed

### **Tactics**

Important tactical considerations include:

1. Life safety
2. Protecting exposures
3. Isolating burning tires
4. Use of heavy equipment
5. Overhead or underground utilities

Immediate evacuation of civilians at the incident scene is a high priority. Every effort should address life

safety of the incident scene. Protection of the fire crews' safety will be addressed continuously. RIC crews will be established according to the Rapid Intervention Crew procedure. Buildings, equipment, and utilities in the proximity of the fire will need to be protected. Command needs to determine the amount of fuel actively burning and the total amount of fuel available. Estimate the rate of spread to determine what will be allowed to burn and where fire breaks will be cut through the pile.

Creating fire breaks in a large tire pile is a long and time consuming process. It can be accomplished with heavy machinery and front-end loaders. Use of City Equipment at Emergency Scenes procedure will allow Command to implement the process.

## **Strategy**

Successful options for fighting a tire fire have been employed individually and in many cases, in combination with one another. Reduced to the lowest common denominator, these options are:

1. Burn it
2. Bury it
3. Drown it

### **A. Burn It**

Letting a tire pile burn has its merits. Soil and water pollution may be drastically reduced when many of the products of combustion go up in smoke. The clean-up costs can be reduced when compared to other options.

A precedent for the "burn it strategy" appears in fire responses to chemical fires. Adding water to fires or hazardous materials which react to water could exacerbate the emergency.

Importantly, the fire service must manage and control the burn. Protecting exposures and separating tires from the burn area will continue to be a tactical priority.

### **B. Bury It**

The decision to bury a tire pile also has merits. Sand, cement dust, quick lime, and crushed coral rock are all high in calcium content. Calcium scrubs sulfur from the emissions, creating calcium sulfate or gypsum.

The "bury it strategy" could be employed in areas that have minimal water supply or in areas that are densely populated. The decision to bury a tire fire would take into consideration reducing toxic smoke for the sake of public health.

Geological considerations play an important role in the "bury it" strategy. While the tire fire is entombed, fires can still pyrolyze and push toxic oil into the soil and underground water sources. Burying a tire fire that is on top of clay soils may delay the oil from filtering to underground water supplies. To determine the release of pyrolytic oil, check down gradient from the pile for contamination.

### **C. Drown It**

Water, foam, and additives have their own place as an option. The "drown it strategy" is best employed with forethought and careful pre-planning. Knowing in advance the topography and exposure hazards to water sources will be critical.

Drawbacks to the "drown it" strategy include:

1. An increase in the toxic air emissions as the fire is cooled causing the combustion process to slow down.
2. An inordinate amount of water run-off combined with pyrolytic oil will be the result of trying to drown out a fire.

Effectiveness of working lines applied to a tire fire is questionable. Hand lines alone cannot reach the interior spaces of a tire fire.

The use of working lines on chunk and chipped tires, however, can be effective when used in a fog application. Here again, separating the inventory from the burn area is important to the control and extinguishment of

chipped and chunk tire materials.

The use of foam would best be employed on small tire fires or when the fire is in the incipient stage. Pulling a larger tire pile apart with heavy machinery and applying foam would be a prudent use of the product. Foam should only be employed as part of a predetermined strategy.

### **Clean-Up and Overhaul**

Unlike traditional structural fires or wildland fires, clean-up on tire fires will, in all probability, be turned over to an appropriate environmental protection agency.

Hazards to personnel exist long after the fire is out. Toxicity levels of tire fire sites suggest high concentrations of contaminants. Flying ash and contaminated soil blown around the site may increase your exposure risks.

### **Command Concerns**

Scrap tire fires can potentially last days, weeks, or months. Combined with the fact they are highly toxic and dangerous, Command must consider or address the following concerns:

1. Emergency Operations Center
2. Emergency Operations Plan
3. Accountability
4. Rapid Intervention Crews
5. Safety Sector
6. Lobby Sector
7. Environmental Sector
8. Evacuation Sector
9. Public Information Sector
10. Welfare Sector
11. Police Liaison
12. Resource Sector
13. Rehabilitation Sector
14. Staging Sector
15. Hazardous Materials Sector
16. Evacuation Sector
17. Decontamination Sector
18. Air Operations
19. Arizona Department of Environmental Quality
20. Mutual Aid Response

 <p>Standard Operating Guidelines</p>	<b>Series: 203</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>203.01: Multi-Patient &amp; Mass Casualty</b>			
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**Scope**

To establish a standard guideline for the operation of Fire District units at multi-patient/mass casualty incidents. The system may be applied to any multi-patient or mass casualty incident regardless of the number of patients or incident size. This guideline will be integrated into the overall incident management system and may include major transportation incidents, explosions or fire with multiple injuries, hazardous materials incidents with exposure victims and structural collapse incidents.

**Purpose**

This guideline is to integrate the multi-patient/mass casualty procedures within the framework of the incident management system. It is the responsibility of the first-arriving company officer to implement these procedures on EMS incidents requiring the commitment of a two-and-one medical (2-1-M) or greater.

For the purposes of this guideline, a "multi-patient incident" is defined as any incident with fewer than 25 patients. A "mass casualty incident" is defined as any incident involving 25 to 100 patients. A "disaster" is defined as any incident involving more than 100 patients.

**Guideline**

The first-arriving Company Officer at the scene of a multi-patient, mass casualty or disaster incident shall establish Command. The initial Incident Commander (IC) shall remain in Command until Command is transferred or the incident is stabilized and Command is terminated. Command is responsible for the completion of the tactical objectives. The General Tactical objectives, listed in order of priority, are:

1. Remove endangered occupants and treat the injured.
2. Stabilize the incident and provide for life safety.
3. Ensure the functions of triage, extrication, treatment and transportation are established.
4. Provide for the safety, accountability and welfare of rescue members and victims.
5. Conserve property.

In addition, the EMS Tactical objectives to be completed during any multi-patient/mass casualty, disaster incident include:

1. Completion of a "Triage Report"
2. Declaration of "All IMMEDIATES Transported"

The Incident Management System is used to facilitate the completion of the General and Tactical objectives. The IC is the person who drives the Command system towards that end. The IC is responsible for building a command structure that matches the organizational needs of the incident to achieve the tactical objectives.

When possible, patients should be treated and transported in the following priority order:

1. Immediate
2. Immediate - Delayed patients upgraded to Immediate
3. Delayed
4. Minor

## **Basic Operational Approach**

The initial actions of the first arriving officer shall be directed toward scene size-up, requesting appropriate resources and initial organization of the scene. The initial actions shall include:

1. Give an on-scene report and assume command.
2. Initiate triage.
3. Perform a rapid hazard assessment and establish a safe zone to operate.
4. Initiate traffic control and provide a safe work/treatment area.
5. Provide for hazard protection (charged hand line, etc.).
6. Call for additional resources.
7. Radio a Triage Report to Alarm.
8. Stabilize hazards and/or remove patients to a treatment area.
9. Assign crew(s) specific task(s) to accomplish through early sectorization (triage, extrication, treatment, and transportation) or by geographic location (north, south, east, west).
10. Initiate patient assessment and treatment functions.
11. Coordinate patient transportation.

Responding members are encouraged to use triage tags and IMMEDIATE labels on smaller multi-patient incidents. Triage tags should be used any time there are three (3) or more IMMEDIATE patients or more than ten (10) patients. In the multi-patient incident scenario, most often a multiple vehicle collision, use of the triage system can greatly improve initial scene organization, and enhance its use during mass casualty incidents.

## **Arrival**

The first arriving company officer at a multiple patient incident will assume Command and give an on scene report which will answer the question. . . *What do I have? What action will I take? What resources do I need?* The type of situation and the approximate number and condition of patients should be communicated to Alarm as soon as possible.

Command should rapidly survey the scene to identify any hazards or safety concerns and establish a safe zone for crews to operate. This can be accomplished through proper defensive apparatus positioning, use of flashing lights and the placement of cones, and the use of charged hand-lines. Additional traffic control should be requested from law enforcement through Alarm.

Command should immediately request additional assistance if the need is indicated. Alarm will begin to notify other agencies and medical facilities based on the amount of assistance requested at the scene and the progress reports from Command. The initial reports should indicate the scale of the incident to allow Alarm to notify other agencies.

Triage will be initiated early in an incident, especially when the number of patients and/or the severity of their injuries exceed the capabilities of the on-scene members to provide effective extrication, treatment and transportation.

Once triage is complete, a Triage Report should be radioed to Alarm. A Triage Report at a two-vehicle collision may sound like: *"Triage to Command. Triage is complete. We have 9 total patients: 2 IMMEDIATES, 3 DELAYED and 4 MINORS."* A Triage Report signifies that triage has been completed and communicates to all responding crews the size of the major medical incident. It also provides essential information regarding decisions to call for additional resources or to scale back the response.

The first arriving Company Officer needs to quickly determine the most effective means to treat patients. In incidents with few patients, it may be more effective to treat patients "in place." At EMS incidents with a greater number of patients, a treatment area should be established. In a case where two or more distinct groups of patients are separated by distance, multiple treatments areas may be needed.

If the incident involves a building collapse or a hazardous material release, it may be more effective to remove victims to a safe area rather than stabilize hazards. This is also true of motor vehicle collisions involving a

train wrecks or buses. In these cases, triage should be performed at the entrance to the treatment area.

## **Staging**

Additional Resources should be requested using standard assignments and alarms as much as possible (e.g., 2&1 Medical, 1st Alarm Medical, 2nd Alarm Medical, etc.) This will facilitate an incremental approach to the incident, similar to firefighting operations, and provide predictable resources.

The first and second arriving companies will go to the scene, as well as the first ladder, and first chief officer. All other companies will use Level I staging upon their arrival.

Command should consider implementing Level II Staging early in the incident. All First-Alarm-Medical Incidents (or greater) require a Level II Staging Area for all Fire Department resources, including ambulances.

All outside agencies responding to a medical incident should be sent to the Staging Area. This area should be at a sufficient distance to keep the scene clear and maintain access. The Staging Officer will assign units as directed by Command.

Units assigned to sectors, unless carrying special equipment, should park at a distance from the scene. This parking area should be located out of the access paths. Crews should report to Extrication or Treatment Sectors carrying their medical equipment. If a treatment area is designated, medical equipment and supplies should be stockpiled there.

Apparatus with extrication tools, or other heavy equipment needed at the scene, should be brought closer to the incident site.

## **Command Responsibilities**

The Incident Commander (IC) is responsible for the strategic level of the command structure and should:

1. Determine the appropriate strategy
2. Establish overall incident objectives
3. Set priorities
4. Develop an action plan, communicate plan.
5. Obtain and assign resources.
6. Initiate planning based on evaluating interventions and predicting outcomes
7. Communicate specific objective to tactical level units
8. Initiate a Unified Command with other agencies

## **Basic Sectors**

Most multiple-patient incidents need patient triage, extrication, treatment, and transportation. Because of potential vehicle congestion at the site, a staging sector for apparatus is also a major consideration during larger incidents.

These needs form natural basic sectors for the Incident Management System. Additional sectors may be assigned depending on the situation, consistent with the Incident Management System.

The purpose of **Triage Sector** is to determine, in close coordination with Extrication, the location, number and condition of patients and whether triage should be performed before or after patients are extricated from the site. Triage Sector is responsible for assigning and supervising triage teams, ensuring that patient triage is done in accordance with standard operating procedures and providing Command with a "Triage Report" when triage is completed. Triage Sector should also forward triage-tracking slips to Command.

The purpose of **Extrication Sector** is to determine, in conjunction with Triage, the location, number and condition of patients and whether triage will be performed before or after patients are extricated from the impact area. Extrication is responsible for assigning and supervising extrication teams, extricating and delivering patients to the treatment area, and notifying Command when all patients have been removed from impact area. MINOR patients who were directed earlier in the incident by triage teams to an Assembly Area will be assessed by Extrication and delivered to the treatment area if further medical care is warranted.

The purpose of **Treatment Sector** is to first determine whether patient treatment will occur "in place" or in a designated treatment area. Generally, a centralized treatment area is preferred because patient care and site operations are usually enhanced.

If a treatment area is designated, Treatment Sector may decide to treat patients in a common area. However, if the incident is large enough, treatment may designate separate "IMMEDIATE" and "DELAYED" treatment areas. Treatment Sector is responsible for assigning and supervising treatment teams, ensuring that all patients have been triaged, assessed and treated. The Treatment Sector officer should coordinate patient allocation with Transportation Sector and notify Command when all patients have been treated.

The purpose of **Transportation Sector** is to obtain all modes of transportation needed to take patients to the hospital(s). Transportation should determine, in conjunction with Command, the location of the staging area, rescue/ambulance loading area, and helicopter landing-zone. Transportation Sector is also responsible for determining hospital availability through Alarm, coordinating patient allocation with Treatment Sector, and supervising the movement of patients from the treatment area to the rescue/ambulance loading area or helicopter landing-zone.

Transportation Sector should also determine hospital destination and notify hospitals of rescue/ambulance arrival (through Alarm). Transportation should also remove patient tracking slips from the triage tag prior to transport, notify Command when all IMMEDIATE patients have been transported (an EMS Tactical benchmark) and maintain an accounting of all patients.

### **Additional Sectors**

#### **A. Safety Sector**

Command should assign Safety Sector as soon as the basic sectors have been established.

#### **B. Staging**

As the incident escalates, a Staging Sector may be required. To avoid scene congestion, a Level II staging area will be identified for any First Alarm Medical incident or greater. At least one company will be assigned to staging.

#### **C. LZ**

If helicopters are used, an LZ Sector will be established with the landing zone located a safe distance from the incident scene. The LZ Sector will keep track of patient destination, communicate landing instructions with incoming and outgoing aircraft, and enforce established safety standards for landing zones. At least one Engine/Ladder Company will be assigned to the LZ.

### **Branches**

A mass casualty incident may require the implementation of a separate "Medical Branch" and/or "Transportation Branch." Each would direct all sectors assigned and report to Command.

The Medical Branch Director is responsible for ensuring that the functions of triage, extrication, and treatment are carried out. The Medical Branch Director should supervise and coordinate all members assigned, determine and request resources, and recommend the expansion of the command organization when needed. Medical Branch should communicate direction and objectives to tactical sectors, ensure objectives are completed, and maintain incident documentation.

Additional positions within the Medical Branch may include an IMMEDIATE, DELAYED and MINOR Treatment Sector Officers, Medical Communications Sector, Medical Supply Sector, Ground/Air Ambulance Coordinator and Morgue Officer.

### **Resource Commitment and Flow**

Resource commitment typically follows patients. Initially, Extrication Sector will require a large resource commitment. As patients are extricated and moved to Treatment, resources for extrication will decrease. These crews can be re-allocated to the Treatment Sector.

In a disaster level incident, some fire department resources may need to be allocated to receiving hospitals, until those facilities can obtain adequate hospital staff.

### **Multi-Patient Incidents**

1. Patient triage should be performed by the first arriving company. Normally, it will last less than 4-6 minutes. A sector assignment may not be necessary.
2. Extrication may be assigned, if needed, when physical disentanglement or patient removal to a treatment area is needed.
3. Treatment is preferred in a designated treatment area, or can be performed "in-place," as directed by Command.
4. The Transportation Sector function may be managed by Command or assigned to a designated member, depending on complexity of the incident.
5. A Level II Staging area should be used for the balance of the assignment (after the Level 1 approach). All resources must stage.
6. Transportation Sector will need a minimum of one company assigned to perform its functions, and may be assigned a separate tactical channel.
7. A minimum of one company should be assigned to the LZ, with the Company Officer becoming "LZ Sector".

### **Mass-Casualty Incidents**

1. Triage should continue as a Sector and may involve several companies.
2. The treatment area must be identified early and include patient re-evaluation.
3. Medical Branch and Transportation Branch should be considered with a large number of patients.
4. Transportation Branch has a Loading Coordinator assigned to the treatment area.
5. Transportation Branch will need a minimum of one company assigned and should operate on a separate tactical radio channel.
6. A minimum of one engine should be assigned to the LZ, with the Company Officer assigned as "LZ Sector."
7. The Hospital Communication Coordinator should check and re-check hospital availability through Alarm.
8. Ambulances should be sent to the loading area, no more than two at a time.

### **Disaster Incidents**

1. Medical Supply and the Morgue are handled by Logistics.
2. Transportation Branch should have a Transportation Sector assigned to each treatment area.
3. Due to the large number of helicopters, air operations will be established to coordinate aero-medical and other aircraft.
4. Each medical branch should have a geographic identity (i.e., "West Medical Branch").
5. Consider a separate radio channel for each Branch. Command will need at least one officer to monitor each channel at the Command Post.
6. Each Branch Director will need adequate support staff to manage their assigned activities and resources.
7. The Branch Director should be located at the assigned activity area/impact site.

 <p>Standard Operating Guidelines</p>	<b>Series: 203</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>203.02: Triage Sector</b>			
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	<b>Approved by:</b>	Emergency Services		

### Purpose

The purpose of triage is to categorize patients based on the severity of their injuries, prioritize their need for treatment and transportation, and stabilize life-threatening injuries before additional resources arrive on-scene.

With this in mind, *Extrication and Triage Sectors should be assigned separately*. This follows the *Model Procedures Guide for Emergency Medical Incidents* (National Fire Service Incident Management Systems Consortium, 1996) and clearly distinguishes between two important, though distinct functions. . . identifying patient number and severity (triage), versus victim disentanglement and removal to a treatment area (extrication).

### Triage Sector Responsibilities

The following items represent the standard operations that will normally be performed by the Triage Sector officer:

1. Determine the location, number and condition of patients.
2. Determine, in close coordination with Extrication Sector, if triage will be performed in place or at the entrance to the treatment area.
3. Determine resources.
4. Assign and supervise triage teams.
5. Ensure that patient triage is based on S.T.A.R.T., that life-saving emergency medical care is provided as needed, and that patients are accounted for and tagged appropriately.
6. Ensure safety and accountability of all assigned members.
7. Provide frequent progress reports to Command.
8. Coordinate activities with other sectors.
9. When triage is complete, provide Command with a "Triage Report."
10. Forward triage tracking slips to Command.
11. Terminate triage activities and inform Command that members are available for reassignment.

The Triage Sector Officer should wear a sector vest for identification purposes. At smaller incidents, up to 10 patients, triage may be handled by the first arriving company officer and his/her crew. At larger incidents, more than 10 patients, the first arriving company officer should assume Command and assign Triage to the next arriving fire company.

As a general rule, patients should be triaged and tagged before movement to a treatment area. IMMEDIATE patients are moved first, followed by DELAYED patients. However, there are instances when triage is performed away from the impact area.

Depending on the safety of the site and the arrangement of the patients, it may be necessary to triage patients at the entrance to the treatment area. In a very large incident, it may be necessary to establish multiple triage locations. Regardless of where triage is performed, the triage process requires close coordination between the extrication and treatment sector officers.

Triage tagging should be completed in accordance with the **Simple Triage and Rapid Transport (S.T.A.R.T.)** system.

## **Triage Report**

Triage should be completed using the "**Arizona Triage System**". These red fanny packs are located on all fire apparatus. Once the triage crew(s) has tagged and labeled all patients, they should forward their tracking slips to the Triage officer.

The Triage Sector officer arranges the tracking slips to determine the number of patients and their condition. The Triage Sector Officer then radios Command with a "Triage Report." The Triage Report includes the number of patients and their classification. For example, a Triage Report at a two-vehicle collision may sound like: *"Triage to Command. Triage is complete. We have 9 total patients: 2 IMMEDIATES, 3 DELAYED and 4 MINORS."*

A Triage Report signifies that initial triage has been completed on the incident using the *S.T.A.R.T.* criteria. It communicates to all responding crews the size of the major medical incident. It also provides Command with essential information regarding decisions to call for additional resources or to scale back the response. Once triage is complete, Command may reassign triage crews to other functions.

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	<b>203.03: Extrication Sector</b>			
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### Purpose

An Extrication Sector is utilized in multiple patient incidents that require physical disentanglement and/or the removal of trapped victims. The Extrication Sector is responsible for removing and delivering patients to a treatment area. The Extrication Sector will provide any patient treatment that is necessary prior to disentanglement.

Extrication and triage sectors should be assigned separately (see *Model Procedures Guide for Emergency Medical Incidents*, National Fire Service Incident Management Systems Consortium, 1996). This clearly distinguishes between two important, though distinct functions . . . identifying patient number and severity (triage), versus victim disentanglement and removal to a treatment area (extrication).

### Extrication Sector

The following items represent the standard operations that will normally be performed by the Extrication Sector:

1. Determine the location, number and condition of all patients (coordinate with Triage).
2. Determine if triage will be performed in place or at the entrance to the treatment area (see "Triage Sector").
3. Determine resources.
4. Assign and supervise extrication teams.
5. Extricate and deliver patients to the treatment area(s) or to a casualty collection point.
6. Provide frequent progress reports to Command.
7. Ensure safety and accountability of all patients and assigned members.
8. Coordinate activities with other Sectors.
9. Notify Command when all patients have been removed and that companies are available for reassignment, "*All clear in Extrication Sector*".

The Extrication Sector officer shall wear a sector vest for identification purposes. The Extrication officer should be positioned in a readily visible location that is accessible to arriving companies and maintain a view of the scene. Face-to-face communications should be used within the Sector. Company officers should use messengers to relay information to the Sector officer if possible. The Sector officer shall provide frequent progress reports to Command.

As a general rule, patients should be triaged and tagged in the impact area. However, depending on the safety of the site and the arrangement of the patients, there may be instances when triage is performed at the entrance to the treatment area. Regardless of where triage is performed, the triage process requires close coordination between triage, extrication and treatment sector officers.

The first priority for removal to the treatment area will be IMMEDIATE patients followed by DELAYED patients. IMMEDIATE patients should be moved to a treatment area without delay. These patients can easily be spotted with night-reflective IMMEDIATE labels placed on or near their bodies by the triage team(s). In some cases of confined entrapment, removing "DELAYED" patients may occur before access can be gained to "IMMEDIATE" patients. These patients may need to be moved to the treatment sector ahead of "IMMEDIATE" patients.

All non-ambulatory patients should be moved on backboards, with cervical spine precautions if indicated. Companies may be assigned as "litter bearers" to assist in this movement. Pick-up trucks, baggage carts or similar conveyances may also be used. Full spine immobilization may not be possible during the early stages of an incident.

The Extrication Sector officer should assign members to help size-up the situation. An evaluation of the number of patients involved and the complexity of extrication requirements is an immediate priority. A reasonable guideline is an initial commitment of one company per four (4) victims for extending initial and immediate care when numerous patients are involved in a major incident. The goal, as resources and priorities permit, is to provide all resources necessary to extricate and move patients to the Treatment Sector.

If the patients are spread over a large area, Extrication should assign companies to a specific area or group of patients. The Company Officer assigned will determine the immediate needs of those patients and request assistance if necessary. The Company Officer has responsibility for all patients until they are delivered to a treatment area or assigned to another company.

If the incident site involves a large area, it may be necessary to create more than one Extrication Sector. Responsibility should be divided geographically with appropriate sector designations. (e.g. "North Extrication). Branch operations may be required to coordinate this effort.

Most ALS members should be assigned to the Treatment Sector. However, some paramedics may also need to be assigned to the Extrication Sector to provide ALS treatment for critical patients undergoing extended extrication efforts. Any member assigned to these operations needs to wear the appropriate personal protective equipment for the operation.

When victims require mechanical extrication, ladder companies should be assigned. Ladder apparatus should be brought in close to the scene while other apparatus is parked at a distance to avoid congestion. If extrication requires specialized equipment (i.e., wreckers, cranes, cutting torches) they must be requested through Command.

The Extrication Sector officer is responsible for assuring the safety of the area where patients are being extricated. This will require the commitment of members with proper PPE, and protective lines where a fire risk exists. If fire is involved, coordination with firefighting sectors will be required. The safety of patients and fire department members must be a primary concern.

To reduce confusion and congestion, Triage will initially direct all MINOR (ambulatory) patients using the *S.T.A.R.T.* criteria to a specific area. Extrication Sector is later responsible to further assess these patients once more critical activities have taken place. Extrication may decide to remove these patients to an "Assembly Area." A bus or other vehicle can be used to transport these people to a suitable location.

As patients are moved from the extrication area, fewer resources may be required. The Extrication Sector should advise Command when companies or members are available for reassignment.

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	<b>203.04: Treatment Sector</b>			
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## Purpose

A Treatment Sector is utilized to provide a site to manage the treatment of multiple IMMEDIATE and DELAYED patients. Treatment Sector is responsible for establishing a treatment area to provide stabilization and continuing care of patients until they can be transported to a medical facility. The objective of the treatment sector is to rapidly treat and transport all patients.

## Treatment Sector

The following items represent the standard operations that will normally be performed by the Treatment Sector Officer:

1. Identify whether patient treatment will occur "in place" or in a designated treatment area. Coordinate with Triage and Extrication Sector Officers.
2. Determine resources.
3. Identify and establish a large treatment area. If incident is large, establish separate "IMMEDIATE" and "DELAYED" treatment areas.
4. Assign and supervise treatment teams.
5. Ensure that all patients have been triaged, assessed and re-triaged as needed.
6. Aggressive treatment and rapid packaging of patients.
7. Provide frequent progress report to Command.
8. Ensure safety and accountability of all patients and assigned members.
9. Verify transportation priorities with Transportation Sector.
10. Coordinate with other sectors.
11. Notify Command when all patients have been moved from the treatment area.

The Treatment Sector Officer will wear a sector vest for identification purposes.

Sector Officers should determine together with Command whether patients will be treated "in place" or treated at a specific treatment area.

If treatment will occur "in place," companies should be directed by the Treatment Sector Officer to specific patient or vehicle (e.g., "E261, you have the patients in the red sedan. L263 will assist."). The goal will be to assign one ALS or BLS Company and one ambulance to each patient, resources permitting. Crews should initially focus their effort on treating and transporting IMMEDIATE patients. These patients can easily be spotted with night-reflective IMMEDIATE labels placed on or near their bodies by the triage team(s). Treatment teams should communicate with Command to obtain additional Rescues or ambulances.

If patient treatment will occur in a designated "treatment area", then the Treatment Sector Officer should establish a treatment area and prepare for the arrival of patients from Extrication. The treatment entry point should be readily identified (e.g. traffic cones) and have members to direct arriving patients. The treatment area must be in a readily accessible location for patient entry and transportation loading but away from any dangerous conditions associated with the incident.

The treatment area should be large enough to absorb all patients and the large numbers of treatment members- **THINK BIG!** This area should be located in a safe area with consideration given to allow for easy access by rescues or ambulances. If the incident is large enough, Treatment should designate separate "IMMEDIATE"

and "DELAYED" treatment areas.

If the incident scene is very large, it may be necessary to establish more than one treatment area in different locations. Branch operations may be required to coordinate these efforts. Geographic designations (i.e., "East Treatment", "West Treatment") should be utilized ("Transportation Branch, Multiple Site Coordination").

Treatment shall advise Command when ready to receive patients. Of all the sectors, the Treatment Sector typically requires the heaviest commitment of members. During major incidents, one company per four (4) patients should be the initial objective (one ambulance per patient). As resources permit, the overall goal is to provide all the resources necessary to treat all the patients.

Treatment should assign a member to meet and direct first arriving litter-bearers on the placement of patients in "IMMEDIATE" and "DELAYED" Areas. Patients in the treatment area should be arranged in an orderly manner with adequate space provided between patients to allow working room for treatment members. First arriving patients should be placed near the exit point. Rescuers should place patients from exit towards the entrance as patients are delivered to treatment. This will eliminate members from having to step over or move around patients as they are delivered or transported.

Non-triaged patients arriving at the treatment area must be triaged and tagged at the entrance. A triage team should be located at the entrance for this purpose. As these new patients are tagged, the Treatment Sector Officer should forward a "*Triage Update*" to Command to include these newly-discovered patients.

Treatment members must continue to assess all patients for changes in conditions, through an ongoing basis to maintain appropriate triage classifications. Once initial triage activities have been completed, triage teams can be reassigned to Treatment to continuously re-evaluate patients. ALS treatment will be given primarily in the "IMMEDIATE" treatment area. Less intensive patient monitoring and treatment will be given to the "DELAYED" treatment area with mostly BLS members assigned to this area. Medical information (vital signs, injuries, treatment rendered) should be documented on the appropriate side of the triage tag.

A combination of ALS members, BLS members, medical staff and others may be assigned to the Treatment Sector. The Treatment Sector Officer must have specific assignments for these varied members. Non-fire department medical personnel should be closely supervised by the Treatment Sector Officer or others. Command staff, Branch directors and Sector Officers will have full supervisory authority over these personnel.

If the condition of a patient changes significantly (better or worse) it may be necessary to transfer the patient to a higher or lower priority area. The Treatment Sector Officer should be advised. Once all IMMEDIATE patients have been treated, DELAYED patients who have significant mechanism of injury should be reevaluated and upgraded to IMMEDIATE as necessary.

The Treatment Sector Officer shall notify Command when patient care has been transferred to air ambulance staff. This shall be done to help with internal quality control efforts.

The Treatment Sector must ensure aggressive treatment and packaging of patients with an emphasis on rapid transport. The Treatment Sector Officer must maintain an immediate awareness of which patients are ready for transport. The Sector officer must ensure treatment is rapid, adequate, and appropriate numbers of treatment members are assigned to each patient. The only time extended treatment should be considered is when immediate transportation is not available. Close coordination with the Transportation Sector Officer must be maintained to ensure rapid transportation.

When transportation is immediately available, transportation of the patient becomes a priority over extended on-site treatment. Rapid transportation is of the essence.

The Treatment Sector Officer will consult with the Transportation Sector Officer on the allocation of patients to various medical facilities.

The Treatment Sector Officer should forward progress reports and triage updates to Command as needed. The Treatment Sector Officer is responsible for determining the need for additional medical supplies at the scene and should request their delivery through Command. A Medical Supply Sector will automatically occur on all 3<sup>rd</sup> Alarm-Medical incidents. This sector should be established near the treatment area.

The Transportation Sector Officer will notify Command when “*All Immediate patients have been transported*”. They will also notify Command when “*all other patients have been treated and transported*”. These are considered *benchmarks* for EMS multiple patient incidents, and give Command an idea as to when the incident is winding down.

 <p>Standard Operating Guidelines</p>	<b>Series: 203</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>203.05: Transportation Sector</b>			
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**Purpose**

A Transportation Sector is established to manage patient transportation from the scene to appropriate medical facilities. The Transportation Sector Officer is responsible for arranging all of the transportation needs for a multiple-patient incident and for allocating those patients to appropriate medical facilities.

**Transportation Sector**

The following represent the standards operations that will be performed by the Transportation Sector Officer.

1. Determine/request resources.
2. Determine (with Command) the Rescue/ambulance loading area and helicopter landing zone, as needed.
3. Determine hospital availability status by contacting Alarm.
4. Coordinate patient allocation and destination with Treatment Sector.
5. Aggressively supervise the movement of patients from the treatment area to the ambulance loading area or helicopter landing zone.
6. Maintain an accounting of all patients and patient destinations.
7. Provide progress reports, allocations, ETA's, to receiving hospitals.
8. Ensure the safety and accountability of all assigned members.
9. Provide frequent progress reports to Command.
10. Coordinate activities with other sectors, especially Treatment.
11. Notify Command when all IMMEDIATE patients have been transported.

The Transportation Sector Officer must assume a visible position in the treatment area or patient loading area and wear a sector vest.

**The Transportation Sector Officer**

The Transportation Sector Officer must "size up" the transportation needs, including Rescues/ambulances, air ambulances or other transportation modes as well as staffing needs and communicate those needs to Command. Additional members may be needed to assist with medical communications ("Hospital Communications Coordinator"), transport loading ("Loading Coordinator"), record keeping ("Charting Officer"), air medical transport coordination ("LZ Sector") and staging ("Staging").

The Transportation Sector Officer should determine, in concert with Command, the location for staging and helicopter transport. If helicopters are used, the Transportation Sector Officer should establish a landing zone a safe distance from the scene, assign at least one company to the LZ and designate an "LZ Sector." LZ Sector will keep track of patient destination, communicate landing instructions with incoming and outgoing aircraft and enforce established safety standards for landing zones.

It may be necessary to use ambulances or other vehicles to carry patients from the treatment area to the landing zone. Helicopters should be used to transport critical patients to more distance medical facilities, allowing closer hospitals to receive patients by ground ambulance.

The Transportation Sector Officer should also determine a suitable location next to Treatment to establish a patient loading area. Ground ambulances should be staged off site and brought in to the loading area, as

needed, no more than two at a time. Transportation must coordinate closely the preparation of patients with Treatment and have ground ambulances immediately ready in the loading area. Transportation should aggressively seek patients from Treatment and have two ground ambulances in the loading area at all times. These ambulances should have a separate entry and exit point into the loading area to eliminate the need to back ambulances.

The Transportation Sector Officer must ensure that contact with appropriate medical facilities or Alarm is accomplished as soon as possible to determine individual hospital capabilities to receive patients. Hospitals may be advised of the location and type of incident, along with the triage report indicating the number of patients, nature (e.g., trauma, burns, medical), and the severity of their injuries. Transportation should initiate medical facility inventory by contacting Alarm, early during the incident.

The Treatment Sector Officer will normally advise the Transportation Sector Officer when patients are ready for transport. Transportation will allocate patients to medical facilities according to patient injury and priority, hospital capacity and specialty (pediatric, burns, immediate injuries, etc.). Transportation of IMMEDIATE patients will receive priority followed by the transport of DELAYED and MINOR patients. If needed, transport of MINOR patients to a medical facility may be accomplished by using city busses or vans. In general, it is preferred to "leap-frog" MINOR patients to distant hospitals to minimize transport times for DELAYED patients to closer facilities.

Members assigned to the Transportation Sector will remove patients from the Treatment zones and deliver them to the selected ambulances or other transport units (vans, buses, etc.). Treatment and Transportation Sectors must maintain close coordination to determine the most appropriate allocation for each patient.

Prior to transport, the Transportation Sector Officer (or designee) will remove a transportation tracking slip from each triage tag and write in the transport unit and hospital destination on the slip. These tracking slips are kept by Transportation to maintain an accounting of all patients leaving the scene. They can also be verified by Command, who has the initial triage tracking slips.

When ambulances or helicopters have left the scene, Transportation should advise Command and Alarm of the estimated arrival time and patient status (e.g., "*SW261 is en-route to Scottsdale Osborn, ETA of 25 minutes, with one IMMEDIATE patient.*").

*ALS members should operate under Off-line protocols and not patch for Medical Control unless necessary.* The Treatment Sector Officer shall coordinate patches and courtesy notifications with members in the Treatment Sector.

When all IMMEDIATE patients have been transported from the scene, Transportation should notify Command. A declaration by Command to Dispatch of "**All IMMEDIATES Transported**" is an EMS tactical benchmark.

 <p>Standard Operating Guidelines</p>	<b>Series: 203</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>203.06: Transportation Sector Branch</b>			
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	<b>Approved by:</b>	Emergency Services		

### **Purpose**

In large, complex medical incidents, it may be necessary to coordinate the transport of patients from two or more treatment areas simultaneously. This may require the creation of a Transportation Branch and the assignment of a Transportation Branch Director to coordinate transportation functions for all of the treatment locations.

### **Transportation Branch**

Transportation Branch has the following responsibilities:

1. Ensure the functions of transportation are carried out.
2. Supervise and coordinate the transportation functions and member assigned.
3. Determine/request resource needs to Command.
4. Communicate direction to tactical units (sectors).
5. Ensure units are completing objectives.
6. Maintain incident documentation.

The following represents the standard operations that will be performed by the Transportation Branch:

1. Coordinate the assignment of ambulances from Staging area to various sectors (e.g., East Transportation, West transportation, LZ).
2. Determine hospital availability status through Alarm.
3. Coordinate all patient allocation and hospital destination.
4. Coordinate the movement of patients from treatment areas to ambulance loading areas or helicopter landing zone.
5. Maintain an accounting of all patients and patient destinations.
6. Ensure the safety and accountability of all assigned members.
7. Provide frequent progress reports to Command.
8. Notify Command when all IMMEDIATE patients have been transported.

### **Transportation Branch Director**

The Transportation Branch Director will be stationed at a central location, preferably at or close to the Command Post. Transportation Sector members will be assigned to each treatment area as well as at Staging and at the Helicopter Landing Zone. The Transportation Branch Director will coordinate all of these assignments and assign the necessary resources. Each Sector (e.g., "East Transportation Sector," "West Transportation Sector," "Staging," "LZ") will require at least one full company.

A separate radio channel should be assigned exclusively to the Transportation Branch. This will facilitate the amount of communications necessary between the Branch Director and the assigned Sector officers at each location. The Transportation Branch Director will handle all communications with Alarm.

The Transportation Sector member in each location will communicate their transportation needs directly to the Transportation Branch Director to obtain resources. The Transportation Branch Director will then direct Staging to assign one or more ground ambulances to a specific loading area.

When an ambulance is ready for loading, the Sector officer should advise Transportation Branch of the number of patients being loading into a ground ambulance and their severity. The Branch Director will then advise the Transportation Sector officer of the destination hospital. This Sector officer will advise the rescue/ambulance personnel of their hospital destination. The Transportation Branch will advise receiving hospitals of patient's en-route, their triage status, and provide an ETA.

Each Transportation Sector officer will also remove a transportation tracking slip from the triage tag of each patient and write in the transport unit and hospital destination. Other information (name, age, injuries) can be completed on the tracking slip as time permits. These tracking slips are kept by Transportation Sector officers to maintain an accounting of all patients leaving the Sector. They can also be verified by Command, who has the initial triage tracking slips.

The Transportation Branch Director will assign necessary resources to the Helicopter Landing Zone to move patients from the treatment areas over to LZ. This may require the use of a ground ambulance. Helicopters should be used to transport IMMEDIATE patients to more distant appropriate medical facilities.

The Transportation Sector member assigned to each Treatment Area will perform the same function as established for an incident with a single treatment area. The Transportation Sector officer functions as a coordinator and resource allocation, consolidating communications with Alarm and Command.

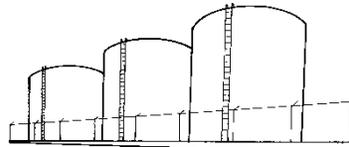
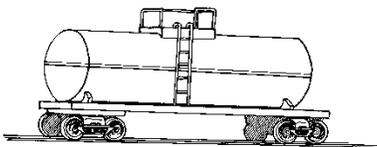
 <b>Standard Operating Guidelines</b>	<b>Series: 204</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>204.01: Hazardous Material</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
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**Purpose**

This guideline provides a basic philosophy and strategic plan for hazardous materials situations. All Superstition Fire & Medical District (SFMD) Standard Operating Guidelines, unless superseded by a specific part of this plan, remain in effect for Hazardous Materials incidents.

**HAZ-MAT Incidents**

Hazardous Materials incidents encompass a wide variety of potential situations including fires, spills, transportation accidents, chemical reactions, explosions and similar events. Hazards involved may include toxicity, flammability, radiological exposure, corrosives, explosives, health, and chemical reactions or a combination of factors. This plan provides a general framework for handling a hazardous materials incident, but does not address the specific tactics or control measures for particular incidents.



Every incident presents the potential for exposure to hazardous materials; even the products of combustion of an ordinary fire may present severe hazards to member's safety.

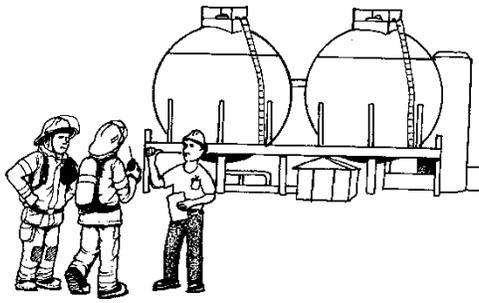
This procedure is specifically applicable to known hazardous materials incidents, but it does not reduce the need for appropriate safety precautions at every incident. The use of **FULL PROTECTIVE CLOTHING AND SCBA AS WELL AS SPECIAL PROTECTIVE CLOTHING** and the use of all Standard Operating Procedures on a continuing basis are foundational for this plan.

**Dispatch**

The Dispatch Center will attempt to obtain any and all information from the person reporting a hazardous materials incident. The information should, if possible, include material name and/or type, amount and size of container(s), problem (leak, spill, fire, etc.) and dangerous properties of the materials **AS WELL AS THE NUMBER OF PERSONS INJURED OR EXPOSED**. The incident taker should remain on the telephone with the caller, if possible, to gain additional information after entering the call for dispatch.

Any additional information shall be relayed to responding units after dispatch. **THIS SHOULD INCLUDE THE SAFEST APPROACH OR BEST ACCESS TO THE INCIDENT IF AVAILABLE.**

If the call comes from a person with particular knowledge of the hazardous situation, that person **SHOULD BE INSTRUCTED TO** meet and direct the arriving units. Dispatch shall relay that person's location and level of knowledge to responding units.



The Dispatch Center will dispatch the APPROPRIATE Hazardous Materials Assignment COMPANIES to all reported hazardous materials incidents.

### **First Arriving Unit**

The first arriving officer will establish Command and begin a size-up. The first unit must consciously avoid committing itself to a dangerous situation. When approaching, slow down or stop to assess any visible activity taking place. Evaluate effects of wind, topography and location of the situation. Route any other responding companies away from any hazards.

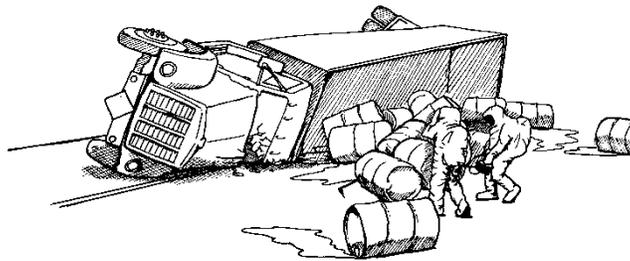
Command should consider establishing Level II staging whenever possible for other responding units. Staged companies must be in a safe location, taking into account; wind, spill flow, explosion potential and similar factors in any situation. The DOT guidebook, NFPA reference material, NIOSH pocket guides, MSDS or shipping papers should be used to assist with establishing a safe distance for staging.

### **Size-Up**

Command must make a careful size-up before making a commitment. It may be necessary to take immediate action to make a rescue or evacuate an area. This should be attempted only after a risk/benefit analysis is completed. Members must use available personal protective equipment in these situations.

The objective of the size-up is to identify the nature and severity of the immediate problem and to gather sufficient information to formulate a valid action plan. Hazardous materials incidents require a cautious and deliberate size-up.

Avoid premature commitment of companies and members to potentially hazardous locations. Proceed with caution in evaluating risks before formulating a plan and keep uncommitted companies at a safe distance. **IN MANY CASES, EVALUATION BY HAZARDOUS MATERIALS TEAM MEMBERS BEFORE COMMITMENT, IS THE SAFEST APPROACH.**



Identify a hazardous area based on potential danger, taking into account materials involved, time of day, wind and weather conditions, location of the incident and degree of risk to unprotected personnel. Take immediate action to evacuate and/or rescue persons in critical danger, if possible, providing for safety of rescuers FIRST.

The primary objective is to identify the type of material(s) involved in a situation, and the hazards presented, before formulating a plan of action. Look for labels, markers, DOT IDENTIFICATION NUMBERS, NFPA DIAMOND or shipping papers, etc. Refer to pre-fire plans, and ask personnel at the scene for additional information (plant management, responsible party, truck drivers, and fire department specialist). Use reference materials carried on apparatus, and have Dispatch contact other sources for assistance when sizing up the problem (state agencies, fire department specialists, manufacturers of materials, etc.).

## **Action Plan**

Based on the initial size-up and any information available, Command will formulate an action plan to deal with the situation.

THE ACTION PLAN MUST PROVIDE FOR:

1. Safety of all fire members
2. Evacuation of endangered area, if necessary
3. Control of situation
4. Stabilization of hazardous materials, and/or
5. Disposal or removal of hazardous material

Most hazardous materials are maintained in a safe condition for handling and use through confinement in a container or protective system. The emergency is usually related to the material escaping from the protective container or system and creating a hazard on the exterior. The strategic plan must include a method to control the flow or release, get the hazardous material back into a safe container, neutralize it, allow it to dissipate safely, or coordinate proper disposal.

The specific action plan must identify the method of hazard control, and identify the resources necessary to accomplish this goal. It may be necessary to select one method over another, due to the unavailability of a particular resource, or to adopt a "holding action" to wait for needed equipment or supplies.

Avoid committing members or civilians and equipment prematurely or "experimenting" with techniques and tactics. Many times it is necessary to evacuate and wait for special equipment or TECHNICAL help.

As a general policy, the Hazardous Materials Team will respond to any situation where a private contractor is required to clean-up hazardous materials.

## **Control of Hazardous Area**

A hazardous material incident has two initial zones associated with the scene, similar to a fire. They are the LIMITED ACCESS ZONE and the EVACUATION ZONE.

### **Limited Access Zone (LAZ)**

The LAZ is the area in which members are potentially, or in immediate danger from the hazardous condition. This is established by Command and controlled by the Fire Department (Site Control Sector). Access to this area will be rigidly controlled and only members with proper protective equipment and an assigned activity will enter. All companies will remain intact in designated staging areas until assigned. Members will be assigned to monitor entry and exit of all personnel from the LAZ. The LAZ should be geographically described to all responding units, if possible, and identified by yellow hazard tape. (A Lobby Control Sector will be established to control access to the LAZ and maintain an awareness of which members are working in the area.)

Sector Officers may/will need to:

1. Request adequate assistance to maintain the perimeter.
2. Identify an entrance/exit point and inform Command of its location.
3. Coordinate with Hazard Sector to identify required level of protection for members operating in the Hazard Zone.
4. Collect/return accountability PASSPORTS of all companies entering/leaving the controlled area.

Restriction of access in the LAZ includes not only Fire District members, but any others who may wish to enter the LAZ (Police, press, employees, tow truck drivers, ambulance personnel, etc.). Command is responsible for everyone's safety.

## **Evacuation Zone (EZ)**

The EZ is the larger area surrounding the LAZ in which a lesser degree of risk to members exists. All civilians will also be removed from this area. The limits of this zone will be enforced by the Police Department based on distances and directions established in consultation with Command. The area to be evacuated depends on the nature and amount of the material and type of risk it presents to unprotected members (toxic, explosive, etc.).

In some cases, it is necessary to completely evacuate a radius around a site for a certain distance (i.e., potential explosion). In other cases, it may be advisable to evacuate a path downwind where toxic or flammable vapors may be carried (and control ignition sources in case of flammable vapors).

(Reference: Evacuation Sector, Police Liaison Sector)

NOTE: When toxic or irritant vapors are being carried downwind, it may be most effective to, (shelter in place), keep everyone indoors with windows and doors closed to prevent contact with the material instead of evacuating the area. In these cases, companies will be assigned to patrol the area assisting citizens in shutting down ventilation systems and evacuating persons with susceptibility to respiratory problems.

In all cases, the responsibility for safety of all potentially endangered citizens rests with Command. Once the Hazardous Materials Sector has been established, Haz Mat members will define and establish a hot, warm and cold zone. These zones will remain in effect for the remainder of the incident.

## **Use of Non-Fire District Personnel**

In some emergent cases, it may be advantageous to use Non-Fire District personnel to evaluate hazards and perform certain functions within their area of expertise.

When such personnel are outfitted with breathing apparatus, chemical suits, etc., they must be made aware of the functions, limitations and safety precautions necessary in their use, the hazards present and the effect on the body and medical monitoring. Fire District members with the necessary protective equipment must closely monitor and accompany such personnel for safety.

Command is responsible for the safety of all personnel involved in any incident, although every member has a responsibility to notify command of any unsafe operations.

 <p>Standard Operating Guidelines</p>	<b>Series: 204</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>204.02: Haz-Mat Evacuations</b>			
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**Purpose**

An incident involving hazardous materials has a higher probability to cause an evacuation of an affected area than any other incident. By the very nature of the hazard, this type of evacuation often provides very little preparation time. Decisions will need to be made quickly, and citizens moved rapidly.

This procedure identifies the method and resources required to execute a small to large-scale evacuation.

**Levels of Evacuation**

There are three levels of evacuation. Each requires a different resource commitment. They include: Site Evacuation, Intermediate Level Evacuation, and Large Scale Evacuation.

**A. Site Evacuation**

Site evacuation involves a small number of citizens. This typically includes the workers at the site, and persons from adjacent occupancies or areas. The citizens are easily evacuated and collected upwind at the perimeter area. Evacuation holding times are typically short, generally less than two hours, and citizens are then permitted to return to their businesses or homes.

**B. Intermediate Level Evacuation**

The next level, or intermediate level, involves larger numbers of citizens and/or affects a larger area. This level affects off-site homes and businesses and normally affects fewer than 100 persons. Persons may remain out of the area for two to four hours or more. Evacuation completion times will be somewhat longer, but generally rapid. Collecting, documenting, and controlling the evacuees becomes more difficult. Off-site evacuation sites or shelter areas will need to be determined and managed. Some evacuees will leave the area on their own or may be sent home by employers. Site perimeters become larger and perimeter security requires more resources. Close coordination with the Law Enforcement Agency and other agencies will be required.

**C. Large Scale Evacuation**

A large or concentrated release of a hazardous substance may cause a large off-site evacuation. Thousands of citizens may need to be evacuated. Rapid initiation of the evacuation process may be required. Evacuees may be out of their homes and businesses for many hours or days. Evacuation completion time frames will be extended. Evacuation shelters will need to be located, opened and managed. Documentation and tracking of evacuees becomes more important, as well as more difficult to manage. Very close coordination with the Law Enforcement and multiple agencies will be required. Site and evacuation perimeters become extended and require more resources to maintain. Security of the evacuated area should be a concern.

**Time Factors**

Time factors are an important consideration in the evacuation decision.

A rapidly developing moving toxic cloud will demand a more immediate size-up and quick decision making. This type of decision making often is made with less information than a slow moving event. Accuracy of information may be limited.

The speed of the developing hazard will dictate the speed of evacuation. Immediate evacuation will require more resources than a slower developing event.

It will take time to complete the evacuation. The more people to be evacuated, and the distance between the occupancies to be evacuated, the more time required. The greater numbers needing evacuation will also require a greater resource commitment.

### **Decision to Evacuate**

The decision to evacuate needs to be considered quickly and early. Delays in initiating evacuation can expose greater numbers of the public to the hazardous product. An unnecessary evacuation should be avoided. However, once the hazard has been identified and verified, the process of deciding who, when, and how to evacuate should proceed quickly.

In some cases, in-place sheltering (staying indoors) may provide adequate protection and should be a serious consideration in the decision making process.

Factors to consider when evaluating the evacuation need include:

1. Product Toxicity (as a health hazard)
2. Concentrations (before it becomes a health hazard)
3. Length of Time Exposed
4. Weather Conditions (temperature, humidity)
5. Wind Direction (direction, speed)
6. Wind Changes
7. Predicted Weather Changes
8. Distances From Site Requiring Evacuation
9. Evacuation Risk to Public (bringing them outdoors)
10. Infiltration into Buildings
11. Shelter Locations
12. Transportation Needs and Availability
13. Evacuation Time Factors
14. Resources for Evacuation
15. Density of Population in The Area

In some situations, in-place sheltering can be used to protect the public rather than to initiate an evacuation. In-place sheltering can be considered during the following circumstances:

1. The hazardous material has been identified as having a low or moderate level health risk.
2. The material has been released from its container and is now dissipating.
3. Leaks can be controlled rapidly and before evacuation can be completed.
4. Exposure to the product is expected to be short-term and of low health risk.
5. The public can be adequately protected by staying indoors.

Command may need to provide instructions to the affected public regarding the need to stay indoors and in such protective measures as shutting down their HVAC systems, and sealing their buildings.

### **Command Organization**

Once Command has determined evacuation to be necessary, adequate resources need to be called to the scene and appropriate agencies notified to respond. A central staging area for all agencies should be considered.

The Incident Management System will need to be expanded to include other Sections/Branches. This level of Command structure may need to be implemented to more effectively manage a large-scale incident. Sections/Branches to be considered include:

- A. Public Information Sector
- B. Geographic Sectors (Multiple Sectors)
- C. Law Enforcement Liaison Sector

- D. Staging Sector
- E. Transportation Sector
- F. Law Enforcement Resource
- G. Shelter Sectors
- H. Other Agency Liaison Sectors
  - 1. Operations Section
  - 2. Administrative Section
  - 3. Planning Section
  - 4. Logistics Section
  - 5. Accountability/Safety Section
- I. Evacuation Branch/Sector
- J. Shelter Locations
- K. Transportation Needs and Availability
- L. Evacuation Time Factors
- M. Resources Required for Evacuation
- N. Concentrations of the population in the area

### **Command Responsibilities**

Command's responsibilities include the following items:

1. Rapidly size-up the situation to determine the need to evacuate.
2. Determine evacuation perimeters.
3. Determine the number and location of shelter sites and communicate the locations to the command organization.
4. Order evacuation.
5. Provide resources required.
6. Establish Law Enforcement liaison.
7. Order the alert of other appropriate agencies.
8. Expand the command organization to meet the incident/evacuation needs.
9. Establish an evacuation plan and communicate the plan to sectors and agency liaisons.
10. Monitor, support, and revise the evacuation process, as necessary.
11. Evacuate persons from the area of greatest danger first.
12. Assign specific areas to evacuate in order to avoid duplication or missed areas.
13. Provide the transportation necessary for evacuees.
14. Provide continuing command of the evacuation, de-commitment, and return of evacuees.

### **Law Enforcement Responsibilities**

The Law Enforcement Agency will be an integral part of the evacuation process, as a large portion of the evacuation may be accomplished by Law Enforcement officers. Law Enforcement responsibilities include:

1. Provide a ranking officer to the incident command post.
2. Provide a ranking officer to the Evacuation Sector/Evacuations Branch.
3. Provide a communication system for Law Enforcement resources.
4. Provide Law Enforcement resources needed for evacuation.
5. Provide traffic control and traffic routing.
6. Provide perimeter security.
7. Provide evacuation zone security.

## **Dispatch Center's Responsibilities**

The Dispatch Center's responsibilities include:

1. Dispatch appropriate resource as requested.
2. Notify appropriate Fire and City officials.
3. Notify the appropriate support agencies as requested or listed in standard operating procedures.
4. Notify the Administrative Duty Officer and provide a status report.
5. Initiate recall of additional Dispatch personnel to meet the demands of the incident.
6. Notify the City telephone switchboard operator and provide the operator a status report. Update the operator as needed.
7. Notify the hospitals in the area of evacuation (both those exposed and not exposed) and provide a status report and updates as needed (intermediate and large scale evacuations).

## **Public Information Officer's Responsibilities**

The Public Information Officer's responsibilities include:

1. Notify the news media and provide status reports and updates as necessary.
2. Provide the media with consistent and accurate evacuation instructions as provided by Command or the Evacuation Branch/Sector.
3. Utilize the media and coordinate evacuation notices through news media.

## **Red Cross Responsibilities**

Once long-term shelter locations are identified, the Red Cross will open and manage shelters. Early notification is required. The Red Cross will need up to three hours to get adequate personnel, equipment and supplies to the shelter sites.

Some Fire District resources may need to be committed to the shelters, particularly in the area of initial opening and staffing by a shelter crew, and later for potential emergency medical support.

## **Evacuation Branch/Sector Responsibilities**

An Evacuation Branch/Sector must be established. On large-scale evacuations, the Evacuation Branch should have a separate radio channel. Various sub-level sectors may also need to be established and report to the Evacuation Branch.

Typically a large commitment of Law Enforcement officers will be required to accomplish an evacuation. The Evacuation Branch officer must obtain a ranking Law Enforcement officer at his/her location in order to closely coordinate evacuation efforts. An appropriate commitment of Law Enforcement resource must be obtained. Evacuation responsibilities include:

1. Obtain resources needed to evacuate.
2. Obtain ranking Law Enforcement officer for liaison.
3. Establish sectors as needed.
4. Provide sectors objectives and specific areas to evacuate (use Fire Agency map pages or hydrant zones in Fire Agency map book for grids).
5. Provide sectors with shelter location and instructions.
6. Provide sectors with private vehicle routing instructions (out of the area).
7. Obtain/provide buses or other transportation to those requiring transportation out of the area. (For large-scale evacuation, start with two buses and request more as needed.):
8. Evacuate those at greatest risk first.
9. Evacuate the greatest concentrated areas next (i.e., apartment complex).
10. Consider individual sectors for large population occupancies (i.e., multi-story buildings, large apartment complexes, schools, etc.).

11. As individual geographic or grid sectors complete their evacuations, terminate the sector, identify and reassign resources to other developing sectors (for large-scale evacuation).
12. Closely document and maintain records of the evacuation process to avoid duplication or missed areas.
13. Document those addressees refusing to leave.

### **On-Site Notification to Evacuate**

Door-to-door notification is time-consuming. In many cases, adequate resources and time is not available to do this type of face-to-face notification. Use of sirens, air horns and PA systems will speed the alert process.

When making door-to-door evacuations:

1. Be in uniform.
2. Wear your helmet.

Face-to-face notification should include the following instructions:

1. There's been a hazardous materials incident.
2. You are in danger.
3. Leave immediately.
4. Go to the shelter (location).
5. Take (xyz) route out of area.
6. Do you need transportation?
7. Provide the customer with evacuation instructions.

Take the following items:

1. Wallet/purse
2. House & car keys
3. Money
4. Eye glasses
5. Medications
6. Proper clothing
7. Pets

In other situations, where immediate and rapid evacuation makes door-to-door notification impossible, use the following notification method:

1. Use 3 five-second blasts of the siren while on the "YELP" setting.
2. Followed by the standard evacuation instruction over PA system (see instructions above)
3. Use maximum volume on PA system.
4. Proceed slowly to maximize notification.
5. Initiate notification at the beginning of each block and each 50 yards after that.

Once each assigned grid of objectives is complete, report completion to the Evacuation Branch/Sector officer.

### **Refusal to Leave**

Some citizens may refuse to leave. A few methods of persuasion to leave include:

1. Be in uniform.
2. Wear your helmet.
3. Wear SCBA and face piece (air hose may not need to be connected) when advising the citizen to leave.
4. Ask for next of kin and a phone number.

5. Write the next of kin information down.

Evacuations follow somewhat of a triage philosophy--we'll evacuate the greatest number for the greatest benefit. Individual refusals will be left to fend for themselves. There simply may not be enough time or resources to initiate forced removal of persons from their homes. However, documentation of the refusal should be done. Write the address down (or if radio traffic permits, radio the address to the Evacuation Branch/Sector officer).

**Transportation Sector Responsibilities**

A Transportation Branch/Sector should be a priority for any intermediate or large-scale evacuation. Not all citizens will have a vehicle available to them.

1. Obtain buses (start with minimum of two) and other vehicles that can be used for transportation.
2. Stage all transportation resources.
3. Put one firefighter (or Law Enforcement officer) with a Fire or Law Enforcement Agency radio on each vehicle.
4. Coordinate with Evacuation Branch/Sector the pick-up points or addresses of those citizens needing transportation.

**On-Duty Deputy or Duty Chief Responsibilities**

Any time more than ten (10) persons are evacuated, consideration should be made to notify local government leaders of the situation.

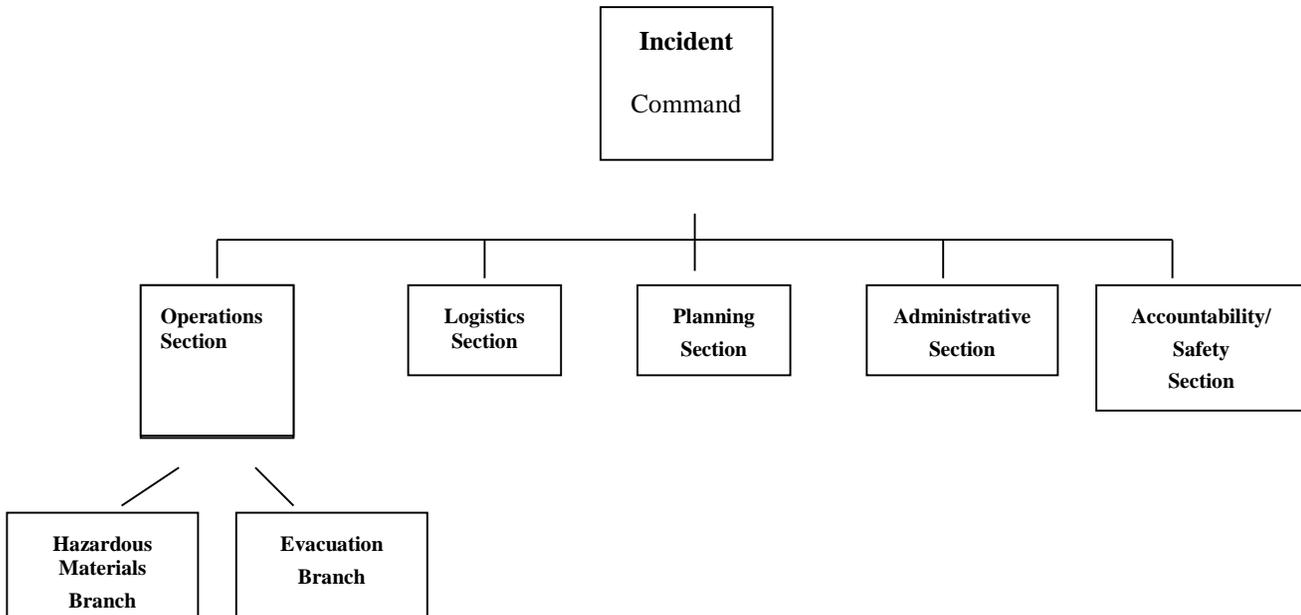
If the Duty Chief or Deputy Chief cannot respond to the incident or is delayed, the Duty Chief or Deputy Chief will need to contact the incident command staff for a status report. Command should be prepared to respond to this request via cellular telephone, etc.

**Return Evacuees**

The decision to return evacuees to their homes will be the sole responsibility of the Fire Agency Incident Commander. If the EOC is operating, the decision to return evacuees will be made by the EOC staff. No other City agency will be authorized to order the return.

Returning evacuees may require transportation. A Transportation Branch/Sector may need to be reactivated to provide for these needs.

**Typical IMS Large-Scale Evacuation Flow Chart**



 <p>Standard Operating Guidelines</p>	<b>Series: 204</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>204.03: Haz-Mat Decon</b>			
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	<b>Approved by:</b>	Emergency Services		

**Purpose**

The purpose of the guideline is to assure that any potentially harmful or dangerous residues on personnel, equipment or apparatus are confined within the Hot Zone. Decontamination is intended to prevent the spread of contaminants beyond the already contaminated area, including the fire station, the hospital, and other environments

The specific measures required for decontaminating personnel, equipment, or apparatus will vary with the contaminant, the circumstances and the level of contamination. These factors must be considered on a case-by-case basis, within the guidelines described.

**Command Responsibilities**

Command is responsible for assuring that a Decontamination Sector is implemented at incidents which involve a potential contamination problem. This sector should be assigned to personnel from a Hazardous Materials Team. Decontamination must be integrated into the management plan of the hazardous materials incident.

The Decontamination Sector Officer is responsible for determining the most appropriate decontamination procedures and managing the decontamination process. This should be done in conjunction with advice from the Poison Control Center.

The initial assessment of decontamination requirements must be based upon the specific needs of the situation. The decontamination process must be appropriately designed for the specific materials involved and the degree and type of exposure encountered. The assessment will require research and may involve consultation with toxicology resources.

**Decon Sector Officer**

The Decontamination Sector Officer must assume that all members and equipment preparing to leave the Hot Zone are contaminated. Three courses of actions are available:

1. Confirm “not contaminated”--using instruments or investigation based on the nature of the situation.
2. Decontaminate (as appropriate to the situation) and release.
3. Retain and package items for removal from the site for disposal or decontamination at a different location.

In all cases the primary objective must be to avoid contaminating anyone or anything beyond the Hot Zone. When in doubt about contamination, decon all affected personnel, equipment, and apparatus.

The Decontamination Area should be established within the Hot Zone perimeter adjacent to the Entrance/Exit (Lobby Control). Personnel, equipment, and apparatus shall not be permitted to leave the Hot Zone without approval from the Decontamination Sector Officer.

The Decontamination Area should provide a corridor leading away from the source of contamination toward the Exit, with stations along the way for the deposit of tools, equipment, protective clothing and other items. Monitoring personnel and equipment should be appropriately placed along the path. A person travelling along the path should experience a decreasing level of contamination along the way. When showers or spray nozzles are used, adequate space must be provided to avoid contamination of other areas or persons.

All contaminated items must remain within the perimeter of the Hazard Zone until decontaminated or safely packaged for removal. The Hazard Sector Officer or Decontamination Sector Officer will be responsible for supervising proper removal of these items. Members should be assigned to inspect persons and/or equipment before being released from the Decontamination Area. This inspection may be visual or may involve the use of monitoring instruments, when appropriate. It must be assumed that items or persons are contaminated, unless their non-contamination can be confirmed.

### **Decontamination Area Precautions**

During the decontamination process, all personnel working in the Decontamination Area must be adequately protected from contaminants. The Decontamination Sector Officer will identify and require the appropriate protective equipment. These individuals and their equipment may also require decontamination after use.

Any runoff or residue from decontamination procedures must be contained within the Hot Zone and retained for proper disposal. Contaminated run-off must not be allowed to spread or escape. Diking may be necessary, and should be directed back to the Hot Zone.

### **Contaminated Patients**

Patients in need of medical treatment should be removed from the source of contamination as quickly as possible, but remain within the Hot Zone perimeter. These patients must not be allowed to contaminate further areas or persons. It may be necessary to bring treatment personnel (with adequate protective clothing) into the Hot Zone to deal with these patients, unless they can be rapidly and effectively decontaminated. After decontamination, the patients and treatment personnel may leave the Hot Zone.

### **Transportation**

**Transporting of Immediate patients should not be delayed for complete decontamination.** Patients should be quickly treated for life threatening injuries simultaneous with decontamination efforts. Once treatment is completed and the patient is ready for transport, the patient should be covered and transported. The Rescue/Ambulance should be brought to the Warm Zone perimeter for loading. When feasible, the vehicle should be prepared by draping exposed surfaces with sheets or polyurethane covers. Patients should be wrapped or covered to lessen off-gassing of the products within the vehicle. Transport and treatment personnel may still have to wear protective garments and S.C.B.A. while en-route. **If it is necessary to transport contaminated patients to medical facilities, the receiving hospital must be notified in advance of the nature of the contamination, in order to make necessary preparations.** The vehicle used will be considered contaminated and will have to be decontaminated before being used to transport any non-contaminated persons. Helicopters will not be used for transporting any contaminated patients due to off-gassing effects on the pilot and flight crew.

### **Decontaminated Persons**

When persons are decontaminated at a Decontamination Area, they may be released to leave the Hazard Zone. This includes Fire District personnel, other emergency personnel, civilians and patients. The Decontamination Sector Officer will determine when it is appropriate to release custody of protective clothing, personal effects and equipment after consulting appropriate medical personnel (i.e., health center physician or Poison Control Center physician). The Decontamination Sector Officer may release individuals who are substantially decontaminated and direct them to medical facilities for further evaluation or decontamination. Individuals may also be directed to shower, change clothes or take other secondary decontamination measures.

These personnel should complete an exposure form. The Exposure Control officer will initiate contact and follow-up measures.

### **Protective Equipment Personal (PPE) Effects**

When feasible, protective clothing and personal effects should be decontaminated and released from the Hot Zone with the individual. If the Decontamination Sector Officer determines this is not feasible, these items will be impounded in the Decontamination Area. Personal effects will be carefully guarded by Decontamination Sector members until a determination can be made regarding their final disposition.

## **Tools and Equipment**

The Decontamination Sector Officer will determine when tools, equipment and apparatus may be released from the Hot Zone. No item shall be removed without approval. This impoundment will be accomplished following the consultation of medical and technical assistance.

 <b>Standard Operating Guidelines</b>	<b>Series: 204</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>204.04: Mercury Release</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

To establish guidelines that should be used by Superstition Fire & Medical District (SFMD) personnel when a mercury release occurs.

**Facts About Mercury**

There are three types of mercury; the two most common types are elemental and inorganic mercury.

**A. Elemental Mercury (Hg<sup>0</sup>):**

The most common sources of elemental mercury are blood pressure cuffs, oral and rectal thermometers, and in laboratories. Elemental mercury could also be found in the same processes where inorganic mercury may be used (see below).

Symptoms of initial toxic exposure to elemental mercury include fever, chills, dyspnea, and headache within several hours. Emergency care is supportive with transport to a hospital.

**B. Inorganic Mercury (HG<sup>+</sup>, HG<sup>++</sup>):**

The most common sources of inorganic mercury are scientific instruments, electrical equipment, felt making, and the manufacturing of caustic soda and disc batteries (watches).

Acute effects include, but are not limited to, burning mouth, sore throat, nausea and vomiting with severe gingivitis. Emergency care is supportive with transport to a hospital.

The third type of mercury and the least common is:

**C. Organic Mercury (CH<sub>3</sub>Hg):**

The common sources of organic mercury are in mining, smelting, or refining operations.

Symptoms include, but are not limited to, hearing defects and loss of concentration.

**Mercury Release at Commercial Facility**

**A. Initial Action Required by Fire District**

1. Upon the arrival of Fire District units, Command will:
  - a. Contact the on-site responsible party;
  - b. Determine the amount of mercury released;
  - c. Determine the mercury source and, if possible, secure the source to prevent further mercury loss.
  - d. Determine the size of affected area.
  - e. At no time should the Fire District attempt to clean up a mercury release.
2. Command is also responsible to:
  - a. Evacuate the affected area;
  - b. Isolate the affected area utilizing hazard line tape;
  - c. Deny Entry;
  - d. Request a Haz-Mat response through Alarm as necessary.
3. To reduce the possibility of contamination to Fire District personnel, **Fire District Members Should Not:**

- a. Enter the reported spill area, unless for rescue or treatment.
  - b. Attempt to clean up even the smallest amount of mercury released or any other Haz-Mat release.
  - c. Take possession of the mercury.
4. EXCEPTION:
- a. When a resident brings mercury to the fire station, personnel may take possession of the mercury (Contact B261 for recommendation).
  - b. Fire District members will not take possession of mercury generated from a commercial business.
  - c. Transport any quantity of mercury or any other Hazardous Material.

### **Fire Prevention and Haz-Mat Team Members**

Fire Prevention may:

1. Respond to the incident location to document the requirement for a contractor with the appropriate equipment to clean up the spilled Mercury and to verify that the requirement is complied with.
2. Advise the responsible party of the contractors who have the appropriate equipment and shall remain on-scene until the contractor responds to the site.
3. Make or verify that all appropriate notifications are made.

Haz-Mat personnel may, depending upon each situation:

1. Respond to the incident location to verify for the Incident Commander that all safety procedures are employed.
2. Assists the Incident Commander by verifying that the Fire District's decontamination procedures are initiated and followed.
3. Make or verify that all appropriate notifications are made and notify the Incident Commander when completed.

### **Responsible Party**

The responsible party shall:

1. When required, contact and employ a contractor who has the appropriate equipment to cleanup and transport the mercury for proper disposal. The Fire District shall not make the contact for the responsible party because the Fire District does not want to incur the costs associated with the response or cleanup by a contractor.
2. Determine the names of persons who are known or suspected to be contaminated by mercury.
3. Make any other contacts deemed appropriate for the particular situation.

### **Known/Suspected Contaminated Persons**

Until proven otherwise through appropriate meter readings, Command shall isolate persons who are suspected to be contaminated.

Based on the contractor's meter readings, the contractor may require:

1. Decontamination; or
2. Clean clothing is provided for the known/suspected contaminated persons.

### **Known/Suspected Contaminated Clothing, Shoes, Miscellaneous Items**

Based on test results, the contractor, not the Fire District, shall determine when removal of contaminated items and confiscation of contaminated items may be necessary.

In the event clothing, shoes, jewelry or miscellaneous items, are removed from a person, place the items in a

plastic bag, tie off, and place a name tag on the bag identifying the owner's name. **Do not use biohazard bags because the contractors cannot accept it; there are different federally mandated disposal requirements that must be complied with relating to mercury and bio-hazardous waste.**

In addition, based on meter readings, decontamination may be required, at which time the Fire District's decontamination procedures shall be initiated.

### **Mercury Release in a Residence**

The Arizona District of Environmental Quality has determined that a mercury release that occurs in a residence, including the interior of apartments, is household hazardous waste. As a result, the release is exempt from cleanup requirements. This does not, however, eliminate the need for response, evaluation of the hazard, and educating the homeowner/occupant.

Note: A mercury release in common public areas such as pool-side or exit corridors at apartment complexes, condominiums, etc. would require compliance with the commercial facility section of this management procedure.

When responding to the report of a mercury release in a residence, including the interior of apartments, considerations should be made to:

1. Have the Alarm Room notify Fire Prevention and possibly Haz-Mat personnel requesting response.
2. Recommend to the homeowner/occupant that no one be allowed to enter the affected area until the hazard has been evaluated.

Fire Prevention personnel will explain to the homeowner/occupant of the hazards associated with the release of mercury and document on a "Short Form" that it is the Fire District's recommendation that a contractor with the appropriate metering equipment be employed to clean up and remove mercury contaminated items.

Fire Prevention will submit to the homeowner/occupant, the names and phone numbers of companies who have the proper mercury testing equipment.

### **Haz-Mat Technicians**

Haz-Mat personnel can always be requested through automatic-aid to assist in the evaluation of the hazards associated with the release. In addition, Haz-Mat technicians will verify that the Fire District's decontamination procedures are initiated and followed, when deemed necessary.

 <b>Standard Operating Guidelines</b>	<b>Series: 204</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>204.05: Radiological Decontamination</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

Members may be contaminated with alpha or beta radioactive emitting material at any radiological incident. In order to prevent any health risk to members and to control the spread of the contamination, the following steps should be taken:

1. All personnel (both Fire District members and civilian) that were inside the Hot Zone must not be released from the zone until they have been surveyed with radiation detection instruments and decontaminated if necessary.
2. A Haz-Mat response from MFD can be facilitated through the alarm room.
3. Contaminated personnel leaving the Hot Zone must pass through the Decontamination Area. (See diagram)
4. All members reporting to the Decontamination Area will remain fully dressed in protective gear, including gloves and SCBA (facepiece in place).
5. No smoking, drinking or food consumption will be permitted until all exposed members are determined to be free from contamination.
6. All contaminated clothing and equipment must be removed and held in the Decontamination Area.

Plastic bags or plastic trash containers must be utilized to contain contaminated clothing and equipment. (Large plastic trash containers are excellent for this purpose and may be confiscated from any nearby residential area)

**Removal of Contaminated Equipment and Clothing**

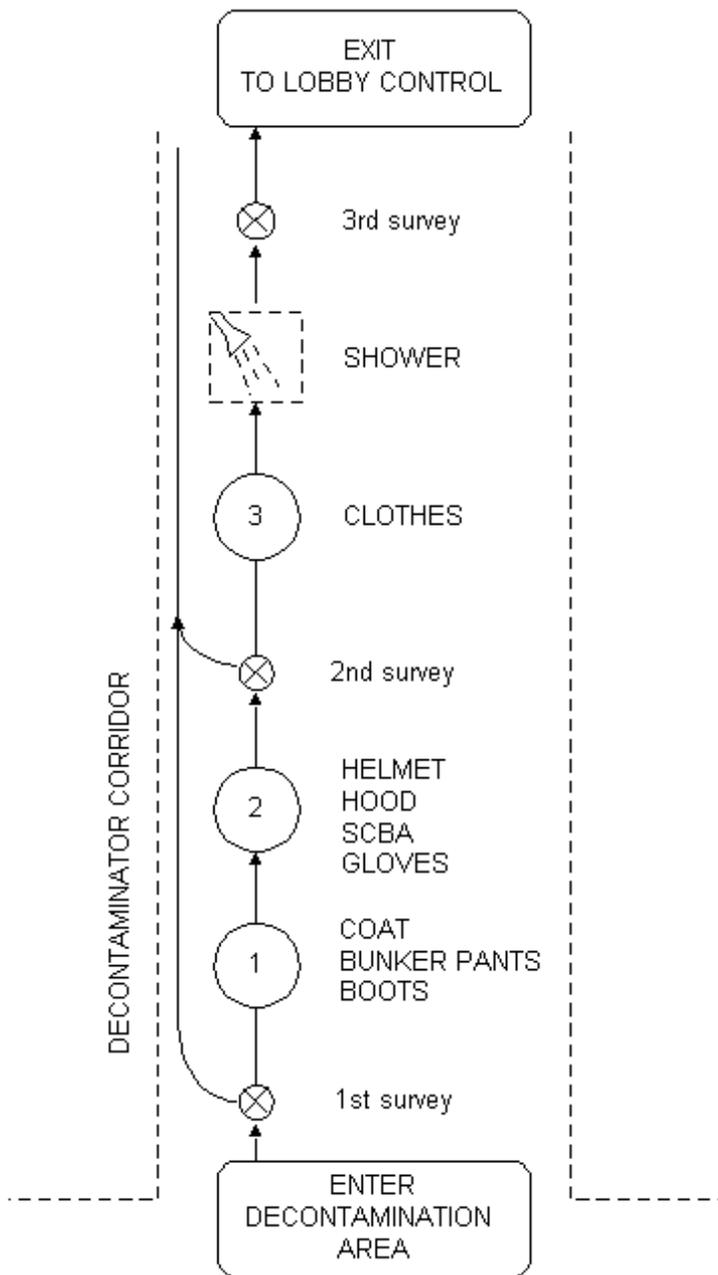
All radioactively contaminated equipment and clothing must be placed in plastic containers at one of three collection points (see diagram).

1. At the first survey point all members will be checked in with monitoring instruments. If not contaminated, members may leave the Warm Zone via Lobby Control.
2. Contaminated members will place coat, boots and bunker pants in the first container, continuing to maintain SCBA face piece in place. All items must be gently handled to avoid spreading dust (radioactive particles) and using gloves at all times. Actions should avoid contaminating inner clothing, skin and particularly hands. SCBA harness and cylinder must be carried to second container.
3. After the second container, members will again be checked and, if free of contamination, may be released from the Hot Zone. If still contaminated, members must proceed to the third container.
4. At the third collection point, all outer clothing will be removed and members will be checked again with monitoring instruments. If still contaminated, members must shower at the site, using a portable shower and soap. Showering must pay particular attention to body areas which may collect contaminants (armpits, hair, fingernails, etc.) and avoid runoff into eyes or ears.

Following showers, members will again be surveyed for contamination, before being issued with clean coveralls.

NOTE: Shower runoff water must be impounded and collected. All members released from the Hot Zone will be directed to shower and shampoo and put on clean clothes as soon as possible after the incident. Medical evaluation will be arranged for all exposed members as quickly as feasible.

**Example**



 <b>Standard Operating Guidelines</b>	<b>Series: 204</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>204.06: Radiological Hazards</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

This guideline is designed to provide basic operational guidelines for managing a radiological incident. This is for peacetime radiological emergencies and does not specifically apply to nuclear warfare radiological contamination.

**Fire District Responsibilities**

SFMD responsibilities during radiological emergencies include rescue, treatment, fire control/extinguishment, control of contamination spread and alerting responsible experts/agencies. Actual clean-up and overhaul operations will not normally be a Fire District responsibility, although the Fire District will be responsible for seeing that such operations are completed. Shippers and/or manufacturers of radiological materials will normally be responsible for clean-up operations using trained clean-up personnel and equipment.

**Dispatch**

- A. The City of Mesa Alarm Room will dispatch either the first due Engine and a Haz-Mat unit or a 1st Alarm Haz Mat assignment, with the Hazardous Materials Team to any incident reported to involve radiological materials. The size of the assignment will be based on the location and type of situation reported.
- B. Alarm will advise responding units of the prevailing wind direction.
- C. When a radiological incident is confirmed, Dispatch will notify:
  - 1. D.P.S. Communications to dispatch personnel from the Arizona Radiation Regulatory Agency and D.P.S
  - 2. Phoenix Fire District members with advanced radiological training-- (list in Information File).
  - 3. Maricopa County Civil Defense--on request from Command.

**Site Operations**

At the scene, Command must consider both direct radiation exposure and contamination. If there is no life hazard, rescue situation or fire, there is no reason to risk exposure of Fire District members. First arriving units should secure a perimeter, evaluate the situation and wait for the arrival of the Hazardous Materials Team.

Hazard Zone tape shall be stretched to define an area where readings of 2MR/hr are detectable. This must take into account potential downwind spread of contamination. Hazardous Materials Team members will determine readings and define the Limited Access Zone.

A Decontamination Area must be established within the perimeter of the Hot Zone, adjacent to the Lobby Control (entrance/exit) point. Qualified members must check all members and equipment leaving the Hot Zone for radioactive contamination. All persons or items must go to the Decontamination Area before leaving the Hot Zone.

Patients requiring treatment, who cannot immediately be decontaminated, must be placed in an isolated Treatment Area, away from other patients and inside the Hot Zone perimeter.

## **Tactical Considerations**

### A. Incidents with Fire:

1. Initiate normal tactical firefighting operations.
2. Always approach from upwind.
3. Do not ventilate.
4. Minimize the use of water.
5. Control water runoff-impound for disposal.
6. Minimize exposure of members.
7. Use full protective clothing with SCBA.

### B. Rescue/EMS Incidents:

1. Remove patients quickly.
2. Treat patients for medical problems/injuries.
3. Alert hospitals to prepare for contaminated patients.
4. Use full protective clothing and SCBA.
5. Decontaminate vehicles used to Transport.

## **Nuclear Weapons**

The radiological hazard of nuclear weapons in transit is similar to other radioactive materials and can be handled with similar tactics.

These weapons however, contain considerable amounts of high explosives, which may be shock sensitive and can detonate very easily. They are especially dangerous when the weapon has broken up and the high explosive is scattered about. If a nuclear weapon involves fire, evacuate the area of 2,000 feet, in all directions, immediately. All downwind areas must be checked for contamination.

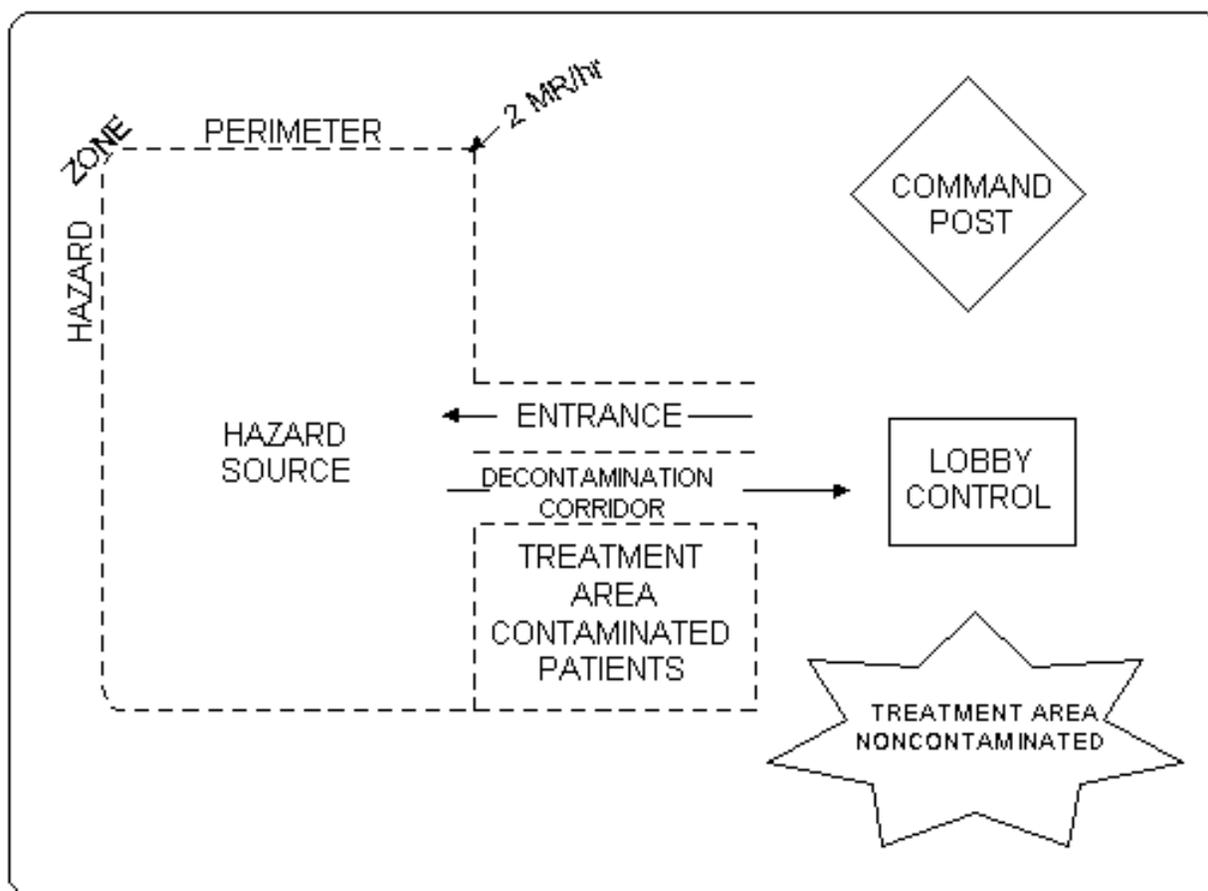
## **Treatment of Contaminated Patients**

Do not delay field treatment of injuries. Radiological contamination, itself, is not a medical emergency. Treatment of contaminated patients should proceed with the following precautions:

1. All contaminated patients should be placed in one Treatment Area--separate from non-contaminated patients--within the Hot Zone perimeter, but beyond the 2 MR/hr exposure distance.
2. All treatment members should use SCBA or dust-filtering type masks, long sleeve shirts or coats, gloves and nomex hoods.
3. A mask or other airway filtering means should be used on the patient to limit inhalation/ingestion of airborne contamination.
4. Bandage all open wounds as quickly as possible to prevent wound contamination.
5. Carefully peeling or cutting of outer clothing from the patient's body will remove most of the contamination.
6. Removed clothing, watches, wallets, etc. must be placed in plastic bags or other appropriate containers, sealed and properly identified.
7. A clean plastic bag or other clothing should be placed over the patient's scalp hair to minimize the spread of contamination. Do not cover face.
8. 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).
9. Hot spots of contamination on the patient's body that cannot be removed by wiping, etc., should be marked with ink outline or tape.
10. 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.

11. Hospitals and rescues must be alerted early and before patient transportation is initiated so they can prepare to receive radioactive contaminated patients.
12. 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.
13. Where there are large numbers of contaminated patients, place as many patients as possible in each rescue to minimize contamination spread to other rescues.
14. 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.
15. Before treatment members can be released from the scene, they must be checked for contamination and decontaminated. All equipment used in patient treatment must also be checked and decontaminated. This evaluation will be conducted in the Decontamination Area.

### FIRELINE TAPE



 <p>Standard Operating Guidelines</p>	<b>Series: 204</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>204.07: Natural Gas Emergencies</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

Fire District personnel may encounter natural gas in a variety of situations and incident types, each presenting a different set of hazards and problems. The following guidelines present an approach that will be applicable in the majority of situations, but do not replace good judgment and experience when dealing with any particular incident. These guidelines should be used when situations are encountered that do not clearly indicate that a different approach is needed to more safely resolve the hazard.

**Natural Gas Emergences / Properties**

Natural gas is much lighter than air and will usually dissipate rapidly when outdoors. Inside buildings, however, it tends to pocket, particularly in attics and dead air spaces. The flammable range is approximately 4% to 15% in air. Natural gas itself is nontoxic; however it can displace oxygen and result in asphyxiation if in a confined space. Flammable gas ranges shall only be determined by a combustible gas instrument. Request the dispatch of the Hazardous Materials Team (MFD) and the appropriate utility company.

Burning natural gas should not normally be extinguished, since this would change the situation from a visible to invisible hazard with explosive potential. Fires should be controlled by stopping the flow.

**Explosion Incidents**

Units arriving at the scene of a structural explosion must consider natural gas as a possible cause. Explosions have occurred in structures which were not served by natural gas. Underground leaks may permit gas to travel considerable distances before entering a structure through the foundation, around pipes or through void spaces. In these circumstances, the cause of the explosion may be difficult to determine.

1. Until it can be determined that the area is safe from the danger of further explosions, evacuate all civilians and keep the number of Fire District and/or other emergency personnel (i.e., gas company personnel) in the area, to the minimum number necessary to stabilize the situation. Take a cautious approach.
2. Do not rely on gas odor. Use combustible gas indicators to check all suspected areas. Both gas company personnel and the Hazardous Incident Response Team (H.I.R.T.) have combustible gas indicators for this purpose.
3. Check areas systematically using combustible gas indicators. Start outside of the area of the explosion, and move into the area until readings indicate detectable concentration. Map the readings for the affected area.
4. If a gas concentration is encountered inside, adjacent to, or underneath any building, secure all possible sources of ignition in the affected area. Disconnect electricity from outside the affected area to avoid arcing. Ventilate buildings where gas is found with explosion proof equipment only.
5. The use of ground probes is essential to evaluate potential underground leaks. When gas company personnel are on the scene, ground probe readings and locations must be coordinated. Time, location, and concentration should be recorded for each probe--sub-sequent readings should be taken from same holes when possible.
6. Command shall provide for effective interaction between gas company personnel and the Fire District. Gas company personnel are responsible for locating and eliminating leaks in the gas

system. As industry specialists, they can provide Command with valuable assistance in the effective handling of these incidents. In most cases, a company officer with a portable radio will be required to supervise during on-site operations.

7. Command must ensure the safety and stability of the structure. If further collapse is possible, the Trench Rescue Team/Heavy Rescue Team should be called to provide shoring, cribbing or other means of stabilizing the structure.

### **Incidents involving a reported gas leak – NO fire or explosion**

Calls for "odor of gas," "gas leak," "broken gas line" and similar situations may range from minor to potentially major incidents. All of these should be approached as potentially dangerous situations.

With gas company personnel on the scene of an incident, it shall be standard procedure for the first Fire District unit to provide effective interaction between agencies. Gas company personnel shall be responsible for locating and eliminating leak sources. Gas company personnel and/or the H.I.R.T. shall obtain a sufficient number of gas concentration readings, using their combustible gas indicators for Command to evaluate the hazard and take appropriate action.

In all cases, Fire District units shall take whatever actions are necessary to provide for life and property safety.

The Hazardous Materials Plan should be used as a basic guide for these incidents. A minimum number of personnel should be allowed to enter the area to size-up the situation while any additional units stage in a location out of the potentially dangerous zone.

1. Evacuate any civilians in the area of escaping gas.
2. Attempt to locate the source of the gas and any shutoff devices available.
3. Gas leak situations within a building where the source of the leak is unknown or uncontrolled, the gas supply shall be shut off at the meter. Command shall ensure the meter is red-tagged and locked off until repairs are completed. This is most easily accomplished with the cooperation of the gas supplier at the scene.
4. If there is any indication of gas accumulating within a building, evacuate civilians from the structure and control ignition sources. Check for explosive concentrations with a combustible gas indicator if there is any suspicion of accumulation within a structure. Shut off electrical power from an outside breaker. Ventilate using explosion proof blowers to pressurize if necessary.
5. If gas company personnel must excavate to shut off a leak, provide stand-by protection with a charged 1 3/4" line and two firefighters in full protective equipment and SCBA.

### **Personnel Safety**

All personnel working in the vicinity of a known or suspected gas leak shall wear full protective clothing with SCBA's. Personnel working in a suspected ignitable atmosphere (i.e., attempting to shut off a gas line) shall be breathing air from SCBA and shall be covered by a manned, and charged, protective hoseline. The number of exposed personnel will be kept to an absolute minimum at all times.

A Limited Access Zone shall be established and maintained around any suspected gas leak and "fire line" tape should be used to identify the Limited Access Zone when necessary. A lobby sector shall be established for personnel control and accountability and where necessary, a hazard sector should be established.

 <p>Standard Operating Guidelines</p>	<b>Series: 204</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>204.08: Monitoring Atmospheric Conditions</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

The purpose of this guideline is to establish the highest level of accuracy for atmospheric monitoring instruments. This allows members to operate with the highest levels of instrument accuracy and personal safety.

**Responsibilities**

It will be the responsibility of all Superstition Fire & Medical District (SFMD) members assigned to emergency services using, or supervising the use of atmospheric monitoring instruments, to span and /or calibrate these devices. Spanning vs. calibration is based upon the particular type of monitor being used. Please follow the manufacturer’s recommendation at all times.

**Monitor Span/Calibrate**

Spanning and/or calibration should be performed on all instrument(s) on the first day of each shift rotation. Monitors also need to be spanned and/or calibrated prior to any use if not already tested on the same day of any incident.

Span and/or calibrate should be performed prior to making entry into the following atmospheres:

1. Contaminated atmospheres
2. Atmospheres which may suddenly become contaminated
3. Atmospheres where there is suspected oxygen deficiency
4. Atmospheres which are suspected of being contaminated or oxygen deficient
5. Any other time it may be necessary to render an instrument in a ready state of conditions.

Instruments should also be spanned after each use in order to confirm that no sensor has been damaged during use.

Instruments will be spanned or calibrated while using the proper calibration gas, hose and regulator to ensure the instrument is in proper operating condition. Anytime the instrument does not span or calibrate correctly, and the problem cannot be resolved, the instrument will be placed out of service and repaired by a qualified technician.

**Tracking**

To keep track of the spanning and calibration being performed on atmospheric monitoring instruments, use the SFMD Air Monitor Deployment / Test Log. The Control Log will be used to document regular calibration and spanning tests and also to document span / calibration tests prior to deployment at incidents. The Air Monitor Logs can be downloaded and printed from our “Public Folders”. (When in Public Folders; go to “Forms” and then go to “Air Monitor Logs”). All completed logs will be forwarded to the Special Operations Battalion Chief for record keeping.

 <b>Standard Operating Guidelines</b>	<b>Series: 204</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>204.09: Flammable Liquids</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

### Purpose

Flammable liquids present particular problems for fire protection, health, safety, and environmental protection. The frequency of encounters with flammable liquids makes them a particular concern for the fire department.

The main operational problems with flammable liquids are fire extinguishment, ignition prevention, and disposal of spills. All three of these may be involved in the same incident.

### Extinguishment

The principle agent for flammable liquid firefighting is AFFF/Class B Foam (Aqueous Film Forming Foam). This agent is available from all engine companies and Resource Management. Initial attack on any flammable liquid fire should be made with Class B Foam.

The extinguishing action of Class B Foam is based on its ability to rapidly cover the flammable liquid surface with a film. This film prevents the escape of flammable vapors, but may have difficulty sealing against hot metal surfaces. The application of Class B Foam should be gentle to avoid breaking the seal and agitating the liquid below.

Fires involving a large area of burning flammable liquids may exceed the ability of one hand line to extinguish. It may be more important for Command to wait until two or three engines are in position with charged lines before initiating a coordinated attack. Water streams should be used to cool and protect exposures during the interim.

### Spills

Flammable liquid spills include spills without fire and any remaining fuel after a fire has been extinguished. In both of these cases, the liquid must be protected to prevent ignition until it can be picked up or removed.

All members working around spills must wear full protective clothing to afford protection in case of possible ignition. SCBA must be used in vapor areas. Vapor areas can only be found through the use of combustible gas indicators carried by all Hazardous Materials Response Team units. A Hazardous Materials Response Team company should be dispatched to test the atmosphere if there is a potential question about the flammability.

1. Cover spills immediately with foam to seal vapors. The application may need to be repeated regularly, as the seal will break down in 10-15 minutes. Check for escaping vapors with a combustible gas indicator to judge when the seal is breaking down. Control ignition sources in the area of the spill. Extinguish pilot lights, flares, open flames, etc. Prohibit smoking. Position vehicles to prevent contact of vapor with running engines or exhaust. Disconnect electrical power from a remote location to prevent arc-caused ignition.
2. **Do not** permit the flammable liquid to run-off into storm drains, sewers, or drainage systems. Dam the run-off and cover the spill with foam pending disposal. Consider the use of plastic dike, charged hose lines, black plastic, or dirt to prevent the further spread of spilled material if it can be done safely.

## Disposal

- A. Large quantity spills should be picked up with a tanker truck whenever possible. This requires a fuel transfer pump or vacuum truck and personnel familiar with fuel transfer precautions.
- B. Smaller spills (**less than 10 gallons of Diesel or Leaded fuel, and less than 30 gallons of Unleaded fuel**), which cannot be picked up with a tanker, must be absorbed or emulsified.
  1. Absorbent materials, in rolls and pads, may be used to absorb small spills.
  2. Emulsifying agents may be mixed with hydrocarbon fuels, allowing them to be diluted with water. This method should be used only for small spills which can be flushed into a storm drain or dispersed in a safe open area. A small spill is one which is too small to be retrieved by other means (absorbent or tank truck).
- C. The Spiller must be given the opportunity to clean up the spill, while adhering to appropriate regulations. Otherwise, a specialized hazardous materials cleanup contractor will be called.
- D. Spills in excess of the above amounts require the response of a unit from the Hazardous Materials Response Team.

## Safety

As early as possible, a hazard zone should be established and marked through the use of fire line tape. This zone should include the spilled material in the area downwind of the spill of sufficient distance to account for reasonable vapor travel:

1. All members working in the hazard zone must wear full protective clothing including SCBA with face piece on.
2. Unless absolutely necessary, members shall not work in a spill area. When this is necessary to perform a rescue or to control a leak, the spill must be covered with foam and all possible precautions against ignition must be taken. The area shall be monitored with a combustible gas indicator.
3. Flushing of small spills will be performed by members in full protective clothing using 1 ½” inch lines. Members will not walk or stand in the spill during this process. The runoff must be monitored to be sure it is thoroughly mixed and diluted and flows to a safe location.

 <p>Standard Operating Guidelines</p>	Series: 204	Volume II: Standard Operating Guidelines
	204.10: Clandestine Drug Labs	
	Effective Date: September 2014	Revision Date: September 2014
	Approved by: Emergency Services	

### Scope

Clandestine drug laboratory investigations, seizures, and arrests of suspects are law enforcement issues. However, local law enforcement agencies are calling upon fire department hazardous incident response teams for assistance during raids and for advice on safety matters.

### Purpose

The Superstition Fire & Medical District (SFMD) and the Auto Aid partners will provide support for law enforcement agencies, when requested. Support may consist of, but is not limited to: providing research and information on chemicals that are suspected or are known to be in the laboratory, remote exterior air monitoring, and decontamination of police entry personnel.

### Special Hazards

Substitution of proper equipment with unsafe items is prevalent in low budget clandestine laboratory operations. For example, pressure cookers have been substituted for three neck flasks in the initial cooking stage of methamphetamine. Without ventilation, this type of operation can easily generate toxic levels of phosphine gas.

Occasionally an **ambush** may have been left in place and armed when a lab is abandoned. Opening or moving doors, windows, refrigerator doors, chemical containers, or furniture may be a triggering mechanism for an explosive device or chemical reaction that is lethal. Trip wires made from monofilament fishing line may be strung across doorways, hallways, or across rooms to activate different types of devices. It is imperative that **nothing** is moved, shut off, turned on, or touched, at a laboratory, whether it is operational or abandoned. Electric switches, vacuum pumps, glassware, chemical containers, or anything that is plugged into a wall outlet should not be touched. Water sources, especially to reflux or condensing towers, should not be shut off. Shutting off the water supply to a cooking process can result in an explosion.

### Indicators

Members should be aware of the indications of potential clandestine drug laboratories when responding to EMS, fire, check odor, or any other service request. Common indicators are:

1. Unusual odors like ether, acetic, solvents, and odors of urea.
2. Glassware that is normally associated with school or industrial laboratories, such as flasks, beakers, flasks with vacuum ports, glass cooling towers, and funnels.
3. Heating elements, hot plates, or heating mantles.
4. Vacuum pumps, plastic or rubber tubing.
5. Marked and unmarked chemical containers of various sizes.

### Suspected Drug Laboratory Operation-Notification Process

Members that encounter a suspected laboratory should withdraw to a safe location as soon as it is possible, using discretion on actions and radio conversation. The Battalion Chief, law enforcement, and the Ops Chief, should be notified of the situation. If a situation warrants additional immediate action (e.g. evacuation of surrounding areas, several victims, a chemical release or spill), request through Alarm the appropriate hazardous materials response. Command should also request, through Alarm, the Department of

### **Notification for use of Regional H.I.R.T. Units**

Any agency requesting the Mesa Hazardous Materials Response Team, during the seizure of a clandestine drug laboratory, shall contact the Special Ops Captain, Car 207, for response of the Hazardous Incident Response Team. The agency that is requesting the assistance shall provide information on location, time, staging area, and the type of assistance that is needed. A pre-incident meeting shall be scheduled between the agency and Car 207 to address the concerns noted above. Security of information will be strictly adhered to. Except for Fire Department Senior Staff and the on-duty Battalion Chiefs, other units will be notified, at the time of the entry.

### **Tactical Considerations for Fires**

The recognition of the presence of a clandestine drug laboratory that is involved in a fire may not occur until after fire control has been achieved. The initial indications of the presence of a laboratory may be subtle or very apparent. Depending on the products involved, a fire in a lab can spread faster and burn with more intensity than what might normally be expected. The color of the flames may appear to be an unusually bright or dark orange, or the flames may be of several different colors. An unusual color of smoke or odor may also be present.

A laboratory that is involved in a fire situation should be viewed pessimistically by Command. Command should request Alarm to send the appropriate level of a hazardous materials assignment. A defensive mode may be appropriate for member safety. Standard protective clothing and SCBA use may not afford enough protection. An acceptable alternative is to protect any exposures and allow the fire to burn, providing the products of combustion being generated are not complicating the problem further. Run-off may also create a problem and diking may be necessary.

### **Health and Safety**

Members showing any signs or symptoms of a chemical exposure during or after any incident involving a laboratory or a suspected laboratory should be treated and transported to the appropriate hospital facility. Critical life threatening injuries require transport to the closest hospital. All potentially exposed members and equipment must be decontaminated. All potentially exposed members should complete a Chemical or Biochemical Exposure form along with an Industrial Accident Report. Proper notifications and reporting for a Chemical exposure shall be followed. Exposed equipment, especially protective clothing, may have to be properly disposed or washed by a specialized commercial launderer.

### **Entry**

Fire District members **will not** participate in a law enforcement agency entry operation into a suspected and unsecured clandestine drug laboratory. Security shall mean that the Police Department Bomb Squad and S.A.U. teams have surveyed the area and all suspects are in custody, and confirmation that the building has been searched and no explosive devices were found. Fire District members may make an entry into a secured drug laboratory if an emergency situation involving hazardous materials develops and if the safety of others is not jeopardized.

Prior to taking any action at a suspected clandestine drug laboratory, the Fire District will request the response of a representative of the Department of Environmental Quality Emergency Response Division. If a representative from the Department of Environmental Quality is unable to respond directly to the location of the incident, every effort will be made to contact a representative by telephone to inform them of the situation.

### **Additional Fire Department Resource**

Resource requirements needed at the site will be determined by the on duty Battalion Chief. Any multi-company response will cause the activation of the incident command system.

## **Disposal**

Proper disposal of the hazardous material(s) in a clandestine laboratory is the responsibility of the law enforcement agency that is making the seizure. The law enforcement agency on-scene must arrange clean-up with the proper contractor.

 <p>Standard Operating Guidelines</p>	<b>Series: 204</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>204.11: Confined Space</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

## Purpose

To establish guidelines for conducting confined space rescue operations. Confined spaces include caverns, tunnels, pipes, tanks, and any other locations where ventilation and access are restricted by the configuration of the space. These factors may also apply to basements or attics. Confined space incidents may involve injured persons, persons asphyxiated or overcome by toxic substances, cave-ins or fires occurring within the space. Pre-incident planning is an important factor in dealing with these situations.

## Tactical Considerations

### **A. Phase I - Arrive On-Scene, Take Command, Size-Up**

#### **1. Primary Assessment**

- a. Command should attempt to secure a Responsible Party (RP) or witness to the accident to determine exactly what happened.
- b. An immediate assessment of the hazards present to rescuers should be done.
- c. Identify any language barriers that may be present between the witness and rescuers. If there are language barriers present, Command should call for a bilingual individual to assist with communications with witness (es) and/or victims.
- d. If no witness is present, Command may have to look for clues on the scene that may indicate what has happened.
- e. An assessment of the victim(s) should be done.
- f. Command should determine how many victims have been affected.
- g. Command should determine how long the victims have been down, the mechanism of injury, and the survivability profile of the victim.
- h. An early decision must be made as to whether the operation is a rescue or recovery mode. Ask alarm the time from initial dispatch to the first on-scene company.
- i. Establish communications with the victim as soon as possible.
- j. Locate confined space permit and all other information about the space.

#### **2. Secondary Assessment**

- a. The Confined Space
  - 1) Command should determine what type of confined space this is. This can be done by consulting with the R.P.
  - 2) What type of products are stored in this space.
  - 3) What known hazards are present; mechanical, electrical, etc.
  - 4) Location and number of victims affected.
  - 5) Diagram of confined space, including entry and egress locations.
  - 6) Structural stability of the confined space.
  - 7) Hazardous material size-up.
  - 8) Obtain copy of permit.

#### **3. On-Scene Personnel and Equipment**

- a. Command should determine if there is an adequate number of trained personnel on scene to do the rescue/recovery; minimum of twelve (12) is typically required.

- b. Command should consider the effect of temperature extremes on
  - c. Personnel, and consider early rotation of personnel operating on scene, approximately every 15 to 20 minutes, 30 minutes in the winter.
- 4. Command should consider if the proper equipment is on-scene to complete the operation. This includes, but is not limited to:**
- a. Atmospheric monitoring equipment.
  - b. \*Command should request a hazardous materials response unit to provide atmospheric monitoring.
  - c. Explosion proof lighting.
  - d. Explosion proof communications.
  - e. Supplied air breathing apparatus or remote air.
  - f. Cascade system.
  - g. Victim removal systems/equipment.
  - h. Ventilation equipment, with necessary duct work.

## **B. Phase II - Pre-Entry Operations**

### **1. Make the General Area Safe**

- a. Establish a perimeter. Consider using a Site Control Sector. The size of the perimeter should be dictated by the atmospheric conditions, wind direction, structural stability, etc.
- b. Stop all unnecessary traffic in the area.
- c. Assure that vehicles park down-wind from incident if vehicles are running.
- d. Establish ventilation to general area if necessary.
- e. Assign Lobby Sector at perimeter entrance.
- f. Assign Safety Sector.
- g. Assign Rehab Sector.

### **2. Make the Rescue Area Safe**

- a. Command should assign a Hazard Sector to determine exactly what hazards and products are within the confined space.
- b. Hazard Sector shall do atmospheric testing in the space to determine oxygen level, flammability, and toxicity. Based on readings, Hazard Sector should advise Command of the proper level of personal protective equipment. Any instruments used to monitor the confined space shall have:
  - 1) An audio-alarm.
  - 2) Have the audio-alarm set at:
    - 19.5% and 23.5% for oxygen levels (O<sub>2</sub> readings below 12% will affect the flammability readings)
    - 10% of the LEL
    - 25-35 ppm for carbon monoxide
    - 10 ppm for hydrogen sulfide
  - 3) The Hazard and Ventilation Sectors are extremely important parts of a confined space operation. These sectors should be staffed by members with a thorough knowledge of atmospheric monitoring and ventilation techniques. Hazard Sector shall give Command atmosphere readings at least every 5 minutes with an announcement of offensive or defensive mode (i.e., rescue or recovery).
- c. Utilities, including electrical, gas and water should be secured and locked out. If it is not possible to lock/tagout/blankout, Safety Sector should post a guard to assure the utilities are not turned on during the operation.
- d. Any product that is in, or flowing in, the confined space must be secured and blanked off. It may be determined that the space be drained of any product prior to entry.
- e. Any manufacturing, or processing equipment, must be shut down prior to entry. If

- possible, all equipment should be locked or tagged out and brought to a zero energy state.
- f. The structural stability of the confined space should be evaluated. If there is a potential for collapse, appropriate measures must be taken to assure the structural stability of the space.

### **3. Ventilation**

- a. Command should assign a Ventilation Sector to establish the proper ventilation of the confined space.
- b. Ventilation Sector should make a ventilation plan and consult with both the Safety and Hazard Sector to determine the proper type of ventilation for the space.
- c. Ventilation Sector must consider the effects on the atmosphere that positive or negative pressure ventilation will have (i.e., increase or decrease flammability of atmosphere). It could require both positive and negative ventilation (pushing and pulling). This will be based on the vapor density or molecular weight of the product.
- d. Ventilation Sector may consider negative pressure ventilation if there is only one entry point. Atmospheric monitoring will be required to ensure a non-explosive environment is present in the exhausted vapor area.
- e. Ventilation Sector must also consider the effects the exhaust is having on the operation.

## **C. Phase III - Entry Operations, Victim Removal**

### **1. Selection of Members**

- a. Qualified members (TRT technicians) should be selected to make entry into the confined space. A minimum of two persons should be assigned to make entry. All members on the entry team shall have vital signs taken and recorded prior to entry, if time permits.
- b. Command shall assign a Rescue Sector. Rescue Sector should provide a minimum 2:1 ratio of personnel outside the confined space to support members inside. This includes a standby rescue team with a 1:1 ratio to provide immediate assistance to members in the confined space.
- c. All entry and back-up members should be properly trained in confined space rescue procedures and capable of carrying out the rescue/recovery.
- d. Extrication Sector should be assigned to conduct the actual entry into the confined space.
- e. Extrication Sector should consider the size of entry and back-up members to make entry.

### **2. Selection of Personal Protective Equipment**

- a. The proper level of personal protective equipment should be worn by all entry and back-up members. This includes helmet, gloves, proper footwear, goggles, turnouts, Nomex or PBI jumpsuits, and a Class II harness as a minimum, Class III is recommended.
- b. Extrication Sector should determine this by consultation with Safety and Hazard Sectors.
- c. Entry and back-up members should wear supplied air breathing apparatus (SABA) or SCBA when making entry into a confined space. SABA is recommended.
- d. If entry members use SCBA, they should enter no further than one half the amount of supplied air minus 500 lbs. EXAMPLE: 2000 PSI tank gauge pressure--1/2 = 1000 PSI minus 500 PSI = 500 PSI usage.
- e. Entry team members should use personal air monitoring devices that monitor flammability and O<sub>2</sub> as a minimum.
- f. Entry team members should have a Class II or III harness on prior to entry. Class III harness should be used if inversion of the rescuer is possible.

### **3. Communication and Lighting**

- a. If the confined space has a flammable atmosphere, entry team members shall have intrinsically safe or explosion proof communication equipment. If this equipment is not available, Extrication Sector may decide to use a tag line for communication or a message relay person. Remember, these are Class I/Division I A-D type atmospheres until proven otherwise.

- b. If the entry team is entering a dark confined space, Extrication Sector must ensure that the proper type of lighting is used. If explosion proof lighting is not available, then cyalume type lights (glow sticks) must be used by the entry team.
- 4. Orientation of Confined Space**
    - a. Prior to entry into the confined space, the Extrication Sector, with the help of the R.P. should obtain a blue print or diagram of the space. All entry and backup team members should be made aware of the layout of the space to be entered.
    - b. All team members, Command and Safety, should be made aware of the action plan and the back-up plan prior to entry.
    - c. Rescuer tag lines may or may not be appropriate in the confined space, depending on the specific layout. It could be an entanglement hazard.
  - 5. Victim Removal Equipment**
    - a. If possible, the entry team should bring a supply of breathable air for the victim.
    - b. Pure oxygen shall not be used in a confined space that has a potentially flammable atmosphere. Rescuers should not remove their breathing apparatus and give it to the victim.
    - c. Extrication Sector should consider the necessary victim retrieval equipment prior to entry. This will include respiratory protection for the victim.
  - 6. Assessing Condition of Victim**
    - a. Upon reaching the victim, entry team members should do an immediate primary survey of the victim. If appropriate, treatment should be started immediately.
    - b. A quick but thorough secondary assessment of the victim should be done. If time permits, attempt to treat serious injuries prior to removal.
    - c. If the victim is conscious, he/she should be encouraged to wear the appropriate breathing apparatus.
  - 7. Patient Packaging**
    - a. After treatment of immediate life threatening injuries, the victim(s) should be packaged up for removal from the space. This may include using a backboard, stokes basket, ked board, LSP half back, or some other similar device designed for extrication.
    - b. Prior to removal from the space, the entry team should secure any loose webbing, buckles, straps, or any other device that may hinder the extrication process.
  - 8. Victim Removal System**
    - a. Prior to removal of victim, the Extrication Sector will determine the appropriate method of extrication. This may include a vertical or horizontal haul system constructed of ropes, pulleys, and other hardware, with a minimum of a 2:1 mechanical advantage.
    - b. As a general rule, entry team members should not allow the victim between themselves and the point of egress.
    - c. At times, the situation may preclude the use of that procedure due to the fact that one rescuer may have to pull the victim while the other rescuer pushes the victim.
      - 1)NOTE: If the victim is dead, Extrication Sector should consult with Command and decide whether or not to leave the body and related equipment in place for investigative purposes.
  - 9. Transfer to Treatment Sector**
    - a. Immediately after reaching the point of egress, entry team members should transfer the victim to Treatment Sector.
    - b. ALS care should be conducted on the victim
      - 2)If the victim is contaminated from product inside the space, a Decontamination Sector and corridor should be set up and used prior to transport of victim.
  - 10. Termination**
    - a. Preparation for Termination

- b. Personnel accountability.
- c. Remove tools and equipment used for rescue/recovery. If there has been a fatality, Extrication Sector may consider leaving tools and equipment in place for investigative purposes.
- d. If the entry team and/or equipment have been contaminated during the rescue/recovery, proper decontamination procedures should be followed prior to putting the equipment back in service.
- e. Secure the scene. Prior to turning the property back over to the R.P., one final reading of atmospheres shall be taken and recorded. Command may consider activating the C.I.S.M. if the situation dictates it.
- f. Consider debriefing.
- g. Return to service.

## **Sectors**

### **A. Establish Command Early**

1. Consider assigning the following sectors to initial arriving units;
2. Safety, Site Control, Lobby, Treatment, Staging and Resource.
3. After the arrival of the Technical Rescue and Hazardous Material Teams, consider assigning the following sectors: Ventilation, Hazard, Extrication, and Rescue.

### **B. Consider Ambient Conditions**

1. Heat. Consider rotation of crews.
2. Cold. Consider effects of hypothermia on victim and rescuers.
3. Rain. Consider the effects of rain on the hazard profile.
4. Time of Day. Is there sufficient lighting for operations extending into the night?
5. Consider the effect on family and friends; keep family informed.
6. Consider news media; assign a PIO
7. Command should call for an OSHA representative if there has been a serious injury or death.

 <p>Standard Operating Guidelines</p>	<b>Series: 204</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>204.12: High Angle Rope Rescue</b>			
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	<b>Approved by:</b>	Emergency Services		

**Purpose**

To establish guidelines for conducting high angle/rope rescues. Because of the infinite number of potential sites and situations that could be encountered, this document will not define a specific evolution to use, but will give guidelines to follow for conducting safe and effective operations.

**Definition**

Rope rescue is defined as any rescue attempt that requires rope and related equipment to safely gain access to, and remove patients from, hazardous geographic areas with limited access such as mountains, high rise buildings, above or below grade structures, by means of rope system. Mountain/rope rescues are divided into two general categories, non-technical and technical.

Non-technical evacuations are those of less than 40° inclination. Technical evacuations are considered those from 40° to 90°. Technical evacuations require the dispatch of the Technical Rescue Team (TRT). A TRT response will consist of the Technical Rescue Team (TRT), 2E, L/LT, Battalion Chief, HazMat, Safety Officer, Special Operations Capt., Command Van, Utility Truck.

**Tactical Considerations**

**A. PHASE I Arrive On-Scene. Take Command. Size-Up.**

1. First Arrival. The first arriving company officer should assume Command after arriving on the scene.
2. Secure responsible party or witness. Command should secure a witness as soon as possible after arriving on scene. This will help in identifying the problem and locating the victim.
3. Locate the victim. In most cases, Command will have to send a recon team to the area of the victim to determine the exact location of victim and nature of injuries. Command may wish to designate this as Recon Sector. Recon Sector should have EMS equipment to begin to administer the first aid to the victim. If the terrain is greater than a 60° inclination, Command may decide to wait until the TRT arrives with the proper equipment to reach the victim. Command may also choose to use a helicopter for aerial recon.
4. Assess the need for additional resources. Recon Sector should provide Command with enough information, or recommend the need for additional resources. Information that will be helpful in determining the need for additional resources would be: number of victims, location and condition of victims, estimated angle of terrain, distance to victim, and estimated time of extraction.
5. Assess the hazards. Command should designate a Safety Sector to identify all potential hazards to rescuers. Safety Sector will be responsible for securing those hazards or making all members aware of those hazards. Safety Sector shall also be responsible for assuring that all safety procedures are adhered to.
6. Decide on rescue or recovery. Recon Sector should advise Command whether the operation is to be conducted in the rescue or recovery mode. In the rescue mode personnel assigned to Recon Sector will be reassigned to Treatment Sector and Recon Sector will be terminated. If the operation is to be conducted in the recovery mode, Command may wish to leave the victim and any related equipment in place for investigative purposes.
7. Decide on an action plan. With the recommendation from Treatment Sector, Command will

have to decide on an action plan. Extrication Sector and Safety Sector shall be made aware of the specific action plan.

Deployment of the TRT personnel in the action plan needs to be monitored by Command to ensure trained TRT members are available to staff critical functions. Dependent on the incident, these would be in the following areas:

1. A rescue team involving rope rescue, helicopter rappel, and any climb requiring technical skills and/or training. TRT should include a paramedic when possible.
2. Support operations require at least one trained TRT member. He/she will obtain equipment or support items for the rescue team.
3. The L.Z., if victim and/or TRT member is suspended below the helicopter, shall be staffed with TRT member(s).
4. A TRT Liaison can provide technical understanding to Command, especially when the operation involves multiple agencies. The Special Operation Captain should staff the Liaison function.

## **B. Phase II Pre-Rescue Operations**

### **1. Make the general area safe.**

Command or his/her designee should begin to make the general area safe. This may include securing the area and not allowing civilian personnel into the area.

### **2. Make the rescue area safe.**

Command or his/her designee should make the immediate rescue area safe. This may include removing all civilian personnel and all non-essential rescue personnel from the area. If it is not possible to secure all the hazards in the immediate rescue area, all personnel operating in that area shall be made aware of those hazards.

### **3. Pre-rescue/recovery.**

Depending on the action plan established, Command may want to establish an Extrication Sector. Extrication Sector will be responsible for gathering all equipment and personnel necessary to operate according to the action plan. Extrication Sector will assign rescue personnel to conduct the rescue, and support personnel to support the rescuers, during the actual rescue phase. Extrication Sector should have an alternative action plan should the first choice plan fail. This alternate plan should be communicated to all personnel operating in the rescue area.

## **C. Phase III- Rescue Operations**

After pre-rescue operations are complete, Extrication Sector shall activate the action plan for removal of the victim(s). Rescue operations should be conducted using low risk techniques first, and higher risk techniques only if needed. Low risk operations are not always possible but should be considered first. If the rescue of the victim(s) is only possible by means of a high-risk operation, Extrication Sector shall communicate with Command the risk/benefit of the operation.

The order of rescue from low risk to high risk could be as follows:

Talk the victim into self-rescue. If the victim is not exposed to a life-threatening situation, it may be possible to talk the victim into self-extrication. If the victim is exposed to a life-threatening situation, it may be best to advise the victim to stay in place until a rope rescue system can be set up.

For terrain less than 40° inclination, (non-technical) most first responders have the equipment and training to assist the victim down. If the victim is ambulatory, he/she can walk down with the assistance of rescuers. If the victim is injured or unable to assist in their own rescue, he/she should be packaged properly in the stokes basket and carried to safety.

A stokes extrication should be conducted with a minimum of 4 litter bearers. Bearers should face the direction of travel during the extrication. If appropriate, a tag line should be attached to the litter for assistance through unstable areas.

For terrain of greater than 40°, the TRT shall be used to conduct the extrication. If the victim is ambulatory, he/she may be assisted down by rescuers with the use of a belay/tag line. If appropriate, rescuers should set up an anchor system for the belay. If appropriate, a body belay may also be used by rescuers.

If the victim is not ambulatory, rescuers shall build an anchor system and prepare for a steep angle evacuation. The patient shall be packaged properly in a litter and prepared for the extrication. There shall be at least 3 litter attendants assisting with the litter evacuation. Attendants should face the anchor during the evacuation and be clipped into the litter. A separate raising/lowering line and belay line shall be set up for raising or lowering during steep angle evacuations.

For evacuations greater than 60°, the TRT shall conduct the evacuation. Evacuations greater than 60°, are considered high-angle operations. The Extrication Sector officer, in conjunction with the Safety Sector, should decide the most appropriate method to extricate the victim. This may include putting the victim(s) in a harness and raising or lowering them, or packaging them in a litter for the raising and/or lowering.

In any case, a 15:1 safety factor shall be maintained and a double rope technique shall be used if at all possible. If possible, a separate anchor should be used for the working line and the belay line. Proper care shall be taken to assure that the victim will not come out of the harness or litter used to extricate him/her. Whatever method of extrication is used, the Extrication Sector officer shall ensure the overall safety of the raising/lowering system. Extrication Sector shall designate the tasks of individual rescuers during the operation.

Helicopter operations are considered high-risk operations. Several factors must be considered before deciding on the use of a helicopter for extrications. Some of these factors are: time of day, condition of victim, difficult access to the victim, and the qualifications of pilot and rescuers. If Command, in conjunction with the TRT company officers, decides to use a helicopter for extrication, a landing zone (L.Z.) shall be set up and a L.Z. Sector shall be established. L.Z. Sector should have direct communication with the pilot, as well as Command, and be staffed by a TRT member.

Prior to conducting the operation, Command should ensure that the pilot is qualified and completely understands the task about to be performed. Command, or his/her designee, should ensure that a load calculation form is filled out prior to commencement of the operation. Command will have the final say as to the use of the helicopter. The pilot will have the final say on how that helicopter will be used.

#### **D. Phase IV - Termination**

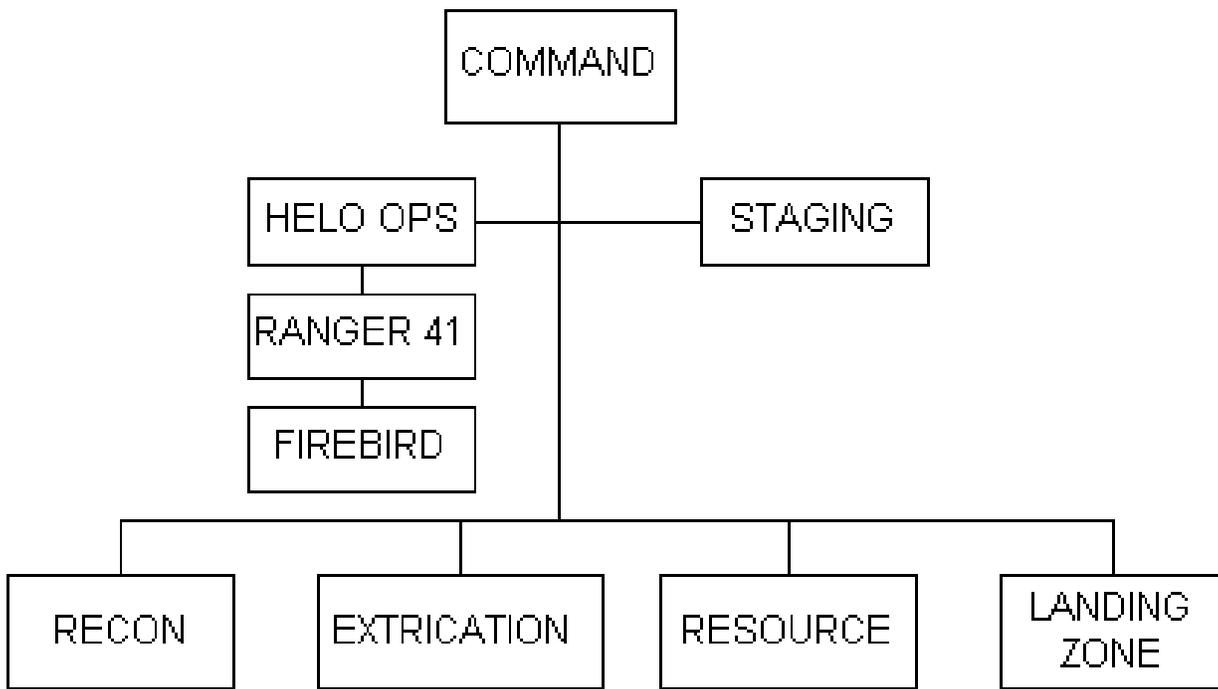
##### **1. Prepare For Termination**

- a. Personnel Accountability.
- b. Equipment accountability. If there has been a fatality, Extrication Sector may consider leaving equipment in place for investigative purposes.
- c. Re-stock vehicles.
- d. Consider debriefing
- e. Secure the scene. Return to service.

##### **2. Additional Considerations**

- a. HEAT. Consider rotation of crews.
- b. COLD. Consider effects of hypothermia on victim and rescuers.
- c. RAIN/SNOW. Consider the effects of rain on the hazard profile.
- d. TIME OF DAY. Is there sufficient lighting for operations extending into the night?
- e. Consider the effect on family and friends; keep family informed.
- f. Consider news media; assign a P.I.O.

## Organizational Chart



### Rope Rescue Equipment Guidelines

The purpose of this procedure is to establish a guideline for the use, care, maintenance, and storage of rope and related rope rescue equipment.

#### Rope

##### **A. Uses**

Rappel line, lowering line, safety belay, litter tag line, or in mechanical advantage pulley systems. Rescue rope is not intended to be used as towrope, utility line, etc. It should be considered a life safety line only. The rescuer's life as well as the victim's may depend on it.

##### **B. Construction**

Nylon, low-stretch kern mantle

1. Has an inner core and an outer sheath
2. Outer sheath protects core
3. 75%-85% of the ropes strength comes from the core, depending on manufacturer Specifications:
4. Diameter: 1/2" (12.7mm)
5. Strength: 9,000 pounds (loses approximately 15% when wet)
6. Lengths: 100' for most companies; up to 600' lengths on Support-12 and

##### **C. Maintenance**

1. Inspect, visually after each use, for damage to sheath, dirt or mildew, and feel for soft spots in rope core, by "running" or pulling the rope between thumb and index finger. Wash when dirty.

##### **D. Care**

1. Wash with mild non-chlorine-based detergent and water. Hang loosely and allow to air dry out of direct sunlight.
2. Once rope is dry, it is stuffed, not coiled, in rope bag and stored in a dry, dust-free place, where not exposed to chemical (petroleum's, alkalis) and direct sunlight.

##### **E. Cautions**

1. **Never** walk or stand on the rope.

2. Don't drop rope from great heights when it can be carried down.
3. Don't drag rope across ground or apparatus bays.
4. Pad all edges.
5. Avoid nylon passing on nylon; i.e., rope passing over itself, another rope or webbing.
6. Keep all rope and webbing material out of petroleum and alkaline products, and if forced to use in applications where contamination will occur (around wheels, axles, etc.), retire after use.

#### **F. Webbing**

1. Uses: Anchor slings, gear slings, harness, and lashing.
2. Construction: Nylon, spiral weaves, tubular.
3. Specifications: One inch wide, Strength of 4,000 pounds.
4. Maintenance: Same as rope.
5. Care: Same as rope.
6. Cautions: Same as rope.

#### **G. Accessory Cord**

1. Uses: Loops of 8 mm accessory cord (AC) can be attached to a host rope by a prusik hitch to form attachment points for pulleys. Long loops of 6 mm AC can be tied to allow their use as "soft" ascenders to climb a host rope.
2. Construction: Nylon, low stretch, kern mantle.
3. Specifications: Rope diameter may vary from 6 mm to 9 mm, depending on application.
4. Maintenance: Same as rope.
5. Care: Same as rope.
6. Cautions: Same as rope.

#### **H. Carabineers**

1. Uses: To link various pieces of gear together, or to add friction to a system.
2. Construction: Locking, steel, pin type, not lock sleeve dependent. Locking, aluminum, pin type, not lock sleeve dependent.
3. Specifications: Steel: 9,000 pounds breaking strength. Aluminum: 5,500 pounds breaking strength.
4. Cautions:
  - a. Keep clean.
  - b. Don't drop or throw.
  - c. Load only in the long axis, no side loading.
  - d. Don't forget to lock the gate.
  - e. Inspect for cracks, worn spots, and smooth operation.

#### **I. Pulleys**

1. Uses:
  - a. Reduce friction.
  - b. Change direction.
  - c. To gain mechanical advantage.
2. Construction: Sealed ball bearing, anodized aluminum sides.
3. Specifications: 2" and 4" size. 6,000-8,000 pound breaking strength.
4. Cautions:
  - a. Keep clean.
  - b. Don't drop or throw.
  - c. Inspect for smooth operation, elongated holes.

## **J. General Precautions**

1. Make sure all knots are tied and dressed correctly.
2. Maintain at least 15:1 safety margin when not belayed.
3. Belay loads when safety margin is less than 15:1
4. Rescuers shall not operate with less than a 10:1 safety margin.
5. Rescuers shall not approach an edge without being tied in and communicating with rescuers below.
6. Rescuers shall place victims in harness during rope borne rescues.
7. Rescuers shall wear appropriate clothing:
  - a. For helicopter borne operations
    - 1) Fire resistive jumpsuit
    - 2) Seat and chest harness (Class III)
    - 3) Flight helmet
    - 4) Eye protection
    - 5) Approved footwear
    - 6) Self-rescue gear
    - 7) Safe cutting device
    - 8) Gloves
  - b. For steep or high angle rescue
    - 1) Seat and chest harness (Class III)
    - 2) Helmet
    - 3) Approved hiking shoes or boots
    - 4) Self-rescue gear
    - 5) Safe cutting device
    - 6) Eye protection
    - 7) Gloves

 <p>Standard Operating Guidelines</p>	<b>Series: 204</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>204.13: Water Rescue</b>			
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	<b>Approved by:</b>	Emergency Services		

## Purpose

To provide a guideline for conducting all water rescue/recovery operations.

## Tactical Considerations

### **A. Phase I - Arrive on scene. Take command. Size up.**

1. Secure responsible party or witness. Command should secure a witness as soon as possible after arriving on scene. This will help in identifying and locating the problem.
2. Assess the need for additional resources. Command should immediately begin assessing the need for additional resources. If additional resources are necessary, Command should upgrade the assignment early. If later, it is determined that the additional resources are not necessary, Command can cancel the request.
3. Assess the hazards. Command should do an immediate assessment of the present hazards. A Safety Sector should be assigned and will be responsible for identifying the hazards present and take appropriate actions to safeguard all personnel at the incident scene. If it is not possible to secure hazards, Safety Sector will notify all personnel of the hazards and notify Command so that an action plan can be established. Common hazards associated with water rescue operations are: volume, velocity, and temperature of water, floating debris, unusual drop-offs, hydraulic effects, and depth of water.
4. Decide on "Rescue" or "Recovery" Based on the conditions present and the hazards to rescuers, Command will have to make the decision to operate in the rescue or recovery mode. If Command determines that the operation will be run in the rescue mode, rescue should begin quickly.
5. Decide on an action plan. Command should establish an action plan as soon as possible. The step-by-step plan should be communicated to all personnel involved in the rescue.

### **B. Phase II - Pre-Rescue Operations**

#### **1. Make the general area safe.**

Command or his/her designee should begin to make the general area safe. On water rescue operations, this would include securing the area and not allowing **civilian personnel** within 20 feet of the water or within the "Hazard Zone" at all. In swift-water rescue incidents, Command should assign an upstream spotter to spot floating debris and notify Command or Extrication Sector. Command may also want to assign a helicopter the task of aerial recon for spotting hazards.

#### **2. Make the rescue area safe.**

Command should secure the immediate rescue area. He/she may want to assign a Lobby Sector to account for all personnel working within the rescue area. Personnel working in the rescue area (within 20 feet of water or within "Hazard Zone") shall have personal protective equipment (PPE), including personal flotation device (PFD) and water rescue helmet, or appropriate SCUBA gear during dive rescue/recovery operations. If at all possible, the hazards in the rescue area should be secured. If it is not possible, Command or his/her designee shall notify all rescuers in the area of the possible hazards.

#### **3. Pre-rescue/Recovery**

Depending on the action plan established, Command may want to establish an

#### **4. Extrication Sector.**

Extrication Sector will be responsible for gathering all equipment and personnel necessary to operate according to the action plan. Extrication Sector will assign rescue personnel to conduct the rescue, and support personnel to support the rescuers, during the actual rescue phase. Extrication Sector should discuss with Command an alternative action plan and assure that plan is communicated to all personnel operating in the rescue area.

### **C. Phase III - Rescue Operations**

After pre-rescue operations are complete, Extrication Sector shall put forth the action plan for the removal of the victim(s). Rescue operations should be conducted from low risk to high-risk order. Rescues should be conducted with the least amount of risk to the rescuer necessary to rescue the victim. Extrication Sector shall communicate with Command the risk/benefit of the operation. Command should assign downstream personnel, with throw bags, and an opposite water-side/bank-side sector for incidents involving swift-water rescue. The order of water rescue from low risk to high risk will be:

#### **1. TALK**

The victim into self-rescue. If possible, the victim can be talked into swimming to shore or assisting the rescuers with his/her own rescue. If a victim is stranded in the middle of a flash flood, this will not be prudent.

#### **2. REACH**

If possible, the rescuer should extend his/her hand or some other object, such as a pike pole, to remove the victim from the water.

#### **3. THROW**

If the victim is too far out in the water to reach, rescuer(s) should attempt to throw the victim a throw bag or some piece of positive flotation (i.e. rescue ring). Downstream personnel should be in position during the actual rescue operation. If the victim is able to grab the throw bag, the rescuer can pendulums belay or haul the victim to the nearest bank. Care should be taken to assure the victim will be belayed to a safe downstream position.

First responders that have had operational level water rescue training should be able to conduct the above rescues without the help of the Technical Rescue Team (T.R.T). If the victim cannot be reached by either of these methods, Command should consider stopping the operation until units of the T.R.T. arrive. If the operation becomes a high risk incident, Command will want the equipment and experience of the T.R.T. After the Technical Rescue Team arrives, Command should discuss with them the action plan. Command should consider re-assigning the Extrication Sector to a company officer from the T.R.T. The next order of water rescue from low risk to high risk would be:

#### **4. ROW**

If it is determined that a boat-based operation shall be conducted; Command should assign a company on the opposite bank to assist Extrication Sector in establishing an anchor for a rope system. The company on the opposite bank will be made aware of the action plan. Extrication Sector will be responsible for seeing that the rope system used for the boat based operation is built safe and proper. A minimum of 2-point tether should be built for swift-water operations. Extrication should consider personal protective equipment (PPE) for victim(s).

#### **5. GO**

If it is not possible to ROW (boat base operation) to the victim, Extrication Sector should consider putting a rescuer in the water to reach the victim. This is a very high-risk operation. Only rescuers with the proper training and equipment should be allowed to enter the water. Prior to the rescuer actually proceeding into the water, he/she shall discuss the action plan, including specific tasks and objectives, hazards and alternate plans. The rescuer shall never be attached to a lifeline without the benefit of a quick-release mechanism. The rescuer should take at least a PFD to the victim. Members shall not do a breath-hold surface dive in an attempt to locate a victim beneath the surface of the water.

## **6. HELO**

At times the use of a helicopter is the most reasonable method of reaching the victim. Helicopter operations over water are considered high-risk operations. Command should consult with Extrication Sector and the pilot to determine the risk/benefit of the use of a helicopter. If the pilot says he/she can do the operation, Command should consider it. Extrication should assign rescuers to the helicopter and discuss with the pilot and the rescuers the specific action plan. Extrication Sector or his /her designee should address the weight and balance considerations. Command will have the final say on the use of a helicopter for water rescue operations. The pilot will have the final say on how the helicopter will be used.

## **7. Assessing the Victim**

Once the rescuer(s) have reached the victim, they should do an immediate assessment, and the exact method of entrapment. If the victim is conscious, the rescuer should determine if the victim can assist in his/her own rescue. If the victim is unconscious, the rescue must be quick. If it has been determined to be an underwater or recovery operation, Extrication should proceed with a dive operation (see Dive Operations). Depending on the length of submersion, Extrication Sector will decide on a dive rescue or recovery operation. If the victim can assist in his/her own rescue, the rescuers should proceed with the rescue action plan. The victim should be brought to shore as soon as possible.

## **8. Treatment**

As soon as the victim is brought to safety, an assessment should be done by ALS personnel. Treatment shall be administered as per local protocol. If necessary, the victim shall be transported to the appropriate facility.

## **D. Phase IV - Termination**

Command should begin termination as soon as possible after the victim has been removed from the water. This shall include securing all the equipment used for the rescue and personnel accountability. This may also include witnesses, photo's, victim's personal affects or equipment used in the rescue. Members should not become part of a towing operation to remove vehicles from the water. One company should stand by for rescue if a tow truck driver insists on retrieving the vehicle. Command should also consider activating the C.I.S.M. for extraordinary or extended operations.

### **1. Prepare for Termination**

- a. Personnel accountability.
- b. Equipment accountability. If there has been a fatality, Extrication Sector may consider leaving equipment in place for investigative purposes.
- c. Re-stock vehicles.
- d. Consider debriefing.
- e. Secure the scene. Return to service.

### **2. Additional Considerations**

- a. HEAT. Consider rotation of crews.
- b. COLD. Consider the affects of hypothermia on victim and rescuers.
- c. RAIN/SNOW. Consider the affects of rain or snow on the hazard profile.
- d. TIME OF DAY. Is there sufficient lighting for operations extending into the night.
- e. Consider the affect on family and friends; keep family informed.
- f. Consider news media; assign a P.I.O.

 Standard Operating Guidelines	Series: 204	Volume II:	Standard Operating Guidelines	
	204.14: Structural Collapse Rescue			
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## Purpose

To establish guidelines for conducting operations in building/structural collapse situations.

## Tactical Considerations

### A. Phase I - Arrive On-Scene; Take Command; Size-Up.

#### 1. Arrive On-Scene

- a. First arriving company officer should take Command and begin an immediate size-up of the situation.
- b. The first-in company should spot the apparatus in a position that it will not be affected by a secondary collapse of the structure. Consideration should also be given to traffic conditions and if they will be affected.
- c. Command should establish Level 1 and Level 2 staging procedures immediately. The management of emergency and civilian traffic is critical from the onset of structural collapse operations.
- d. Command should immediately begin to assess the need for additional resources. If additional resources are necessary, Command should put in an early call for them. At that time, Command should identify a Level 2 staging area. If it is later determined that the additional resources are not needed, Command can return those units to service. Command should assess the need for outside heavy equipment early, and request mobile cranes, front-end loaders, etc., with large capacity. (Example: 110-ton crane).
- e. Command should do an immediate hazard assessment or should delegate that responsibility to a **Safety Sector** officer. Some hazards associated with structural collapse are: potential for secondary collapse, explosion with fire due to broken gas and electrical lines, falling debris, toxic atmosphere, etc.
- f. **Safety Sector** should secure all hazards as soon as possible. This will include shutting off the utilities (i.e., gas, electrical, water). If it is not possible to secure all hazards, Command should notify all rescue personnel operating on scene of the hazards present.

During Phase I of structural collapse operations, Command must consider the fact that if strong control of the incident is not gained quickly it could easily escalate into an out-of-control situation. A typical structural collapse operation will have a lot of unorganized, well-intentioned efforts by civilian personnel. This situation may make the entire operation unsafe. Command must focus attention early on building a good strong Command structure that will support a campaign operation.

### B. Phase II - Pre-Rescue Operations

#### 1. Removal Of Surface Victims

Initial on scene companies should be directed in rescuing victims that can be seen on the surface. Rescuers must be aware of all the physical hazards present at the scene of a structural collapse.

#### 2. Establish a Perimeter

While initial rescue of surface victims is going on, Command should establish a perimeter around the whole collapse site and keep all incoming civilian personnel out of the immediate area.

### **3. Establish Transportation Corridor**

During initial stages of a campaign operation, Command should attempt to ensure that there will be emergency roadways into and out of the collapse site. This may include establishing liaison with the Police Department and having P.D. re-route all traffic well around the collapse site.

### **4. Establish Victim Staging Area**

Command should designate Treatment and Transportation Sectors. An area should be established away from the hazards of the collapse to account for, treat, and transport victims.

### **5. Remove All Civilian & Non-Essential Rescue Personnel**

After initial surface victim removal has been completed, Command should ensure that all personnel are removed from the collapse site. This will allow for the removal of all civilians and the re-grouping of rescue personnel so that a specific action plan can be instituted for the search and rescue of the remaining trapped victims. Upon completion of civilian & non-essential personnel, Command should order a PAR from sector officers. Members previously operating in the collapsed structure should reassemble and be quickly briefed as to building layout and possible location of victims.

### **6. Establish Building Triage Team**

After all personnel have been removed from the collapse site, Command should establish building teams. This may include structural engineers and/or fire department personnel that are specifically trained in the recognition of structural collapse. Prior to these teams engaging in triage activity, Command shall notify them as to the specific action plan and building marking system. Accountability System must be implemented prior to rescue operations commencing and institute an accountability system. If there is a possibility of hazardous materials involvement, Command should assign a Haz Mat Technician to each building triage team.

## **C. Phase III - Rescue Operations**

### **1. Establish Action Plan For Search Teams**

After all personnel have been removed from the collapse site and all personnel accounted for, Command shall establish a specific action plan for the search and rescue of the remaining victims. This action plan shall be distributed to all rescue personnel that will be operating at the collapse site.

### **2. Establish Action Plan For Search & Rescue**

Prior to beginning search and rescue operations, Command shall design specific search teams. This may include personnel with technical search equipment (i.e., acoustic, fiber optic, etc.), dog teams, or firefighter using the hailing (call-out) method of searching for victims. After the building teams have completed evaluations of buildings, the search teams will conduct searches of those buildings. Search teams should use standard building marking system after the buildings has been searched. If building triage teams determine that the building is structurally unstable, search and rescue teams shall not enter until appropriate shoring and stabilization has been accomplished.

After the removal of all personnel from the collapse site and before resuming building and search, a lobby control shall be established and no personnel will return to the collapse site without going through lobby control.

### **3. Establish Rescue Teams**

Rescue teams will follow search teams that have searched previously triaged buildings. Each rescue team shall consist of at least two (2) trained members of the Technical Rescue Team. If there is a possibility of hazardous materials involvement, each rescue team shall have at least one (1) Haz-Mat Technician with air monitoring equipment. Rescue teams are not to attempt rescue in a building that has been determined to be unsafe by the building triage teams. Command should assign each rescue team a specific radio designation. Call for Haz-Mat units if needed.

#### **4. Locating Victims**

After the search teams have searched a building and received a "positive" find (i.e., acoustic or fiber optic positive reading), the building should be verified again by another means if possible (i.e., search dogs or hailing system). If the building is known to have live victims trapped, rescue teams shall attempt to locate the victims. If the rescue team must support structural components of the building prior to entry, they shall do so and make the area as safe as possible.

#### **5. Breaching Walls, Floors, And Roofs**

If at all possible, rescue teams should attempt to gain access vertically. The horizontal breaching of walls should be done only if there is no other means to reach the void space that victims may be trapped in. Horizontal breaching of load bearing walls may precipitate a secondary collapse of the structure. The potential for secondary collapse is less if rescue teams breach structural members from above or below. Prior to breaching a structural load-bearing member, a specially trained structural collapse specialist (structural engineer, architect, technical rescue specialist) should approve and oversee the breaching operation. If the atmospheric conditions are not known in the room of desired entry, a "pilot" hole should be punched to monitor the atmosphere prior to breaching operations.

#### **6. Confined Space Entry & Rescue**

After the victim has been located, the rescue team should treat that space the victim is located in as a confined space. Rescue team members should proceed with the rescue, following confined space rescue operation guidelines. The rescue team leader shall designate the proper method of entry into the space and shall ensure the safety of the entry rescuers. All spaces shall be monitored for flammable, toxic, and oxygen deficient atmospheres before entry is made. All members making entry shall be on SCBA with appropriate tender to rescuer ratio of 1:1.

#### **7. Rescue And Extrication Of Victims**

Once the rescue team has located the victim(s) an immediate assessment of the victim shall be done. Rescue teams should consider the effect lifting objects off the victim will have on that victim (i.e., crush syndrome). The rescuer shall determine the safest and most effective method of victim extrication. The rescue team leader shall ensure the safety of the extrication of the victim.

#### **8. Transfer To Treatment Sector**

Once the victim has been removed to a safe location, he/she shall be transferred to the Treatment Sector for ALS assessment.

#### **9. Removal Of Rescue Teams From The Building**

After all located victims have been removed from the building; the rescue teams should "pull out" of the building and update the marking system. Rescue teams should keep in mind that any cribbing and shoring in place should be left IN PLACE. The removal of those systems could precipitate a secondary collapse.

### **D. Phase IV - Selected Debris Removal**

#### **1. Locating Victims**

If rescue teams have not been able to locate victims through other methods, then they should be located by removing debris. If there is a potential for live victims, rescue teams must be very careful when removing debris so as not to cause a secondary collapse or further injury to the victim(s).

If a victim location is known, either by family members or previously rescued victims, an attempt should be made to remove debris to reach that victim. In light-weight frame construction buildings, this could be accomplished by cutting and hand removing structural members. If the building is of reinforced concrete, it may require breaking large pieces into smaller and more manageable size pieces. This may also require the use of a crane to pick and move the structural components to reach potential victims.

Rescue team members should assist in the break-up and removal of structural components. The Safety Section/Sector shall oversee all of these operations to ensure site safety for all operating personnel. If structural components are removed from the site, they should be marked in some way so as to I.D. them with the particular building for future investigative purposes.

As debris is removed, all operations should be stopped periodically to search (acoustic, dog team, hailing) for victims. After enough debris has been removed to reasonably ascertain that there are not any victims, at that time search and rescue operations can be suspended in that building.

#### **E. Phase V - General Debris Removal/Termination**

Prior to beginning Phase V, Command shall call for a PAR. After it has been determined that no victims could be found alive in the building, a general debris removal can begin. If there is a potential for deceased victims to be trapped in the rubble, removal crews should be alert for signs of those deceased victims.

During general debris removal, if heavy equipment operators spot a sign of a deceased victim(s), a selected debris removal shall be conducted to remove the victim(s) respectfully. Coroner and/or other investigative personnel should be notified to handle the removal of the bodies. Removal shall be conducted after the Safety Section/Sector has determined the area is safe to enter.

As debris is removed, each dump truck load shall be marked as to the general area found and final location of the debris. This will help investigators to complete their investigations and reports.

Command may elect to turn general debris removal over to the Responsible Party for final disposition of the building. If this is done, the R.P. should be notified of the proper handling of debris for investigative purposes.

Prior to termination of the incident, Command shall account for all personnel that have been operating at the collapse site. Each company officer should ensure crew and equipment accountability before returning to service. If Command has not previously addressed the issue of C.I.S.D., he/she may consider doing so during the termination phase.

##### **1. Additional Considerations**

- a. Heat. Consider rotation of crews.
- b. Cold. Consider the affect of hypothermia on victims and rescuers.
- c. Ambient Conditions. Consider the affects of rain or snow on the hazard profile.
- d. Time of Day. Consider having proper lighting on scene for night time operations.
- e. Consider the effect on family and friends; keep family informed.
- f. Media. Assign designated P.I.O. (s) to provide periodic communication updates.

 <p>Standard Operating Guidelines</p>	<b>Series: 204</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>204.15: Trench Rescue</b>			
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## Purpose

Trench Rescue Operations present a significant danger to Fire District members and may involve complex requirements for shoring, hand tools, earth-moving equipment or other specialized equipment. The safe and effective management of trench rescue operations require specialized training and shall be executed by Technical Rescue Team Members, after the initial responding crews recognize the scene to be a Trench Rescue. **At no time will any SFMD member enter into an unsafe trench or excavation.** This procedure identifies some of the critical issues which must be included in managing these incidents.

For the purpose of emergency response, a trench or excavation shall be defined as any depression, hole, trench or earthen wall, man-made or natural, of a depth or height four feet or greater.

Cave-ins and collapses generally occur because of unstable soil conditions combined with improper or inadequate shoring. The potential for additional collapse is a primary hazard and personnel must be aware that any action may disrupt the temporary stability of the trench. This temporary stability may be disturbed by removing soil or debris, weight near the lip/edge, vibrations from equipment, uncontrolled hazardous energies, rain, or by the passage of time.

## Tactical Considerations

### **A. Phase One - Command, Size-up Command**

1. First arriving company officer shall take Command and begin size-up of the situation.
2. Apparatus Engineer shall spot the apparatus at least 50 feet from the location of the trench. Command shall establish Level 1 staging at least 150 feet from the scene.
3. Command shall request a TRT response if not already responding.
4. Size-up
  - a. Command shall determine exactly what has happened.
  - b. A Responsible Party (RP) shall be located and secured.
  - c. An immediate assessment of patient(s) should be determined.
    - 1) Assessment should include:
      - Number of patients?
      - Locations?
      - How much time has elapsed since incident occurred?
  - d. Command should decide if the operation will be a rescue or recovery.

### **B. Phase Two Sectors - Site Control & Safety**

#### **1. Sectors**

Command should use most of the following sectors:

- Lobby – May also perform the accountability function
- Extrication – TRT should perform this sector
- Treatment
- Rehab
- Safety – ISO (Extrication shall also have a Technical Safety Officer).
- Staging
- Resource
- Site Control

2. **Site Control**
    - a. Create a hot, warm, and cold zone
    - b. Hot zone extends from 0-50 feet
    - c. Warm zone extends from 50-150 feet
    - d. Cold zone extends from 150-300 feet
  3. **Control Traffic Movement**
    - a. Block or divert all non-essential traffic at least 300 feet around the scene. Close all major streets within 500 feet of the scene.
  4. **Crowd Control**
    - a. Remove all non-essential civilian personnel to at least 300 feet from the scene.
    - b. Remove all non-essential rescue personnel to at least 50 feet from the scene.
  5. **Vibrations**
    - a. Shut off non-essential equipment operating within 300 feet of the scene.
  6. **Safety**
    - a. Identify the soil type and condition.
    - b. Control all hazardous energies (i.e. gas, electric).
    - c. Remove water from the trench, if unsafe for rescue work.
    - d. Air monitors should be used in the trench if hazardous gases may be present.
    - e. Ventilate the trench area.
- C. Phase Three - Entry, Patient Removal (no cave-in), Patient Removal (with cave-in) Entry**
1. **Make trench lip/edge safe**
    - a. Approach from ends only, if possible.
    - b. Look for fissures or other unidentified hazards around the trench.
    - c. Assess the spoil pile for angle of repose, distance from lip, raveling.
    - d. Remove trip hazards.
    - e. Provide ground pads for lip after leveling area.
  2. **Make trench safe (Extrication Sector)**
    - a. Ensure all personnel wear PPE.
    - b. Ingress and egress ladders no more than 25 feet apart.
    - c. Choose shoring system.
    - d. Create safe boxes/zones.
    - e. Remove soil from the safety of the safe boxes/zones.
  3. **Patient Removal (no cave-in)**
    - a. Create safe box/zone around patient.
    - b. Remove soil or entrapment objects.
    - c. Treat, package and remove patient.
  4. **Patent Removal (with cave-in)**
    - a. Create safe box/zone.
    - b. Begin soil removal, operating from the safe box/zone.
    - c. Extend safe boxes/zones toward patient/victim.
    - d. Uncover patient to below diaphragm and treat.
    - e. Continue removal of soil from around patient.
    - f. Package and remove patient.
- D. Phase Four**
1. **Termination**
    - a. PAR for hot zone personnel.
    - b. Remove tools from trench. (Leave in place for fatality investigation).

- c. Remove trench-shoring system (last-in/first-out).
- d. Restock
- e. Debrief
- f. Secure the scene.

**2. Additional Considerations**

- a. OSHA
- b. Heat/Cold – Rotation of members
- c. PIO
- d. Lighting
- e. Family Notification
- f. Family Notification

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	<b>204.16: Tree Rescue</b>			
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## Purpose

To establish guidelines for conducting tree rescue operations.

## Tactical Considerations

### **A. Phase I Arrive On-Scene. Take Command. Size Up**

#### **1. Secure responsible party or witness.**

Command should secure a witness as soon as possible after arriving on scene. This will help in identifying the problem and locating the victim.

#### **2. Assess the need for additional resources.**

Command should immediately begin assessing the need for additional resources. If additional resources are necessary, Command should upgrade the assignment early. If it is later determined that they are not necessary, Command can put those units back in service.

#### **3. Assess the hazards.**

Command should do an immediate hazard assessment or should delegate other person(s) to accomplish hazard assessment. Some hazards associated with tree rescue would be, but not limited to, electrical lines, condition of tree, falling fronds or branches, excessive winds.

#### **4. Decide "Rescue" or "Recovery".**

Based on the condition of the victim(s), Command should decide early whether the operation will be conducted in the rescue or recovery mode. Consideration should be given to the hazards that present themselves to the rescuers prior to rescue mode.

#### **5. Decide on an action plan.**

Command should establish an action plan prior to rescue or recovery of victim. The step-by-step plan should be made clear to all personnel involved.

### **B. Phase II Pre-Rescue Operations**

#### **1. Make the general area safe.**

Command should secure the general area and make it safe. This will include removing all civilian personnel to an established perimeter. Witnesses or responsible person(s) should be secured in the general area for future investigative purposes. All unsafe conditions should be secured prior to operations being conducted.

#### **2. Make the rescue area safe.**

Command or his/her designee should make the immediate rescue area safe. The immediate rescue area should be a radius of 50' around the tree. This should include removing all non-essential civilian and rescue personnel from the area. If any immediate hazards are present, they should be secured and made safe if possible, i.e., high voltage wires. If it is not possible to secure the immediate hazards, all personnel operating in the rescue area (hot zone) will be made aware of the hazards.

#### **3. Pre-rescue/recovery.**

Depending on the action plan established, Command may desire to establish an Extrication Sector. Extrication sector will be responsible for gathering all equipment and personnel necessary to conduct the operation according to the action plan. Extrication sector will assign rescue personnel to conduct the rescue, and support personnel to support the rescuers, during

the actual rescue phase. Extrication sector should have an alternative plan for the rescue/recovery. This plan should be agreed upon by command and communicated to all personnel within the sector. Dispatch the appropriate Utility Company and an ambulance to the scene.

### **C. Phase III Rescue Operations**

After pre-rescue operations are complete, the operation should move into the rescue phase. Rescues should be conducted with as little risk to rescuers as necessary or possible. Operations should be considered from low risk to high risk. Low risk operations are not always possible but should be considered first. If the rescue of the victim(s) is only possible with a high risk rescue, Command should assess the risk/benefit of the rescue.

For victims conscious or unconscious in a tree, the order of rescue from low risk to high risk should be:

#### **1. Talk The Victim Into Self-Rescue**

If possible, Extrication sector should move a ladder truck in close enough to put up under the victim. The operator must consider the overhead power lines present, the angle of the ladder, and the distance the ladder has to extend to the victim. Sufficient separation must be maintained to avoid arcing of energize electricity to the aerial. In a life or death situation, the operator may consider removing obstacles that would allow the ladder truck in close enough to reach the victim.

#### **2. Ladder the Tree With Ground Ladders**

If it is not possible to reach the victim with an aerial ladder or platform, the next option for first responders would be to put up a ground ladder against the tree. The first ladder should go under the victim; the second ladder should go along side and slightly above the victim. Both ladders should be secured to the tree. A piece of tubular webbing or small piece of rope works well for securing the ladder to the tree.

#### **3. Climb The Tree**

Tree climbing, even with approved equipment, is considered high risk. If ladder placement is not possible to rescue the victim, the victim must be reached by climbing up the tree. This is considered a technical rescue operation. Only properly trained and equipped T.R.T. members will conduct this type of operation. Extrication sector will assign two rescuers the task of climbing the tree and the rescue/recovery of the victim. Extrication sector and the rescuers must understand in detail the equipment necessary to rescue/recover a victim. Rescuers should proceed to the victim. It may be necessary to remove fronds or branches from the tree to reach the victim. This can be very hazardous.

#### **4. Assess The Victim**

When the rescuer(s) approach the victim(s), they should assess the condition of that victim(s). A quick assessment of the victim's ABC's and the exact method of entrapment. If the victim is conscious, rescuers should determine if the victim can assist with his/her rescue. If the victim is unconscious, rescue must be quick.

One rescuer should climb above and to the side of the victim. That rescuer should establish a point of attachment above the victim for the lowering system. Simultaneously, a point of attachment will be established at the bottom of the tree. A lowering line will be run through an approved descending device, attached at the base of the tree, up through the point of attachment above the victim, down to the victim. Once the lowering line has been attached to the victim, he/she should be disentangled. This may mean cutting any chains or ropes that were previously supporting the weight of the victim. Once the supporting points of attachment have been cut, the victim will be lowered to the ground. One or both rescuers should assist the victim down the tree.

## **5. Treatment**

Once the victim has been lowered to the ground, he/she shall be assessed by ALS personnel. The victim will be appropriately treated and transported if necessary to the appropriate hospital.

## **D. Phase IV Termination**

Command should begin termination as soon as feasible after the removal of the victim. This includes securing all of the equipment used for the rescue/recovery, and any evidence that will be necessary for an investigation. This may include witnesses, photos, victim's personal affects or equipment involved in the accident. At this time, Command can turn the scene over to the responsible party of the police department. Command should consider activating the C.I.S.D. Team for any extraordinary type of incidents.

### **1. Prepare for Termination**

- a. Personnel accountability.
- b. Equipment accountability. If there has been a fatality, Extrication Sector may consider leaving equipment in place for investigative purposes.
- c. Re-stock vehicles.
- d. Consider debriefing.
- e. Secure the scene. Return to service.

### **2. Additional Considerations**

- a. HEAT. Consider rotation of crews.
- b. COLD. Consider the affects of hypothermia on victim and rescuers.
- c. RAIN/SNOW. Consider the affects of rain or snow on the hazard profile.
- d. TIME OF DAY. Is there sufficient lighting for operations extending into the night.
- e. Consider the affect on family and friends; keep family informed.
- f. Media and Designated PIO.

 <p>Standard Operating Guidelines</p>	<b>Series: 205</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>205.01: Communications Dispatch</b>			
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	<b>Approved by:</b>	Emergency Services		

## Purpose

To identify proper terminology and the order in which fireground communications are most effective.

## Communications Order Model

Whenever a fire unit needs to contact the Fire Dispatcher the term “Alarm” will be used (i.e., Battalion 261 to Alarm).

## Fire Apparatus

### **A. Engine/Pumper**

A Captain and his/her crew are referred to as "Engine" and the appropriate number (i.e., Engine 261).

An Engineer left with the apparatus will be referred to as "Pump" with the appropriate number (i.e., Pump 261).

### **B. Ladder/Ladder Tender**

A Ladder Captain and his/her crew are referred to as “Ladder or Ladder Tender” and the appropriate number (i.e., Ladder 263). An Engineer left with the apparatus will be referred to as “Truck or Truck Tender” and the appropriate number (i.e., Truck 263 or Tender 263).

### **C. Battalion Chief**

A Battalion Chief is referred to as "Battalion" and the appropriate number (i.e. Battalion 261 or Battalion 202).

### **D. Water Tender**

Apparatus designed to carry and pump large amounts of water to fire and emergency scenes (i.e. Tender 261 or Tender 264).

### **E. A.R.F.F. (Aircraft Rescue Firefighting) Vehicle**

These automatic aid units are assigned to Falcon Field Airport and Williams Gateway Airport (i.e. Foam 208 and Foam 215).

### **F. Hazardous Materials Vehicle**

These automatic aid units are referred to as "Haz Mat” apparatus and can be requested at any time through Mesa alarm (i.e. Haz-Mat 204 and Haz-Mat 206).

### **G. Utility Vehicle**

A unit capable of providing compressed air for S.C.B.A., scene lighting, and various Technical Rescue equipment (i.e., Utility 262).

### **H. Rehabilitation Vehicle**

A unit capable of providing rehabilitation to crews on emergency scenes. This unit has the ability to provide an indoor, climate controlled atmosphere to crews. Our crews can properly hydrate, consume healthy snacks and get medically evaluated prior to returning to emergency activities (i.e., Rehab 264 or Scene Support 208).

### **I. Brush Vehicle**

A specially fitted wildland unit with small water tank, pump and wildland specific equipment (i.e. Brush 261 or Brush 263).

## **J. Reserve Apparatus**

A reserve unit that is placed in-service as an addition to normal front line units is referred to as "Engine" or "Ladder" and the appropriate number (i.e., "Engine 263"). Always advise Mesa alarm when placing a reserve unit in-service stating the reserve ID, station location and unit type. "Example: Engine 263 in-service at Station 263 ALS".

### **Changing Units**

Whenever a change of vehicles for a unit occurs, contact Mesa alarm and advise them of the unit designation and the actual vehicle number i.e., "Engine 261 is now in vehicle 4043". When returning to the normal apparatus contact Mesa alarm again and advise them that "Engine 261 is back in vehicle 4056."

### **Changing Stations**

Always advise Mesa alarm when you have moved to another station for an extended period of time. This is necessary to insure accurate unit recommendation. It is recommended to always monitor a portable radio during this time in case station encoding does not function as intended.

### **Administrative and Staff Unit Designations**

The following page contains a list of the unit designations for staff vehicles and personnel.

#### **A. Administration**

1. Car 261 - Fire Chief
2. Car 262 - Assistant Chief, Operations
3. Car 263 - Assistant Chief Administrative Services

#### **B. Training**

1. Training 261 - Training Deputy Chief
2. Training 262 - Training Staff

#### **C. Fire Prevention**

1. Prevention 261 - Assistant Chief
2. Prevention 262 - Deputy Fire Marshall

 <p>Standard Operating Guidelines</p>	<b>Series: 205</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>205.02: Level 1 &amp; Level 2 Staging</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

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

Effective utilization of these guidelines will:

- Prevent excessive apparatus congestion at the scene.
- Allow time for Command to evaluate conditions prior to assignment of companies.
- Place apparatus in an uncommitted location close to the immediate scene, to facilitate more effective assignment by Command.
- Reduce radio traffic during the critical initial stages of the incident.
- Allow Command to formulate and implement a plan without undue confusion and pressure.
- Provide a resource pool from which Command may assign units and resources at his/her discretion.

Staging involves two levels: Level 1 and Level 2

**Level 1 - Staging**

Level 1 Staging is automatically in effect for all incidents involving three or more companies.

During any multi-company response, companies should continue responding to the scene until a company reports on the scene. In situations where the simultaneous arrival of first due companies is possible, the affected officers shall utilize radio communications to coordinate activities and eliminate confusion. It will be the ongoing responsibility of Dispatch/Alarm to confirm the arrival of the first on-scene unit.

Once a company announces arrival on the scene, Level 1 Staging will be implemented in the following manner:

**A. For Fires, EMS, and Hazardous Materials Incidents**

1. The first arriving engine company will respond directly to the scene and initiate appropriate operations.
2. The first arriving ladder company will respond directly to the scene. They shall announce their approach to the scene so that Command may commit them to an assignment.
3. The first arriving company assigned as RIC should stage on-scene in a location to maximize their options and await instructions from Command. This company should be prepared for a RIC assignment if an IRIC has not been upgraded to a full RIC on their arrival. During major operations, RICs will normally be assigned a standby position near the Command post or the rehab operation.
4. The first Chief Officer will go directly to the scene and assume a Command location.

All other units, including Battalion Chiefs, will stage in their direction of travel, uncommitted, approximately one block from the scene until assigned by Command. A position providing a maximum of possible tactical options with regard to access, direction of travel, water supply, etc., should be selected.

All Utility trucks will assume Level 1 staging. If Level 2 staging has been implemented, Utility

trucks will go to the Level 2 staging location.

## **B. For Multi-Company Response to Medical Emergencies**

1. For multi-company response to medical incidents, in addition to the above, the first arriving ALS unit will also go directly to the scene and place their apparatus in a location that will provide maximum access for medical/rescue support and not impede the movement of other units and indicate their action by radio.
2. The first arriving ambulance will also go directly to the scene and park their vehicle in a manner that will allow quick and unobstructed exit for patient transportation. All other companies will stage in their direction of travel, approximately one block from the incident.
3. Staged companies or units will, announce their arrival and report their company designation and their staged location/direction ("Engine 265, South").
4. An acknowledgment is not necessary from either alarm or Command. Staged companies will stay off the air until orders are received from Command. If it becomes apparent Command has forgotten the company is in a staged position, the company officer shall contact Command and advise him/her of their staged status.
5. These staging procedures attempt to reduce unnecessary radio traffic, but in no way should reduce effective communications or the initiative of officers to communicate. If staged companies observe critical tactical needs, they will advise Command of such critical conditions and their actions.

### **Level 2 - Staging**

Level 2 Staging is utilized when Command desires to maintain a reserve of resources on-scene, and when the need to centralize resources is required. Level 2 Staging places all reserve resources in a central location, and automatically requires the implementation of a Staging Sector Officer.

Level 2 Staging should be implemented for all greater alarm incidents, first alarm medical or hazardous materials incidents, or other incidents in which Command desires to centralize resources, or simply to park apparatus in a central, unobstructed location.

Companies which are already staged (Level 1) or en-route to Level 1 Staging, will stay in Level 1 unless otherwise directed by Command. All other responding units will proceed to the Level 2 Staging Area. When activating Level 2 Staging, Command will give an approximate location for the Staging Area.

The Staging Area should be some distance away from the Command Post and the emergency scene to reduce site congestion, but close enough for prompt response to the incident site.

Command should consider Level 2 Staging when calling for additional resources. This is more functional than calling for Level 2 Staging while units are en-route. The additional units will be dispatched to the Staging Area.

Command may designate a Staging Area and Staging Officer who will be responsible for the activities outlined in this procedure. In the absence of such an assignment, the first Fire Department officer to arrive at the Staging Area will automatically become the Staging Officer and will notify Command on arrival. The arrival notification will be made to Command on the assigned tactical channel.

Due to the limited number of ladder companies, a ladder officer will transfer responsibility for Staging to the first arriving engine company officer. Staging Officers will assign their company members as needed to assist with Staging operations, or assign them to another company.

All responding companies will stay off the air, respond directly to the designated Staging Area, and the Company Officer will report in person to the Staging Officer. The crew will stand by their unit with crew intact and warning lights turned off until assigned incident site duties, or released from the scene.

When assigned to on-site duties, companies leaving staging will communicate directly with Command or their assigned sector officer for instructions.

Once Level 2 staging is implemented, all communications involving staging will be between Staging and

Command or Logistics. Command will assign an appropriate radio channel for staging operations.

**A. Staff Chief Officers and Captains**

Arrival on the scene of staff Chief Officers and Captains can enhance the Command organization and incident management. Unless arriving staff officers have predetermined responsibilities (i.e., Safety Sector, Haz-Mat Sector), these officers should assume a Level 1 staging posture and announce their arrival on the tactical channel. If the Staging Sector Operations have been assigned to Channel 5, arrival notification should be on Channel 5.

Vehicle parking at the site can be limited. Staff officers should leave their vehicles in the Staging Sector, or park well off the road (i.e., parking lots) so as not to restrict on-site access by fire apparatus.

 <p>Standard Operating Guidelines</p>	<b>Series: 205</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>205.03: Apparatus Placement (Free-Highway)</b>			
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	<b>Approved by:</b>	Emergency Services		

## **Purpose**

This guideline identifies parking practices for Fire District apparatus that will provide maximum protection and safety for personnel operating in or near moving vehicle traffic. It also identifies several approaches for individual practices to keep firefighters safe while exposed to vehicle traffic.

Position apparatus at the scene of emergencies in a manner that best protects the work area and personnel from vehicle traffic and other hazards.

All personnel should understand and appreciate the high risk that firefighters are exposed to when operating in or near moving vehicle traffic. We should always operate from a defensive posture. Always consider moving vehicles as a threat to your safety.

Each day, emergency personnel are exposed to motorists of varying abilities, with or without licenses, with or without legal restrictions, and driving at speeds from creeping to well beyond the speed limit. Some of these motorists are vision, alcohol and/or drug impaired. On top of everything else, motorists will often be looking at the scene and not the road.

Night time operations are particularly hazardous. Visibility is reduced, and the flashing of emergency lights tends to confuse motorists. Studies have shown that multiple headlights of emergency apparatus (coming from different angles at the scene) tend to blind civilian drivers as they approach.

## **Safety Benchmarks**

Emergency personnel are at great risk while operating in or around moving traffic. There are approaches that can be taken to protect yourself and all crewmembers:

1. Never trust the traffic
2. Engage in proper protective parking
3. Wear high visibility reflective vests
4. Reduce motorist vision impairment
5. Use traffic cones and flares

Listed below are benchmarks for safe performance when operating in or near moving vehicle traffic.

1. Always maintain an acute awareness of the high risk of working in or around moving traffic. Never trust moving traffic. Always look before you step! Always keep an eye on the traffic!
2. Always position apparatus to protect the scene, patients, emergency personnel, and provide a protected work area. Where possible, angle apparatus at 45 degrees away from curbside. This will direct motorist around the scene (See Figure 1). Apparatus positioning must also allow for adequate parking space for other fire apparatus (if needed), and a safe work area for emergency personnel. Allow enough distance to prevent a moving vehicle from knocking fire apparatus into the work areas.
3. At intersections, or where the incident may be near the middle of the street, two or more sides of the incident may need to be protected. Block all exposed sides. Where apparatus is in limited numbers, prioritize the blocking from the most critical to the least critical (See Figures 2, 3 and 4).
4. For first arriving engine companies where a charged hoseline may be needed, angle the engine

- so that the pump panel is "downstream," on the opposite side of on-coming traffic. This will protect the pump operator (See Figure 5).
5. The initial Company Officer (or Command) must assess the parking needs of later-arriving fire apparatus and specifically direct the parking and placement of these vehicles as they arrive to provide protective blocking of the scene. This officer must operate as an initial safety officer.
  6. During daytime operations, leave all emergency lights on to provide warning to drivers.
  7. For NIGHTTIME operations, turn OFF fire apparatus headlights. This will help reduce the blinding effect to approaching vehicle traffic. Other emergency lighting should be reduced to yellow lights and emergency flashers where possible.
  8. Crews should exit the curb side or non-traffic side of the vehicle whenever possible.
  9. Always look before stepping out of apparatus, or into any traffic areas. When walking around fire apparatus parked adjacent to moving traffic, keep an eye on traffic and walk as close to fire apparatus as possible.
  10. Wear a reflective safety vest any time you are operating in or near vehicle traffic.
  11. When parking apparatus to protect the scene, be sure to protect the work area also. The area must be protected so that patients can be extricated, treated, moved about the scene, and loaded into Ambulances safely.
  12. Once enough fire apparatus have "blocked" the scene, park or stage unneeded vehicles off the street whenever possible. Bring in Ambulances one or two at a time and park them in safe locations at the scene. This may be "downstream" from other parked apparatus, or the Ambulance maybe backed at an angle into a protected loading area to prevent working in or near passing traffic. At residential medical emergencies, park Ambulances in driveways for safe loading where possible. If driveways are inaccessible, park Ambulances to best protect patient loading areas. (See Figures 6 and 7).
  13. Place traffic cones at the scene to direct traffic. This should be initiated by the first company arriving on the scene and expanded, if needed, as later arriving companies arrive on the scene. Always place and retrieve cones while facing on-coming traffic.
  14. Placing flares, where safe to do so, adjacent to and in combination with traffic cones for nighttime operations greatly enhances scene safety. Place flares to direct traffic where safe and appropriate to do so.
  15. At major intersections a call for police response may be necessary. Provide specific direction to the police officer as to exactly what your traffic control needs are. Ensure the police are parking to protect themselves and the scene. Position Ambulances to protect patient loading areas. (See Figure 8)

### **Freeway Operations**

Freeway emergencies pose a particular *high risk* to emergency personnel. Speeds are higher, traffic volume is significant, and civilian motorists have little opportunity to slow, stop or change lanes.

The Department of Public Safety (DPS) will also have a desire to keep the freeway flowing. Where need be, the freeway can be completely shut down. This, however, rarely occurs.

For freeway emergencies, continue to block the scene with the first arriving apparatus to provide a safe work area. Other companies may be used to provide additional blocking if needed.

The initial Company Officer, or Command, must thoroughly assess the need for apparatus on the freeway and their specific positions. Companies should be directed to specific parking locations to protect the work area, patients, and emergency personnel.

Other apparatus should be parked downstream when possible. This provides a safe parking area.

Staging of Ambulances off the freeway may be required. Ambulances should be brought into the scene one or two at a time. A safe loading area must be established.

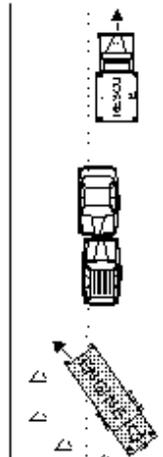
Traffic cones should be placed farther apart, with the last cone approximately 150 feet "upstream," to allow

adequate warning to drivers. Place and retrieve cones while facing the traffic.

Command should establish a liaison with the Department of Public Safety, as soon as possible, to jointly provide a safe parking and work area and to quickly resolve the incident.

The termination of the incident must be managed with the same aggressiveness as initial actions. Crews, apparatus, and equipment must be removed from the freeway promptly, to reduce exposure to moving traffic.

Figure #1



Where possible, angle apparatus at a 45 degree angle from the curb.

Figure #3

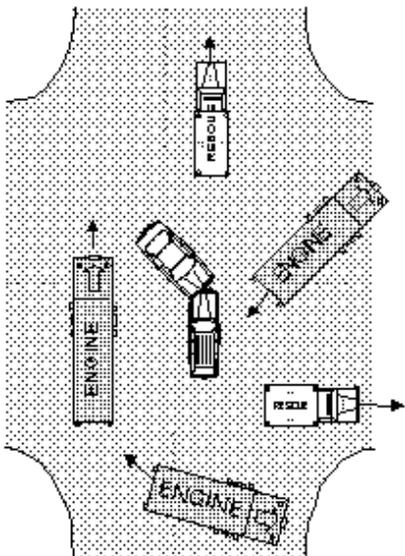


Figure #2

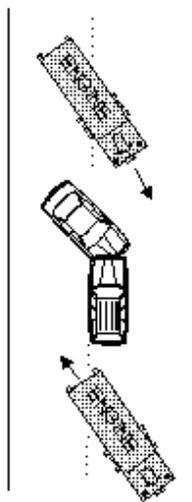
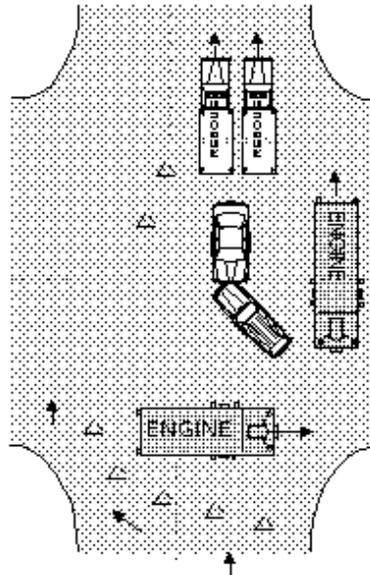
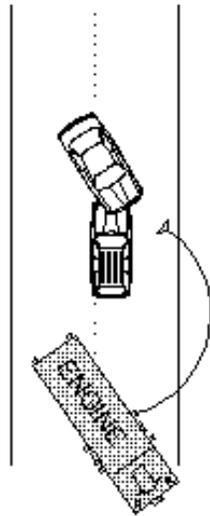


Figure #4



Often times two or more sides may need to be protected. Prioritize placement of the apparatus by blocking from the most critical to the least critical side.

Figure #5



To protect pump operator, position apparatus with the pump panel on the opposite side of on-coming traffic.

Figure #6

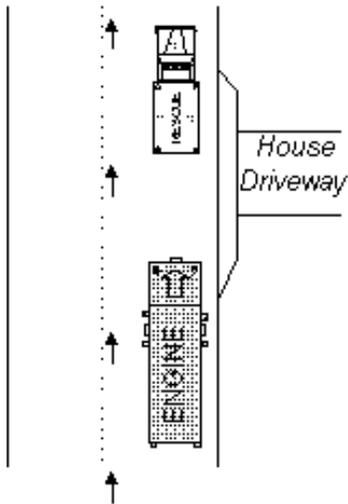
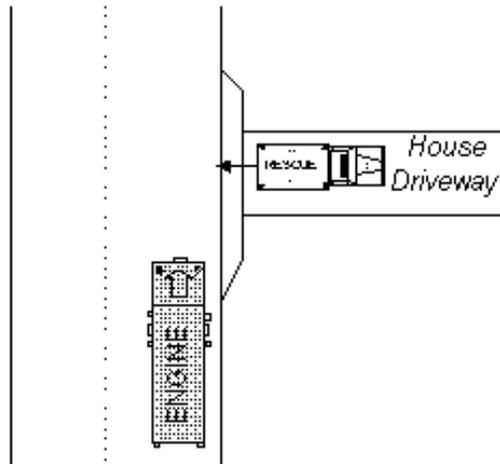


Figure #7



Where possible, park rescues in driveways or position rescue to protect patient loading area.

 <b>Standard Operating Guidelines</b>	<b>Series: 205</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>205.04: Apparatus Placement (Fire Related)</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

## Purpose

To discuss how to best position fire apparatus at working incidents.

Apparatus function should regulate placement. Poor apparatus placement can reverse this rule, limiting the options or eliminating functions that can be assigned to a unit.

## Apparatus Placement

Firefighters operate with a natural inclination to drive apparatus as close to the fire as possible. This often results in positioning of apparatus that is both dysfunctional and dangerous. The placement of all apparatus on the fireground should be a reflection of the following:

- Standard operational procedure for first arriving companies.
- Tactical objectives and priorities.
- Staging procedure.
- A direct order from Command.
- A conscious decision on the part of the Company Officer based on existing or predictable conditions.

Effective apparatus placement must begin with the arrival of first units. The placement of the initial arriving Engine or Ladder should be based upon initial size-up and general conditions upon arrival. First arriving companies should place themselves to maximum advantage and go to work; later arriving units should be placed in a manner that builds on the initial plan and allows for expansion of the operation.

Avoid front bumper to rear tailboard placement on the fireground. Do not drive all fire apparatus directly into the fire scene. Later arriving companies should stage a minimum of one block short of the immediate fire area, and remain uncommitted until ordered into action by Command. Company Officers should select staged positions with a maximum of tactical options (See Level I Staging procedures).

In large, complex, and lengthy fireground operations additional alarm companies should be staged consistent with Level II Staging procedure. Under these procedures, Command communicates directly with the Staging Officer for the additional resources required on the fireground.

Command must maintain an awareness of site access that provides the best tactical options. The immediate fire area can quickly become congested with apparatus and the officer must regard apparatus on the fireground in two categories:

- Apparatus that is *working*
- Apparatus that is *parked*

Park out of the way: Apparatus that is not working should be left in the Staging Area or parked where it will not compromise access. Maintain an access lane down the center of streets wherever possible.

Think of fire apparatus as an expensive exposure. Position working apparatus in a manner that considers the extent and location of the fire and a pessimistic evaluation of fire spread and building failure. Anticipate the heat which may be released with a structural collapse. Forecast where the fire is going and how it will affect exposure of apparatus. Apparatus should generally be positioned at least 30 ft. away from involved buildings, even with nothing showing. Greater distances are indicated in many situations.

Position and reposition: Beware of locating fire apparatus in places where they cannot be repositioned easily and quickly--particularly operating positions with only one way in and out; i.e., yards, alleys, driveways, etc. Beware of overhead power lines when positioning apparatus. Do not park where lines may fall.

If apparatus does become endangered, activate engine sprinkler system (if available) and operate hose lines between it and the fire while you reposition it. When you do move it--move it to a position that is safe. It is dysfunctional to move apparatus several times throughout the progress of a fire.

Take maximum advantage of good operating positions and "build" the capability of units assigned to these effective positions. Initial arriving pumpers should be placed in "key" positions. These positions should offer maximum fire attack access to the fire area and be supplied with large diameter and/or pumped supply lines as quickly as possible. Subsequent arriving companies can operate the hose lines from this apparatus. Place these "key" companies first--before access is blocked by later arriving units.

Key tactical positions should be identified and engines placed in those locations with a strong water supply. The water supply should be at least one LDH pumped line from an engine on a hydrant. When high volume is indicated, two pumped supply lines should be provided. The forward engine can distribute this water supply to a variety of hand lines, master streams or devices.

Take full advantage of hydrants close to the fire before laying additional supply lines to distant hydrants. Secondary hydrants should be used to obtain additional supply if the demand exceeds the capability of the closest hydrants.

Take advantage of the equipment on apparatus already in the fire area instead of bringing in more apparatus. Connect extra lines to pumpers which already have a good supply line instead of making "daisy chain" supply line connections.

Do not hook up to hydrants so close to the fire building that structural failure or fire extension will jeopardize the apparatus.

Fire hose soon limits the general access as the fireground operation gets older. Command and Sectors must direct apparatus to important positions as early as possible. Lines should be laid with attention to the access problems they present. Try to lay lines on the same side of street as the hydrant and cross over near the fire.

When the aerial apparatus is not needed for upper level access or rescue, spot apparatus in a position that would provide an effective position for elevated stream operation if the fire goes to a defensive mode. Ladder Officers must consider extent and location of fire, most dangerous direction of spread, confinement, exposure conditions, overhead obstructions and structural conditions in spotting apparatus. The truck should be spotted where the aerial can be raised and used effectively without repositioning. It must also be spotted for effective use of hand ladders and allied forcible entry equipment.

Command vehicles should be positioned at a location that will allow maximum visibility of the fire building and surrounding area and the general effect of the companies operating on the fire. Command vehicle position should be easy and logical to find and should not restrict the movement of other apparatus.

Ambulances should be spotted in a safe position that will provide the most effective treatment and transportation of fire victims and firefighting personnel, while not blocking movement of other apparatus or interfering with firefighting operations. Staff vehicle placement should go to Level II staging unless that staff person has a pre-designated responsibility (i.e., Safety Sector). The staging sector officer will advise Command of staff personnel available for assignment.

 <p>Standard Operating Guidelines</p>	<b>Series: 205</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>205.05: High Visibility Cone and Flare Deployment</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

To account for the safety of SFMD personnel through the use of High Visibility Traffic Cones and road flares (as required).

When the determination has been made that fire department personnel are to use available portable traffic control equipment such as 28-inch or taller traffic cones, highway flares, or other signaling devices to establish the Advance Warning and/or Transition Area; it is understood that for the personnel involved this is a high risk and potentially life-threatening activity. Member(s) performing this work is typically outside of the protected work area and may be working in close proximity to moving traffic.

**Responsibility**

The following conditions are assumed to be in place prior to the person or persons assigned to establish the Advance Warning or Transition Area beginning their assignment:

- A suitable apparatus is on location within the Temporary Traffic Control Zone and the vehicle is positioned in a blocking position so as to create a protected Work Area and Buffer Space.
- Portable traffic control equipment (cones, flares, etc.) are available and readied for use.
- Fire District member performing task has been assigned to specifically deploy portable devices to create an Advance Warning and/or Transition Area.
- Fire District member is wearing proper PPE including a high-visibility garment.
- During periods of low light level or reduced visibility weather conditions, member has operating hand light with them and it is turned ON during this activity.

**Operational Steps**

The following operational steps can serve as a recommended guideline for performing this assigned function:

- Portable equipment is gathered while member is inside protected Work Area.
- Activity is coordinated with an assigned “Watch Out” or safety partner, if staffing permits.
- Member gathers equipment, faces on-coming traffic, and moves along a linear, safe pathway on the shoulder or median area of street, road, and highway to furthest upstream location where first device is to be deployed.
- Member shall deploy first device along shoulder/edge of lane of street, road, or highway while standing in safe area.
  - This initial deployment point should be approximately 100-150 feet upstream of the incident for deployment of the first of five (5) devices.
  - Initial deployment point should take into consideration environmental weather or poor lighting conditions and any visual obstructions for approaching motorists including hills, curves, or other visual obstructions. Furthest traffic control device can be extended further upstream according to these sight-limiting conditions.
- Member shall move a distance of ten (10) paces back toward the incident scene along this safe pathway

area. When determined safe to do so, member may enter into the nearest travel lane a distance of one (1) pace or approximately three (3) feet and deploy the second traffic control device.

**NOTE:** When deploying highway flares, ignition of the flare should take place while member is standing in the safe pathway area. Once lit, the member can move the appropriate distance into the nearest travel lane to actually deploy the flare.

- Member shall immediately return back to the shoulder or median safe area and move an additional ten (10) paces along the safe area back towards the incident scene. This procedure should be followed until all traffic control devices have been placed. The final device shall be near the rear of the apparatus that is in the blocking position at the incident scene. (see Fig. 1.1 )
- If a retro-reflective, pink deployable sign is used by the fire department to comply with NFPA 1500 Standard; this sign shall be carried in the folded condition upstream along the safe area (shoulder or median) and deployed along the shoulder or median at a location ten (10) additional paces further upstream of the initial cone or flare already deployed.

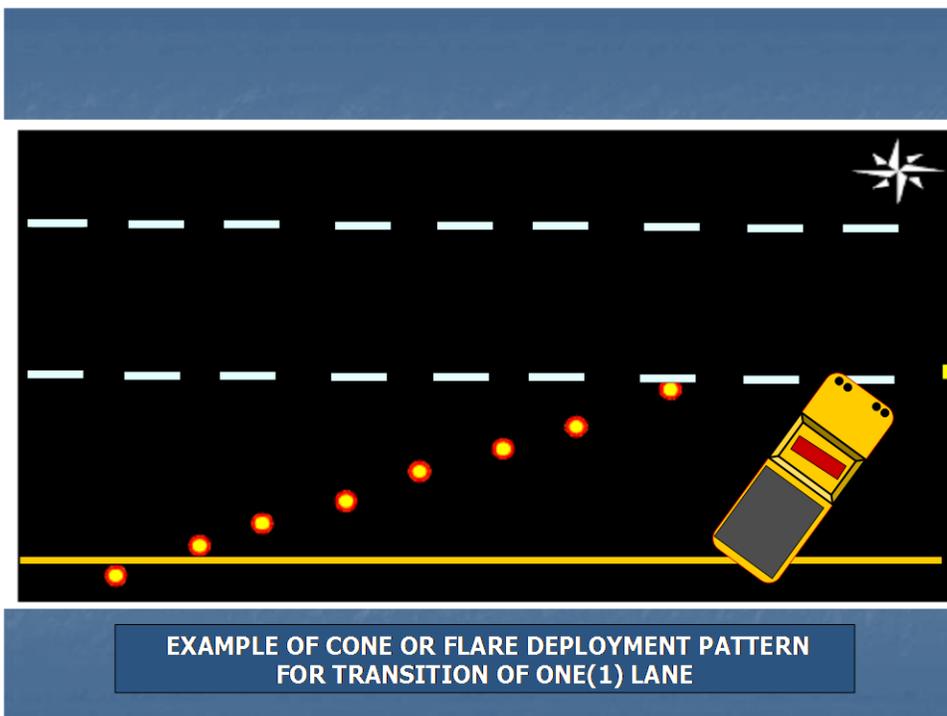


Fig. 1.1

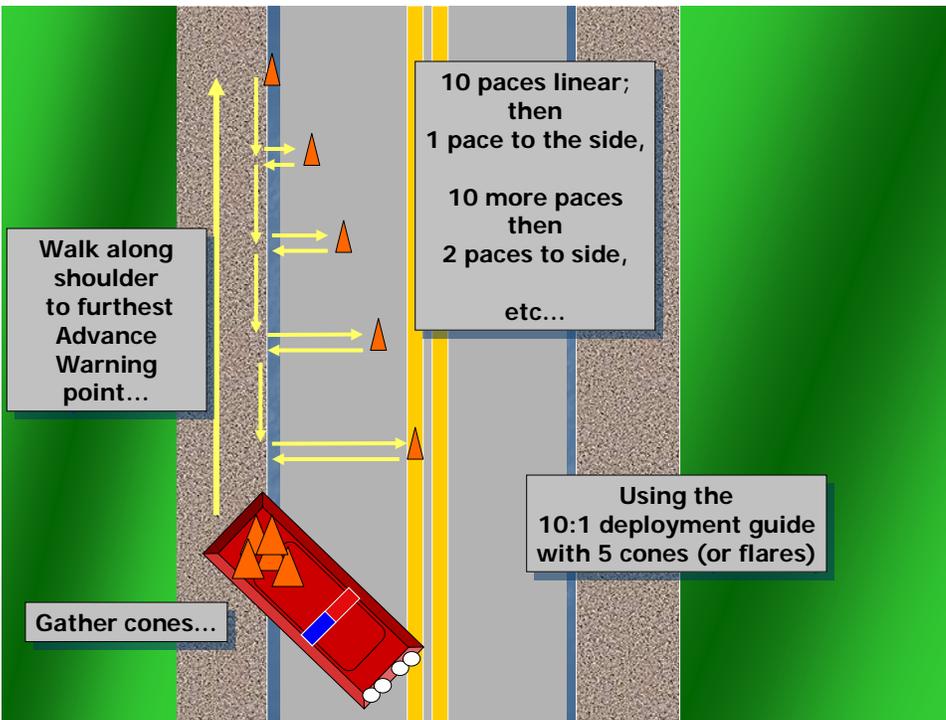


Fig. 1.2

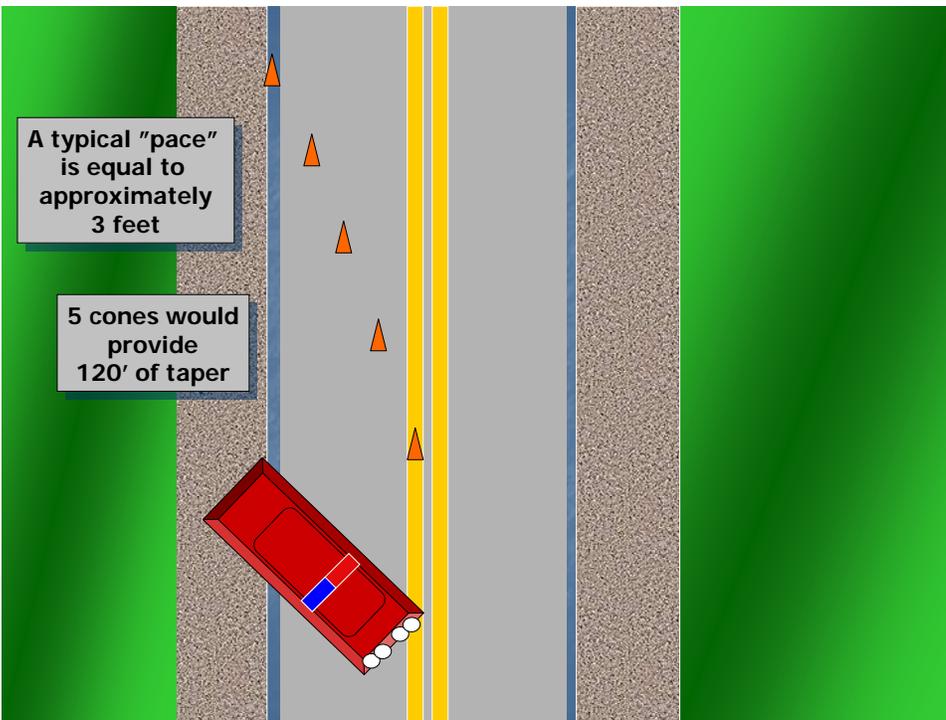


Fig. 1.3

 <p>Standard Operating Guidelines</p>	<b>Series: 205</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>205.06: Driver Safety</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

It is the responsibility of the driver of each Fire District vehicle to drive safely and prudently at all times. Vehicles shall be operated in compliance with the Arizona Motor Vehicle Code. This code provides specific legal exceptions to regular traffic regulations, which apply to Fire District vehicles **ONLY** when responding to an emergency incident or when transporting a patient to a medical facility. Emergency response (Code 3) does not absolve the driver of any responsibility to drive with due caution. The driver of the emergency vehicle is responsible for its safe operation at all times.

**Guideline**

When responding Code 3, warning lights must be on and sirens must be sounded to warn drivers of other vehicles, as required by the Arizona Motor Vehicle Code.

The use of sirens and warning lights does not automatically give the right-of-way to the emergency vehicle. These devices simply request the right-of-way from other drivers, based on their awareness of the emergency vehicle presence. Emergency vehicle drivers must make every possible effort to make their presence and intended actions known to other drivers, and must drive defensively to be prepared for the unexpected and/or inappropriate actions of others.

Fire District vehicles are authorized to exceed the posted speed limit only when responding Code 3 under favorable conditions. This applies only with light traffic, good roads, good visibility and dry pavement. Under these conditions a maximum of 10 mph over the posted speed limit is authorized. Under less than favorable conditions, the posted speed limit is the absolute maximum permissible.

Intersections present the greatest potential danger to emergency vehicles. When approaching and crossing an intersection with the right-of-way, drivers shall not exceed the posted speed limit.

When emergency vehicles must travel in center or oncoming traffic lanes, because all other lanes normally available are blocked, the maximum permissible speed of the apparatus shall be 10 mph under the posted speed limit and a maximum of 20 mph within 100 feet of a four-way intersection.

When emergency vehicles must use center or oncoming traffic lanes to approach controlled intersections, (traffic light or stop sign) they must come to a complete stop before proceeding through the intersection, including occasions when the emergency vehicle has green traffic lights.

When approaching a negative right-of-way intersection (red light, stop sign) the vehicle shall come to a complete stop and may proceed only when the driver can account for all oncoming traffic in all lanes yielding the right-of-way.

Code 3 response is authorized only in conjunction with emergency incidents. Unnecessary emergency response shall be avoided. In order to avoid any unnecessary emergency response, the following rules shall apply:

- When the first unit reports on the scene with "nothing showing" or an equivalent report, any additional units shall continue Code 3, but shall not exceed the posted speed limit.
- The first arriving unit will advise additional units to respond Code 2, whenever appropriate.
- Support apparatus, such as but not limited to, the Rehab Unit, Command Van, Utility Truck & Brush Trucks should **NOT** respond Code 3 unless specifically requested to do so by Command.

- The Water Tender should **NEVER** be driven Code 3 under **ANY** circumstance.

## **Backing**

Drivers shall avoid backing whenever possible: Where backing is unavoidable, spotters shall be used. If no spotter is available, the driver shall dismount and walk completely around apparatus to determine if obstructions are present before backing.

- The driver should never move the apparatus without clearly seeing the backer
- The driver slowly backs the apparatus with the anticipation that something may go wrong
- The backer has visual communication with the driver via mirrors and clear hand signals
- The backer should be a minimum of 10 feet behind the apparatus and off to the side of the vehicle
- The backer has a portable radio as a back-up means of communication with the driver
- The backer should account for “brake lag” when advising the driver to stop. Allow at least a foot of stopping distance when giving the stop signal.

All SUPERSTITION FIRE & MEDICAL (SFMD) employees are **required** to use seat belts at all times when operating a District vehicle equipped with seat belts. Anyone riding as a passenger/attendant in a District vehicle is also required to use seat belts; i.e., ambulance, engine, ladder, utility service van, staff vehicle, etc. The Company Officer and Engineer (or driver) of the vehicle will confirm that all members and ride-alongs are on-board, properly attired, with seat belts on, before the vehicle is permitted to move.

All members shall ride only in regular seats provided with seat belts. Riding on tailboards or other exposed positions is not permitted on any vehicle at any time.

During an emergency response, fire vehicles should avoid passing other emergency vehicles. If passing is necessary, permission must be obtained through radio communications, using the communications order model.

The unique hazards of driving on or adjacent to the emergency scene requires the driver to use extreme caution and to be alert and prepared to react to the unexpected.

Drivers must consider the dangers their moving vehicle poses to emergency scene personnel and spectators who may be preoccupied with the emergency, and may inadvertently step in front of or behind a moving vehicle.

When stopped at the scene of an incident, vehicles should be placed to protect members who may be working in the street and warning lights shall be used to make approaching traffic aware of the incident. At night, all vehicle mounted floodlights and any other lighting available shall be used to illuminate the scene. All members working in or near traffic lanes shall wear high visibility vests.

If it is not necessary to park vehicles in or near traffic lanes, the vehicle should be pulled off the road to parking lots, curbs, etc., whenever possible. The officer in charge or driver of the vehicle is responsible for the safety of all vehicle operations and managing compliance of this procedure.

## **Emergency Response Summary Policy**

SFMD vehicles shall be operated in a manner that provides for the safety of all persons and property. Safe arrival shall always have priority over unnecessary speed and reckless driving en-route to an emergency incident.

### **A. Prompt, Safe Response Shall be Attained By**

1. Leaving the station in a responsive manner:
  - quickly mounting apparatus
  - all members on board, seated and belts on
  - station doors fully open

2. Driving defensively and professionally at reasonable speeds.
3. Knowing where you are going.
4. Using warning devices to move around traffic and to request the right-of-way in a safe and predictable manner.

**B. Fast Response Shall Not be Attained By**

1. Leaving quarters before members have mounted safely and before station doors are fully opened.
2. Driving too fast for conditions.
3. Driving recklessly or without regard for safety.
4. Taking unnecessary chances with negative right-of-way intersections.
5. Intimidating or scaring other drivers.

**C. Emergency Response Criteria**

1. Maximum 10 mph over posted speed limit, if conditions warrant.
2. Traveling in center or oncoming traffic lanes, 10 mph under the posted speed limit, 20 mph maximum within 100ft of 4-way intersections.
3. Traveling in center or oncoming traffic, complete stop at all traffic lights/stop signs.
4. Posted speed limit when entering intersections with green light.
5. Complete stop at all red lights, stop signs.

 <p>Standard Operating Guidelines</p>	<b>Series: 205</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>205.07: Water Tender Response</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

The following guideline describes the dispatch, response and use of water tender apparatus.

**Guideline**

All Company Officers will use their discretion in calling for water tender assistance and should be alert to areas in their response zones that may require the additional water carried on water tenders.

Company Officers who have a water tender assigned to their station may take the water tender with their engine company (but not in lieu of), when the water tender is needed due to limited water supply. This guideline is not intended to provide for the operation of water tenders, as two-piece companies, where a water supply is readily available.

If the company housed with the water tender is not in quarters, Alarm will dispatch the closest available company to pick up the water tender and respond.

The water tender will always retain its home station identification regardless of the assigned crew. Example: "Engine 262 responding with Tender 261".

Personnel assigned to station(s) housing water tenders will maintain and service the water tenders. Companies assigned to respond with a water tender will service, clean and restore the apparatus to an acceptable standard condition of readiness, upon completion of the incident.

 <p>Standard Operating Guidelines</p>	<b>Series: 205</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>205.08: Response to Violent Incidents</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

To provide for the safe response of Fire District companies to incidents involving violence as well as radio guidelines for firefighters and companies in imminent peril.

**Violent Incidents:** are defined as any type of incident in which Fire District members may be exposed to harm as a result of a violent or threatening act.

**Imminent Peril:** is defined as any type of situation, which places a Fire District member in fear for their life/limb as a result of an act of another. (Firefighter down, hostage, assault with a deadly weapon, etc.)

**Code 4:** is term used to describe when police have control of an incident scene or it is used to describe when a person or company is safe and free from any threat.

**Response**

Command will be established on any violent incident assignment as needed.

Alarm will collect as much information as possible from law enforcement (LE) and rapidly communicate that information to responding companies via radio and MCT. The call will be assigned a Fire Channel and the Alarm will closely monitor the incident.

The first arriving unit should either stage in quarters until the scene is secured (if within two (2) blocks of your fire station), and reported as such by the Alarm Room, or proceed with caution as they respond. All other units will follow established staging procedures. In all cases, the first arriving unit or Command will make the decision to stage or to go into the scene. The decision should be based on experience, what can be seen, what can be heard, what can be learned from the radio or the MCT, prior experience in the area--and other factors, unless the scene is not deemed code 4 by LE. If listening to P.D. radio traffic, remember a code 4 given by law enforcement is a report for the Officers ONLY. The scene should be considered secured if the Alarm Room gets a report from LE for Fire Personnel to enter or direct contact with LE is made.

If the decision to stage is made, the Company Officer shall notify Alarm that the unit(s) are staged and their location. This notification to Alarm is in addition to any other communications to the law enforcement agency that the Company Officer may initiate

**When the Decision to Stage is Made**

- Members should consider the hazards at hand. They should stage, level 2 in Quarters if the incident is within two (2) blocks of the station. Otherwise, stage minimum of two (2) blocks from the incident, out of sight of the incident, with at least two means of egress (backing out doesn't count). Please notify LE, through Fire Dispatch, when you are staging in-quarters. Monitor the radio while in-quarters so you will not need to be re-dispatched. All members need to be in a ready-state and not engaged in any other activities. Do not go available unless confirmed with Fire Dispatch.
- Members should remember that the crowd may be a hazard.
- Units should turn off warning lights when staged and then turn them back on when completing the response to the scene. Turning off warning lights at the scene may reduce crowd attraction to the incident.

The best plan may be to retreat if necessary to ensure the safety of the crewmembers.

If Fire District companies respond to an incident of an unknown nature and find themselves in a violent situation, they will immediately retreat to a safe location, if possible. Emergency traffic should be used if necessary and additional resources requested as needed. Alarm should be advised of the need for rapid police response.

### Use Code “906”

During violent situations where fire crews are at risk of danger/injury and need police assistance immediately, use the radio code "906." This is a Police code that means “member needs back-up”. Alarm will immediately advise the police that a fire member/company is in trouble, and has transmitted a "906" code. Company officers must provide details of the situation when able to do so. Under a "906" code, Alarm will not ask the company for details or why the police are needed.

If possible: Should a Fire District member encounter a situation, which places him/her or the company/unit in imminent peril, the following guidelines should be followed

- The member/Company Officer should respond with the unit designation/name, the location, and nature of the emergency, if possible (firefighter down, shots fired, etc.).
- Alarm will immediately respond PD to the location code 3. (If possible, advise Alarm of the location of the threat.)
- No other units will be sent to the scene. However, based on the information given, other FD companies/units will be dispatched to a safe staging location, and will wait for PD’s code 4.
- Should the **Emergency** button on the MCT be used, Alarm will query the unit verbally for a “*code 4 check?*” The Company Officer/member must respond as follows: “***Unit designation, is code 4, apparatus vehicle number (25\_)***”. Any other statement, or lack of communication, will cause Alarm to assume the unit/member is in imminent peril, and PD will be sent code 3, to the last reported location.
- In situations where the unit/member wants Alarm to monitor their status, (VI, hazardous situations, etc.), the unit/member may request, “*code 4 checks*” every \_\_ minutes. The member requesting must give their location and his/her city employee ID number to Alarm. Alarm will then start the timer. Alarm will ask verbally for a “*code 4 check*”, and the member must respond; “***unit designation, is code 4, member ID number \_ \_ \_ \_***”). Any other statement, or lack of communication, will cause Alarm to assume the unit/member is in a violent situation, or imminent peril, and PD will be sent code 3, to the last reported location.

In some unsecured violent incidents, with patients, it may be necessary for the LE to deliver the patient(s) to fire companies at the perimeter (they become the Extrication Sector).

 <p>Standard Operating Guidelines</p>	<b>Series: 205</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>205.09: Freeway and Highway Response</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

Fire District operations involving freeway and highway incidents include problems as wide and varied as any confronted by the fire service. The types of incidents include accidents with minor injuries to large chemical releases. With the realization of the potential problems, a hard and fast plan may not be successful. Flexibility and decisive command, based on background knowledge, preplanning, and services available should produce a successful operation on any freeway or highway incident. The following pages provide background and guidelines.

**Dispatch Information**

1. Type of incident
2. Location
3. Freeway OR on-off ramp
4. Highway direction of travel
5. Cross street (if applicable)
6. Add lane involved (HOV,1,2,3,4,ect.)
7. Traffic conditions (if known)
8. All other information received, concerning the incident.

**Response**

- Motor vehicle accidents and other medical incidents will be dispatched as MED or MED2.
- Vehicle fires will be dispatched as CARF (exception; Haz-Mat. involved).
- Hazardous Materials incidents will be dispatched by the CAD selection system and Event Type identification:
- Small spills or leaks, unusual odors, stable, no fire or victims - HAZ with 1E, 1L/LT and HM/HMT.
- Large spills or leaks and/or unstable situation with or without victims, or any Haz. Mat. involved in fire – HAZMAT with 2E, 1L/LT, HM/HMT, B, 3HAZMAT, CV, U, SO, SAF.

Alarm will notify Arizona Department of Public Safety (DPS) of any incident that occurs on the freeway, US60, or SR88.

The appropriate law enforcement agency may be called upon for assistance if necessary, as response may be delayed due to response distance or availability.

Consider using law enforcement personnel for evacuation of inhabited areas during chemical emergencies. Law Enforcement may shut down the freeway or highway completely when Fire District Command feels the situation requires this action.

**Topography**

Each Company Officer is responsible to research or know the location of hydrants and access to the freeway. Plat maps have been supplied showing designated hydrants and canals as primary water supply sources.

It is best to assign an Engine Company to the desired hydrant for hose lays and water supply. Water supplies

and other problems must be pre-planned by first due officers. Command may choose to shuttle the water supply, rather than lay hose lines if he/she believes the situation can be better handled in this manner.

#### **A. Typical Problem Considerations**

1. Early call for additional manpower to handle hose lines that may have to be extended long distances, over many obstacles.
2. Relay pumping probabilities.
3. Special equipment needs (tankers, water tenders, foam, sand, tow trucks, lights, etc.)
4. Early notification for traffic control.
5. Control of automatic lift stations at underpasses.
6. Sewer waste and storm drains (when dealing with spilled products).
7. Peak traffic hours.
8. Access to the freeway or highway (ladders, on/off ramps, etc.).
9. Liquid transfer equipment.
10. Need for gas detector to check drainage lift stations for explosion hazard.
11. Notify Arizona Department of Transportation (ADOT) to respond to pump station and set pumps to manual position
12. Alarm may receive information on a freeway incident from DPS or other sources. Communications must be established and maintained with law enforcement to assure that needed information is exchanged during an incident.

In many cases law enforcement will arrive first at an incident and may be able to provide updated information on traffic conditions and access. This information should be relayed to responding companies immediately. Units should attempt to reach the scene in the direction of travel of the reported incident, unless otherwise directed.

The Company Officer on a responding unit is responsible for redirecting other companies or having Alarm dispatch additional companies if it becomes apparent that the first company will be unable to reach the incident due to traffic congestion.

#### **B. Approach and Staging**

1. Avoid using sirens when approaching an incident. Units responding to calls on the freeway will respond with hazard lights on (rear blinking signal light - front yellow signal lights). Code 3 lights are not recommended, but may be used, if deemed necessary.
2. Use rear lights, flares, reflectors, or cones as required or directed by DPS officer, i.e., on the scene. Traffic control and warning devices should be left to DPS whenever possible. (The use of front warning lights tends to confuse on-coming traffic.) Communicate quickly with law enforcement regarding the use of flares whenever flammable liquids are present, leaks, spills, etc.
3. It is recommended that staged units be parked downstream of the incident, this will aid in not diminishing the effectiveness of the "Blocking Units".

#### **C. Other Safety Considerations**

1. Leave a person (usually the Engineer) to watch the traffic and set up warning devices. Parking brakes are to be set and the apparatus spotted at a 45-degree angle in the direction you want traffic to flow.
2. Consider parking above or below (on access road) if the traffic conditions are such that entry is impossible or difficult.
3. Where the freeway is elevated, a ladder is effective to gain access and to effect evacuation from above. (Traffic must be considered)
4. Lifelines may be used to ascend or descend the steep embankments.
5. Only the apparatus that is absolutely necessary should be taken on the freeway.
6. Place the apparatus between you and the on-coming traffic creating an initial "Block", if

- necessary, for safety reasons. Otherwise, position apparatus in the emergency-parking lane or on the shoulder, as far off the traffic lanes as possible.
7. If pump on an apparatus is needed on a freeway incident, the Driver should position the apparatus to protect the pump operator.
  8. Do your job as rapidly as possible and then clear the traffic lanes (30 min or less).
  9. In sections of depressed roadway, it may be faster to have a company above "drop" a line from above.
  10. Some sections of the freeway have limited access to hydrants and will require laying hose for long distances from on-ramps if a supply line is needed. Relay pumping, a Water Tender or tank water should be considered in these cases.
  11. In major incidents involving several injured, notify alarm to stage all ambulances at an access ramp designated by Command. Command will then order the ambulances on to the freeway on request of the transportation officer.
  12. On hazardous materials incidents, apparatus will be placed in safe locations, i.e., upwind and uphill. Avoid becoming a part of the problem by careful size-up and use of personal protective equipment.
  13. Establish sectors early on large-scale incidents.
  14. Loosen tension on cable barriers for safety and extrication (cut only as last resort). *Cable Barrier System* – A 3 or 4 cable barrier designed to separate opposing traffic lanes.

In some cases, law enforcement may advise the best access is via specific on ramps or by travel against the normal traffic flow if traffic has been stopped. Units should proceed in the opposite direction to normal traffic flow ONLY at the specific request of law enforcement, when it is assured that all traffic has been stopped.

On multiple unit responses, the first unit approaching or entering the freeway within a mile of the incident will report his/her identity, location and direction. Other units approaching will then stage, preferably near an on ramp to avoid premature commitment to the mainline.

#### **D. Command**

The first unit arriving on the scene, when three or more vehicles are responding, will establish Command and give an initial report. The initial report should include:

1. Traffic Conditions
  - a. Stopped
  - b. One lane open
  - c. All lanes open
2. Fire/No Fire (smoke showing, working fire, fully involved)

#### **E. A Follow-Up Report**

1. Injuries/no injuries
2. Extrication needed
3. Evacuation
4. Hazardous materials spill
5. Call for necessary help and/or additional alarm

#### **F. Command Post Location**

The Command Post location should be carefully chosen for major incidents, to allow access and a good view of the scene.

An overpass may provide a view of the scene for incidents on depressed roadway sections.

#### **G. Unified Command**

It's important to establish a single "Unified Command" Post as soon as possible. Key agencies at this Command Post will be the Superstition Fire & Medical District (SFMD), the Arizona Department of Public Safety (DPS), the Arizona Department of Transportation (ADOT), and if

freeway traffic is being diverted to city streets, the appropriate law enforcement agency will need to be party to the Command Post operation.

It's important to physically assemble all representatives at a single location as soon as possible. This may require the initial Fire District commander to search out the appropriate representatives from each agency. Once a physical location for the Command Post is determined, all agencies should advise their dispatchers of that location.

Dispatch centers must be advised of any changes in the Command Post location (i.e. moving into a Command Van and its physical location).

When the Fire District is first to arrive, the Incident Commander must announce the command vehicles identity (i.e. E261, Battalion 261) and the vehicle's location (i.e. 50 feet east of the accident). Dispatch will relay the location to law enforcement. Dispatch must be advised of any change of Command Post locations.

Use of the Fire District sector vests and Command Officer vests will facilitate the Command Operation and allow other agencies to find key persons at the incident.

#### **H. Liaison with Law Enforcement**

Command will establish a liaison with law enforcement (DPS, AJP, PCSO, MCSO) at the scene as quickly as possible. In serious incidents an officer with a portable radio may be designated to specifically handle a Law Enforcement Liaison Sector.

The primary responsibilities of liaison with law enforcement include traffic control and directing the approach of additional resources needed at the scene and crowd control. Law enforcement can provide resources from ADOT and heavy tow trucks. They may also provide a helicopter for medical evacuation and/or aerial surveillance, on request.

Command should consider the advantages of having a law enforcement officer (with radio) assisting at the Command Post.

#### **I. Drainage**

In cases of flammable liquid or other hazardous material spills on the freeway or highway, particular attention must be paid to drainage.

Pumps are provided at several locations to evacuate storm waters from low spots. These pump rooms could become filled with flammable vapors and cause an explosion when the pumps start automatically. These should be checked with gas detectors and the pumps should be switched to manual control by ADOT.

 <p>Standard Operating Guidelines</p>	<b>Series: 205</b>	<b>Volume II:</b> Standard Operating Guidelines
	<b>205.10: Power Line and Electricity Response</b>	
	<b>Effective Date:</b> September 2014	<b>Revision Date:</b> September 2014
	<b>Approved by:</b> Emergency Services	

**Purpose**

This guideline will establish a standard approach and response to the report of power lines down and other responses to energized electrical equipment. Power lines can come in contact with the ground as a result of storm related activity, fire, or vehicles striking power poles. In all cases, the potential for electrical shock/electrocution and secondary fire must be considered.

**Electric Safety Awareness**

Electricity will travel any conductive path it can as it seeks a ground. A direct path to ground can occur when contact is made between something energized and a portion of your body such as your hand, arm, head, or other body part. An indirect path to ground occurs when you are holding something or touching an object that is in contact with something energized. This could include tools or other equipment you may be holding or when touching a fence, vehicle, or other object that may be in contact with something energized.

**Gradient Voltage (Step and Touch Potential)**

When power lines are down, they will energize the ground around them. For Example: point of ground contact could be 7160 volts. This voltage will lessen as it radiates out from this point; for example, 6000 volts. If your feet are in areas where there is a voltage difference, you could complete the circuit and be the source to ground. This is called “step potential.” This danger could be indicated by a tingling sensation in the feet and serve as a warning to back away from the area. Step potential is more severe when the ground is wet.

**Key Points**

Downed lines must always be considered energized with potentially lethal current.

Lines can reset and become “hot” or “energized” again by manual operation of a switch, by automatic re-closing methods (either method from short or long distances away), by induction where a de-energized line can become hot if it’s near an energized line, or through back feed conditions.

Power line tends to have “Reel Memory” and may curl back or roll on itself when down.

Use caution when spraying water on or around energized electrical equipment. Hose streams conduct current! Never spray directly into the power lines. Use a fog spray at the base of the pole. Your primary responsibility is to protect the surrounding area. Short bursts of water are preferred methods to avoid being grounded. Never spray water onto electrical equipment until a utility rep has confirmed that the equipment is de-energized or “dead.”

Electrical equipment is classified as:

- Energized
- De-energized (cannot be 100% guaranteed)
- Dead (confirmed by utility representatives after grounding the lines(s)).
- PCB hazards: Smoke potentially fatal; avoid and contain pools of oil around transformers.
- Poor soil resistance in the desert southwest may not provide enough of a ground to trip a circuit even when a conductor is laying on it.

- You cannot tell the voltage of a power line by the size of the conductor. Most overhead conductors are not insulated.
- Voltage can travel through both dry and especially wet ground for considerable distances.
- Pad-mounted and overhead transformers can explode.
- Until grounded, equipment can contain electric potential, which can cause severe injury or death.
- Electricity can flow through the ground or other conductive objects, (fences) to point far from the scene.

 <p>Standard Operating Guidelines</p>	<b>Series: 206</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>206.01: Protecting Our People</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

We are no longer immune from violent attacks by the people in our community we are trying to help. Violence is widespread and can occur on virtually every call we respond to. Anytime alcohol is involved we may find people out of control. Gang violence is a concern as drugs and crime add to violent acts in our community. In all of these cases, firefighters may be called upon to treat and help victims.

The first priority in arriving at the scene is to provide a protected environment for firefighters to work in. If the call is described as one in which violence has occurred and you are not yet staged; stage according to violent incident procedures, as indicated. Firefighters can also be surprised by a scene, which becomes violent when it was initially safe. What may look like a routine call, can turn into a deadly encounter. A patient or bystander can pull a gun, a knife, or crowds can surge towards firefighters.

The following guideline will describe how to secure the scene before action is taken.

**A. Scene Security**

1. String fire line tape to provide an established barrier between firefighters and the crowd. Fire line tape is a good divider. It provides a control line for LE to enforce. The tape is generally received well by citizens as needed by emergency personnel to provide control of an incident. Fire line tape should also be considered to divide large crowds and allow police to maintain control.
2. Call law enforcement (LE) to secure traffic and crowds. This is the primary responsibility of police at the scene of a fire department emergency. When police arrive, a Fire District member should establish liaison with the on-scene ranking police officer. Explain to them what is needed to control the scene; more officers should be called if necessary.
3. Provide for lighting when indicated. More serious violence usually occurs in the dark. All emergency responders will be able to see more of the scene when good lighting is provided.

**B. Size-up**

While responding to the scene all members of the crew should consider the violence potential of the type call they're responding to. In all cases violence involving firefighters is possible. Given the type of the call, Alarm will automatically contact LE for support.

A shooting, stabbing, fighting (domestic or public) should be a red flag for more violence. A man down, suicide, and overdose must be closely evaluated for potential violence. Gang violence will receive automatic LE dispatch. Do not hesitate to call for LE if you believe something about the call is potentially violent.

Size-up starts as soon as you receive the call. Initial and follow-up information available from alarm can be important. (In most cases, LE will be on the scene prior to our arrival and may have Fire stage when the scene is still dangerous or unstable.)

**C. What to Look For**

1. LE on the scene.
2. Nature of the call.
3. Type of injuries.
4. Drugs/alcohol/altered level of consciousness.
5. Is the fight still in progress?

6. How many units responding (establish staging).
7. Is the person still on the scene that caused the injuries?
8. How many people are involved.

Parties should be a red flag for dispatching LE. Upon LE arrival, make contact with the ranking police officer and describe what security is needed.

Public Perception is not always positive. Some people may fear detection of criminal activity and do not respect our profession or us. They may have caused the injury such as a domestic or gang confrontation. They may not want the patient to receive emergency care.

#### **D. Some Dangers Signs**

1. Antagonism towards us.
2. Verbal abuse.
3. Lack of cooperation.
4. Passive and cooperative may still be considered a threat.

When dealing with customers with an altered level of consciousness as a result from alcohol/drugs or mental illness, we need to introduce ourselves as firefighters, and that we are here for them and ask what we can do to help.

Uniforms sometimes can be threatening to certain people. They may confuse us with the police or may not like any authoritative type figure. To prevent confusion about who we are, introduce yourself as a firefighter, as soon as possible.

Always be aware that a weapon may be on a person or nearby and out of sight. Train yourself to look for them; between car seats, waistbands, jackets, and loose clothing.

#### **E. Spotting the Apparatus**

Residence:

1. Turn off siren several blocks away if possible.
2. Drive by slowly and pass the house.
3. Spot the vehicle approximately 100 feet past the residence or 100 feet before. This will allow us to approach the scene from a safe position (direction).

#### **F. Approaching the Building**

1. Do not slam door of apparatus or vehicle.
2. Keep volume low on radio.
3. Gain information before entering house.
4. Look and listen before entering house.
5. Listen for arguments or fights/number of voices you hear.

#### **G. Apartment Buildings**

1. Keep the elevator door on manual so it will remain open.
2. Check stairwell doors to make sure they are unlocked to provide an escape route.
3. Contact and control:
4. The contact stands on the doorknob side of the door. This will require the person opening the door to open it wide to see you.
5. If there is a screen or security door, position yourself on the doorknob side of the inner door. Be subtle and non-aggressive in positioning yourself. Greet the homeowner with a friendly demeanor.
6. Never Stand Directly In Front Of The Door.

#### **H. Entering the Structure**

1. Introduce yourself.
2. Dog (hold down doorknob) ask for the dog to be secured.

3. If they ask you to come in, ask them to open the door.
4. If they insist, ask them why they can't come to the door.
5. Consider the risks involved when looking into a window.
6. Scan room for weapons, alcohol, drugs, and signs of violence.
7. Look for signs of weapons (bulges in their clothing, watch their hands).
8. Keep crew in sight at all times. Never leave a crewmember alone.
9. Have at least two crewmembers together at all times.
10. Have the person who answered the door lead you to the patient.

#### **I. Separating Disputants**

1. Injuries from domestic disputes are reported as accidents (falls, etc.)
2. Don't stand between disputants
3. Separate disputants by taking them to an area where they can't see or hear one another (at least two crewmembers should be together); separating them will help calm the situation.

#### **J. Spotting the Apparatus and Approaching a Vehicle**

1. Park unit to the rear of the vehicle (a full length from vehicle).
2. Slight angle to driver's side protection barrier from traffic.
3. Use safety cones where necessary.
4. Use safety vests.

#### **K. Interviewing Stance**

1. If you suspect violence, stand at a partial right angle out of arms reach (they must turn to attack you).
2. Don't stand against a wall.
3. Don't fold arms (judgment).
4. Don't put hands in pockets (appear unconcerned).
5. Use physical barriers (coffee table, chair, etc.) between yourself and a potential violent person.
6. Move people away from makeshift weapons.
7. If you see a weapon, call LE, retreat to a safe area.

#### **L. DO**

1. Pay attention to any information provided by Alarm.
2. Have one of the portable radios tuned to LE (if you have the capability).
3. Once on the scene, be aware of your surroundings and impending danger.
4. When approaching the scene and while on-scene, display a confident/in-control attitude ("Command presence").
5. Always look for the informal or designated leader of a potentially violent group and attempt to visually monitor and, if possible, make a personal contact to ease tensions.
6. Clear the scene of potentially violent materials.
7. Set up fire line tape to help secure perimeter.

#### **M. DON'T**

1. Get lulled into a false sense of complacency (we've been here 10 times before attitude).
2. Ignore the potential for violence on any call we go to including travel to and from the call and trips back and forth to the apparatus while on-scene.
3. Ignore your gut feeling when it doesn't feel right, it probably isn't.
4. Be confrontational be confident, but not abusive to anyone or any group.
5. Be an easy target call for assistance early and be prepared to bail when the need arises (don't be a dead hero).

#### **N. Response to Power Lines Down**

1. Request utility company to respond.

2. Consider all down wires as “energized.”
3. Place apparatus away from “down lines and power poles” and out from under involved overhead lines that could fail and fall onto equipment or personnel.
4. Secure the area/deny entry.
5. Periods of high activity; company officer may choose to leave one (1) crewmember on-scene with a radio to wait for utility company.
6. In the event of multiple lines/poles down over a large area, call additional resources.

**O. Down Power Lines and Vehicles**

1. Request utility company to respond.
2. Do not touch vehicle
3. Have occupants remain inside the vehicle
4. Place apparatus a safe distance away from down lines.
5. If occupants must leave the vehicle (fire or other threat to life) instruct them to open the door, not step-out! They should jump free of the vehicle without touching vehicle and ground at the same time; they should walk away from the vehicle with very small steps.

**P. Sub-Station, Transformer, Electrical Vault and Manhole Fire**

1. Request utility company to respond.
2. Clear the area.
3. Be aware of explosion potential.
4. Place apparatus in a safe location away from overhead power lines.
5. Protect exposures.
6. Do not make entry until the utility representative has verified that the above electrical equipment has been de-energized. The utility representative may have to make entry to uninvolved sections to safely de-energize the equipment.

**Q. Response to Power Pole Fires**

1. Request utility company to respond.
2. Consider all wires and poles as “energized.”
3. Place apparatus away from “down lines and power poles” and out from under involved overhead lines that could fail and fall onto equipment or personnel.
4. Secure the area/deny entry.

Do not make any fire attack until the utility representative has verified that the electrical equipment has been de-energized.

 <b>Standard Operating Guidelines</b>	<b>Series: 206</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>206.02: Supervising Less Experienced Personnel</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

The purpose of this guideline is to describe the requirements necessary for supervising less experienced personnel at working incidents.

The integral part of safe operations at an incident site is that the fire company functions as a team, supervised by the Company Officer. The Company Officer is responsible for the supervision and welfare of all personnel in his/her company and other firefighters assigned to his/her supervision.

It is important to recognize that firefighters gain "experience" at different rates. Experience levels depend upon time on the job, number, type and intensity of past incidents, and the quality of supervision and training that the firefighter has gained.

It is also important to recognize that inexperienced personnel caught in a hot, smoke-filled environment with zero visibility, or other hazardous or unfamiliar environment, can easily take inappropriate action resulting in injury or death to themselves or others.

With the arrival of a new or less experienced firefighter to the company, the Company Officer and all crew members assume responsibility for the new firefighter.

For the purpose of this document, a "less experienced" firefighter is defined as:

- A. Probationary firefighter.
- B. Any member with less than two years total experience assigned to firefighting duties.

It should be noted that two years firefighting experience, does not necessarily qualify that individual as experienced. Firefighters may still require direct supervision.

It will be the responsibility of the Company Officer to determine the experience level of all fire fighters assigned to his/her company through the following methods:

**A. Interview**

Interview the firefighter to determine time assigned to firefighting duties, previous assignments, type and amount of prior experience.

**B. Evaluate**

Evaluate the firefighters proficiency in hose lays, SCBA, ladder, evolutions, etc. Determine the firefighter's knowledge of firefighting and safety procedures. Interview previous Company Officers on the firefighter's past performance.

**C. Training**

Provide frequent and appropriate training to improve skill levels and maintain proficiency.

**D. Follow-up**

Provide follow-up evaluation and training. Evaluate the firefighter's performance at each incident. Interview other firefighters who worked with the firefighter.

Those firefighters who are determined inexperienced will be directly supervised by the Company Officer or a firefighter with greater than two years total firefighting experience.

Direct supervision will be required at the moment the firefighter enters an area that exposes the firefighter to potential injury or death. Examples include:

- A. Entering a building involved with smoke or fire.
- B. Approaching a potential collapse area.
- C. Potential explosion or flash fire.
- D. Approaching a hazardous materials incident.
- E. Entering an area where hazard line tape is present.
- F. Any other area that could cause injury or death to the firefighter.
- G. Providing direct patient care on EMS incidents.

The fact that a firefighter meets the time in assignment criteria to be an experienced firefighter does not relieve the supervisor of his/her responsibilities. All personnel at an incident will be supervised by and accountable to a Company Officer or Command Officer.

The experienced firefighter may be permitted, under appropriate and safe circumstances, to function at an incident without direct supervision of a Company Officer.

 <p>Standard Operating Guidelines</p>	<b>Series: 206</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>206.03: Personnel Protective Gear</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

The purpose of this guideline is to assign responsibility for the care and maintenance of protective firefighter clothing/equipment to ensure the safety of our members.

**Responsibility**

Each firefighter is personally responsible for their assigned protective firefighter clothing/equipment. Assigned clothing/equipment must fit and operate properly, be clean and in good repair.

Each Captain is responsible for performing a monthly protective firefighter clothing/equipment safety review. The Captain is also responsible for assuring that any firefighter clothing/equipment safety issues are corrected immediately

**Definitions**

- Full protective clothing **Structural** - helmet, turnout coat, boots with turnout pants, gloves and hood.
- Full protective clothing **Wildland** - Brush Jacket (standard turnout coat with liner removed may be used if brush jacket is not available), Brush Pants, helmet with goggles (lightweight helmet preferred), protective shroud or hood, gloves, and boots (at least 6" leather boots required), and filter mask.

**Response**

If in quarters, all members should dress prior to response. It is the intent of this guideline that members are fully prepared to engage in firefighting activities in a safe manner prior to entering any hazardous activity.

Full protective clothing and SCBA will be worn and operational, at all times when operating on the fireground, unless otherwise directed by Command. The use of PPE (including SCBA) during overhaul is strongly recommended due to significant cancer related risks from continued off-gassing and smoke production.

All members should wear the proper protective clothing to have complete personal protection while operating at EMS incidents. Pants or 962's are highly recommended during scenes that may produce bodily fluids (codes, childbirth, etc.).

When operating forcible entry equipment and tools, full protective clothing will be worn, including safety glasses/goggles and gloves.

Safety glasses or goggles should be utilized any time the need for eye protection is apparent, such as grass fires, during operations out in dust storms, landing helicopters, and any other fires where the SCBA is not being worn.

Gloves will be worn when engaged in firefighting, overhaul, training with ladders, using power tools, and any other situation where injuries to the hand are likely to occur.

In specific situations for which no guidelines have been provided, members and supervisors will decide on the proper protective clothing to protect against all foreseeable hazards.

**A. Safety Vests**

Safety vests will be worn any time Fire District members are operating in a roadway and not wearing a turnout coat. This includes roadway apparatus backing and any directing of traffic.

## **B. Helmet Identification**

All helmets are to be labeled in the following manner:

1. The front of the helmet shall have an SFMD logo.
2. The rear of the helmet will have the name of the firefighter (3/4 inch letters). Last names only to be used.
3. A small bracket to hold a small flashlight may be mounted on the helmet.
4. A small bracket to hold an SFMD helmet cam.

Company assignment shall be designated by the unit identification system. Helmet tags will be placed on both sides of the helmet to identify unit assignment. Extra helmet tags should be kept on a tag-board which is typically located inside the Captains office. Leave pool members, work-trades and overtime members will place appropriate unit designation on their helmet at the start of each shift. They should also place the helmet tag back at the original location at the end of their shift.

 <b>Standard Operating Guidelines</b>	<b>Series: 206</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>206.04: Knox Keys</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

To create an inventory, tracking and accountability system for all the KNOX keys assigned to Superstition Fire & Medical District (SFMD) emergency vehicles. This key inventory includes KNOX keys from all departments in the Automatic Aid System.

KNOX keys need to be managed with tight security and accountability at all times. Keys must be secured in the apparatus key box when not in use. The loss of a KNOX key may result in the city having to re-key all boxes that are affected by the lost key or keys. The Company Officer is responsible for their assigned apparatus, all apparatus equipment and the KNOX keys assigned to the apparatus.

Each Accountability Day, Engineers will be responsible for the verification of the Knox Keys on their assigned apparatus. Complete the [KNOX KEY VERIFICATION FORM](#) utilizing the Master Knox Key Inventory list to verify correct key numbers for each assigned apparatus. On completion of electronic form, click “submit” and send. This form automatically forwards to Fire Prevention.

**Procedure**

Check Apparatus Knox Keys and confirm against the Master Knox Key Inventory List

- Complete Knox Key Verification Form
- Forward form electronically to Fire Prevention
- If Knox Key numbers do not match the Master Knox Key Inventory list, contact Battalion Chief.
- Battalion Chief will investigate the number mismatch and rectify issue, or Battalion Chief will notify Fire Prevention.

 <b>Standard Operating Guidelines</b>	<b>Series: 206</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>206.05: Aggressive Bees</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

The purpose of this guideline is to outline the Superstition Fire & Medical District (SFMD) response to aggressive bee incidents.

**Alarm**

Fire District notification from the public concerning aggressive bees will be made either through the 9-1-1 system or through the non-emergency alarm number. Any time an aggressive bee call is initiated by the public, a general standard set of protocol questions will be asked. Unit response will be based on the reporting party's answers to the questions.

Bee sting incidents, in which patients are experiencing dyspnea, unconsciousness, severe hives, or neck and facial swelling (patient in distress), will be dispatched as a Med assignment.

Bee sting incidents in which there is only local pain and swelling (patient not in distress) will be dispatched as a Med 2 assignment.

All other bee calls will be dispatched as special assignments.

**Unit Response**

Units responding to bee incidents will stage a safe distance (approximately 1/4 mile) away from the swarm to allow rescue personnel to properly prepare their protective equipment, as listed in the Personal Protection Section of this procedure. The unit will then proceed to the immediate scene, position upwind if possible, approximately 150 feet away from the swarm, hive, or attack victim.

**Personal Protective Equipment for Responders**

Fire District members responding to a report of aggressive bees will wear the following personal protective equipment:

- Full structural turnouts, SCBA mask, SCBA and Structural gloves **OR**
- Full Bee suit with Structural Gloves

All exposed skin areas will need to be covered. Duct tape will be used to tape openings around turnout legs and boots, jackets at the wrist and jackets at the pants. Turnout's jacket collar should be in the up position to protect the neck area. Nomex hoods are recommended for additional protection.

Bee helmets should be donned and then bee veils donned over the helmet. The bee veil should fit securely on the helmet and over the face and neck.

All Fire District members with a known allergy to bee stings should notify their immediate supervisor. All reasonable attempts will be made to exempt members with bee allergies from responding to bee related incidents. In the event that a Fire District member with a known allergy to bee stings is dispatched to a bee related call, that person will remain in an enclosed portion of the apparatus and will not become involved in victim rescue, treatment, bee investigation, destruction, or any other situation where there is a higher than normal possibility of a bee sting.

## **Victim Rescue/Removal**

If the victim is down or under attack by a bee swarm, rescue personnel will use the 1 ¾" hose line, pumped with a 3% solution of CLASS A FOAM. A wide fog pattern will be used to kill the swarm and rinse off the victim and protect rescuers while the victim is being removed to a safe refuge area such as a house, business, or waiting ambulance. The refuge area should be kept as cool as possible to further immobilize any possible remaining bees. CLASS A FOAM or any other soap solution will rapidly kill the bees.

## **Patient Treatment**

Bee attack victims will receive supportive care, ALS as necessary, and be transported to the nearest appropriate facility as rapidly as possible. Follow protocols for allergic reaction. After dispersing and/or killing the swarm and removing the patient to a safe area, disrobe and rinse the victim thoroughly to remove excess bees. The victims clothing along with any remaining bees will be placed in a plastic bag and sealed. Be cautious of crawling bees or remaining members of the swarm.

Scrape remaining stingers and venom sacks off of the victim using a straight edged object, such as a credit card. Do not use tweezers to remove stingers and/or venom sacks. (There is currently no anti-venom for bee stings).

## **Special Assignments**

### Investigation of Swarms or Feral Colonies on Private Property

Bee complaints are calls for service like any other call and will receive immediate attention. A case will be generated and an incident report completed for all bee responses. Medical bee responses will be Final Type 32; non-medical bee responses will be Final Type 50.

In situations where the bees are non-threatening and non-aggressive, and on private property, the property owner will be told to contact a bee removal company listed in the phone book. Fire District members should not make recommendations for specific removal services.

## **Special Considerations**

Bee swarms that pose an immediate threat to highly populated areas such as schools, parks, or large gatherings can be destroyed by the application of firefighting foam mixed in a 3% solution. Outside bee applying foam in a fog pattern can quickly destroy swarms. As the bees fall, reapply foam to newly exposed bees. Normal dishwashing liquid can also be used and is just as effective.

Bees in enclosed spaces can only be destroyed by the use of pesticides.

Bee attacks on animals may not be a threat to the public. Fire District members will not unnecessarily risk injury or routinely commit apparatus to the rescue of animals. However, community relations are important. If a bee swarm is perceived to be a threat to the public, and if Class A Foam can be used safely, it may be appropriate to destroy a swarm based on the Captain's assessment of the situation.

General bee complaints and bee removal where no stings are involved will be classified Final Type 50 and an incident report should be generated. Bee sting incidents will be classified as Final Type 32 and an incident report should be generated.

## **Other Considerations**

Bees are an important part of our environment. Bees are responsible for pollinating 1/3 of the food consumed in the United States. Random destruction of any and all bees could have significant impact on our agricultural economy. This tactical plan is intended to address rescue, removal and treatment of bee sting victims, not for the general eradication of bee colonies that pose no threat to the general public.

If the incident is in close proximity to a school, a day care center, or other building with numerous occupants, the school principal, day care owner, building manager, etc., should be contacted and advised to keep all building occupants indoors and to close all external openings until the incident is terminated.

If CLASS A FOAM is used to control a bee situation, the area should be thoroughly rinsed after the incident

is completed to limit the corrosive effect of the CLASS A FOAM agent on private or public property.

### **Care and Maintenance Procedures**

All employees are responsible for performing frequent audits of their own PPE to assure proper fit and function. The Company Officer should also perform audits of his/her crew to identify any deficiencies or needs which can be addressed through replacement or repair.

### **General Condition of Turnout Clothing**

- Cleanliness -Turnout clothing including outer material and liners should be clean and free of excessive dirt, grease or other contaminants.
- Integrity - Outer material and inside liners should be in good repair and without tears, holes, frayed material or discoloration.
- Reflective Tape - Reflective tape should be visible and complete. The tape should be securely attached and without frayed ends or loose sections.
- Check for proper fit.

### **Turnout Jackets**

Turnout coats should be reviewed for:

- The integrity of the shoulder seams by pulling the material.
- Excessive wear at elbows.
- Rips or Tears on wrist cuffs or fraying at wristlets.
- Proper fit.
- Damaged buckles.
- Worn Velcro, which may no longer create an effective seal.
- Wear or frayed material at the collar.
- Buckles/snaps that attach the liner to coat.

### **Turnout Pants**

Turnout pants should be reviewed for the following specific items:

- Excessive material wearing at the knees.
- Integrity of the crotch seam by pulling on the material.
- Fraying or wear at pant cuffs.
- Damaged buckles.
- Worn Velcro, which may no longer create an effective seal.
- Buckles/snaps that attaches the liner to the pant.
- Proper fit.
- Boots

Turnout boots should be reviewed for:

- Excessive wear, cracking, tears or cuts.
- Separation of seams.
- Potential leaks

## **Nomex Hoods**

Hoods should be reviewed for:

- Excessive wear or thinning, seam tears.
- Loss of shape, due to worn elastic material.

## **Gloves**

Gloves should be reviewed for:

- Excessive outer surface wear, thinning, tears, holes or cuts.
- The integrity of the liner for wear, thinning, tears, holes or cuts.
- Excessive accumulation of dirt or carbon products.

## **Helmets**

Helmets will be maintained clean with proper unit identification in place. Face shield, chinstrap and suspension should be in proper working condition. Helmets should be frequently cleaned with hot tap water and mild (household) detergent. Helmets should be thoroughly cleaned to remove the products of combustion (*which are proven to cause cancer*).

Additional cleaning materials, which can be used to remove stubborn dirt and smoke stains, are: Isopropyl alcohol (rubbing alcohol), Windex (regular - NOT ammoniated) and dishwashing detergent. The use of other materials such as strong (industrial strength) detergents, solvents, petroleum products, etc., will damage the shell and face shield.

- Check for fractures, cracks, or bubbling of the surface.
- Press on opposite rims and check for separation.

## **Brush Pants**

Brush Pants should be reviewed for:

- Excessive wear at the knees.
- Integrity of the crotch seam by pulling on the material.
- Pant cuff fraying or wear.
- Damaged or inoperative zippers.
- Worn Velcro that may no longer create an effective seal.
- Proper fit.

## **Discrepancies/Repair/Replacement**

Following the PPE safety audit, if discrepancies identified present an immediate safety problem, the member will contact the on duty BSO in attempt to replace the item. If the discrepancies identified are not an immediate safety problem the member will arrange for the turnout clothing to be sent during semi-annual turnout cleaning.

## **Turnout Clothing Markings and Alterations**

- Do not mark; add logos, patches or insignias to turnout clothing without authorization.
- Do not make alterations, this could damage the protective properties and void the manufacturer's warranty.

## **Turnout Inspection/Cleaning/Repair**

Provision for the semi-annual advanced cleaning and accounting of turnouts issued to all Fire District suppression members. This procedure meets the NFPA 1851 national standard for turnout inspection, cleaning and repair.

### **Procedure:**

1. Once every six months each shift and crew will be scheduled for turnout cleaning and inspection. A schedule will be emailed to each person to notify of the date to be sent in.
2. Empty all pockets and remove liners from outer shells. It is not necessary to send in suspenders. You may send in hoods, gloves, and brush pants. Also send in the Drag Rescue Device (DDR) for inspection/cleaning.
3. Use general gross decontamination of PPE that is contaminated with a high concentration hazardous material, or with any foreign body fluid. If a member has any question on how and where gross decon should be done, be sure to call the on duty BSO or BC.
4. Turnouts will be cleaned over a scheduled 4 days off and returned to their assigned station prior to their first day back. It is advisable to return to work a little early on this day in order to properly re-assemble PPE and assure mission ready status.

Members are required to turn in their turnouts for inspection and cleaning once every six months.

After a fire, turnouts should be rinsed off with copious amounts of water and hang-dried at the station. Never hang or store, turnout coats or pants in the sun. The UV rays damage the PBI outer material. Damage occurs quickly. This damage may leave tears in your outer flash protection. Do not store turnouts under fluorescent lights for long periods of time due to UV degradation to outer shell material.

### **Emergency / Contaminated Cleaning Procedure:**

1. Decon turnout items at stations in decon areas or hose off as much as possible of the contaminate, separate shell from liner
2. Bag turnouts in clear or black garbage bags.
3. Fill out repair/maintenance form with as much information as possible.
4. Contact BSO or BC to arrange for temporary PPE use and for transportation and cleaning.

### **Special Teams PPE**

A wide array of PPE exists for members of Special Teams (TRT and Wildland). Please contact the program manager for information.

 <b>Standard Operating Guidelines</b>	<b>Series: 206</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>206.06: Fire Related Websites</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
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The United States Congress created the National Fallen Firefighters Foundation to lead a nationwide effort to remember America's fallen firefighters. Since 1992, the tax-exempt, nonprofit Foundation has developed and expanded programs to honor our fallen fire heroes and assist their families and coworkers.

The Foundation is a 501(c)3 nonprofit organization, located in Emmitsburg, Maryland. It is registered as a corporation in the State of Maryland. The Foundation receives funding through private donations from caring individuals, organizations, corporations, and foundations.

A grant from the Department of Justice's Bureau of Justice Assistance supports programs for survivors of fallen firefighters. The Federal Emergency Management Agency partners with the Foundation to sponsor many of the National Memorial Weekend activities. The National Institute of Standards and Technology supports work on a national research agenda to prevent line-of-duty deaths.

[16 LIFE SAFETY INITIATIVES](#)



Congress enacted the [Occupational Safety and Health Act of 1970](#) which created the Occupational Safety and Health Administration (OSHA). Its mission is to help employers and employees reduce on the job injuries, illnesses and deaths. Employers are responsible for providing a safe and healthful workplace for their employees. OSHA's role is to assure the safety and health of America's workers by setting and enforcing standards; providing training, outreach and education; establishing partnerships, and encouraging continual improvement in workplace safety and health.



Whether you are a firefighter, emergency services responder, manufacturer or fire service leader, the United States Congress is more aware of your concerns because of the Congressional Fire Services Institute (CFSI). Established in 1989 as a nonprofit, nonpartisan policy institute, CFSI is designed to educate members of Congress about the needs and challenges of our nation's fire and emergency services so that the federal government provides the types of training and funding needed by our first responders.



FEMA's mission is to support our citizens and first responders to ensure that as a nation we work together to build, sustain and improve our capability to prepare for, protect against, respond to, recover from and mitigate all hazards. President Carter's 1979 executive order merged many of the separate disaster-related responsibilities into the Federal Emergency Management Agency (FEMA).



The U.S. Fire Administration was organized in 1974 as a result of a publication called "America Burning". The report stated that a federal agency be organized to help combat the growing problem of fatal fires happening throughout the country. The USFA manages many of the federal programs related to firefighting including systematic collection of statistics relating to fire incidents ([National Fire Incident Reporting System](#)), public fire education campaign materials, and information on grants and funding. They also provide a directory of approved, fire-safe hotels, and information on home fire safety.



FIREHOUSE.COM is a multimedia publication which provides articles, podcasts, training, video and news within all aspects of the fire industry.



**FirefighterCloseCalls.com** was an idea born from [The Secret List](#), an independent newsletter produced since 1998 in an effort to bring forward the issues involving injury and death to firefighters... often issues that are ignored, quickly forgotten or just not talked about. Originally started as an e-mail group amongst some close friends in the fire service, it is currently received by thousands of fire service members.



FireRescue1 is revolutionizing the way the fire service community finds relevant news, identifies important training information, interacts online and researches product purchases and suppliers. It's the most comprehensive and trusted online destination for firefighters and fire departments worldwide.

For over 133 years, Fire Engineering magazine has provided training, education, and management information for fire and emergency services personnel worldwide. Articles are written by experts in the fire service and focus on lessons-learned.

Feature articles cover real-life situations such as collapse void search, confined space rescue, high-angle rescue, and extrication. The online version of Fire Engineering provides daily international business and industry-related news, current issue articles, and access to years of searchable editorial archives.



*Everyone Goes Home*® is a program by the [National Fallen Firefighters Foundation](#) to prevent firefighter line-of-duty deaths and injuries. In March 2004, a Firefighter Life Safety Summit was held to address the need for change within the fire service. At this summit, the [16 Firefighter Life Safety Initiatives](#) were created and a program was born to ensure that *Everyone Goes Home*®.

\*\*Our goal is to help the [U.S. Fire Administration](#) achieve its objective of reducing the number of preventable firefighter fatalities. The adoption of the 16 Firefighter Life Safety Initiatives is a vital step in achieving that goal. This website provides tools and resources to help make sure Everyone Goes Home. \*\*



The 100 Club of Arizona is a 501(c)(3) dedicated to standing behind the men and women who stand behind the badge. For more than 40 years, the 100 Club has provided assistance to statewide public safety agencies, officers, firefighters, paramedics, and their families through:

- Financial assistance when serious injury, death and life-altering situations occur
- Emotional support and experiences services with peer support training
- Safety enhancement stipends to purchase agency equipment and enhance the welfare of those behind the badge
- Scholarships for immediate family members of public safety

The 100 Club supports all city, county, state, federal and tribal public safety agencies, fire services, probation, corrections, parole and law enforcement departments who provide for the safety of the citizens of Arizona. Benefits and support are also extended to officers and firefighters who are called to active duty military while still employed by a qualified public safety agency.



The purpose of the Arizona State Fire Marshal's office is to reduce hazards to life and property through enforcement of the Arizona Fire Codes. The office shall perform its duties by performing inspections and fire investigations, by providing public education and by adopting fire protection codes.



### **PUBLIC SAFETY OFFICERS BENEFIT PROGRAM**

A unique partnership effort of the U.S. Department of Justice; local, state, tribal, and federal public safety agencies; and national organizations, the Public Safety Officers' Benefits (PSOB) Programs provide death and education benefits to survivors of fallen law enforcement officers, firefighters and other first responders, and disability benefits to officers catastrophically injured in the line of duty.

The BJA PSOB Office is honored to review the nearly 700 claims submitted each year on behalf of America's fallen and catastrophically disabled public safety heroes and their loved ones.



The Professional Fire Fighters of Arizona was established in 1967 and is more than 6500 members strong. It is our mission to care for those who are here today, those who have gone before us and those who will surely follow.



The International Association of Fire Fighters, headquartered in Washington, DC, represents more than 300,000 full-time professional fire fighters and paramedics who protect 85 percent of the nation's population. More than 3,100 affiliates and their members protect communities in every state in the United States and in Canada. The IAFF is one of the most active lobbying organizations in Washington; its Political Action Committee, FIREPAC, is among the top one percent of the more than 4,000 PACs in the country.

Today, the IAFF is the primary advocate for providing fire fighters and paramedics with the tools they need to perform their jobs. The IAFF provides a strong voice in the development and implementation of new training and equipment, and has worked hard to ensure the proper staffing of fire and EMS departments. The IAFF is a member driven organization—for fire fighters, by fire fighters.



*Fire Chief* Magazine was established in 1956. The magazine examines issues that are of particular importance to managers of fire departments.



UL certifies, validates, tests, inspects, audits, and advises and trains. We provide the knowledge and expertise to help customers navigate growing complexities across the supply chain from compliance and regulatory issues to trade challenges and market access. In this way, we facilitate global trade and deliver peace of mind.

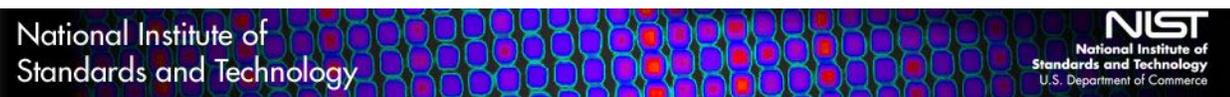
[Ulfirefightersafety.com](http://Ulfirefightersafety.com)

Our five businesses, Product Safety, Verification Services, Life & Health, Knowledge Services and Environment, demonstrate our expanding breadth of expertise and growing range of services to offer solutions needed in a constantly evolving world.



The mission of the international nonprofit NFPA, established in 1896, is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training, and education.

The world's leading advocate of fire prevention and an authoritative source on public safety, NFPA develops, publishes, and disseminates more than 300 consensus codes and standards intended to minimize the possibility and effects of fire and other risks.



### [NIST- ENGINEERING LAB \(FIRE\)](#)

Welcome to the National Institute of Standards and Technology's web site. Founded in 1901 and now part of the U.S. Department of Commerce, NIST is one of the nation's oldest physical science laboratories. Congress established the agency to remove a major handicap to U.S. industrial competitiveness at the time—a second-rate measurement infrastructure that lagged behind the capabilities of England, Germany, and other economic rivals. Today, NIST measurements support the smallest of technologies—nanoscale devices so tiny that tens of thousands can fit on the end of a single human hair—to the largest and most complex of human-made creations, from earthquake-resistant skyscrapers to wide-body jetliners to global communication networks.

 <b>Standard Operating Guidelines</b>	<b>Series: 206</b>	<b>Volume II:</b>	Standard Operating Guidelines	
	<b>206.07: Pets and Animals</b>			
	<b>Effective Date:</b>	September 2014	<b>Revision Date:</b>	September 2014
	<b>Approved by:</b>	Emergency Services		

**Purpose**

This guideline is to provide field personnel with guidance in handling pets and other animals that are encountered as a result of an EMS, fire or other response. These pets or animals may require medical attention and the RP is unknown or unable to care for the animal, or the animal presents a danger to the general public. The pets or animals we encounter might also be trapped or injured.

The pets that we encounter are often times considered by the owners a part of the family. While our primary mission is for the protection and care of people, we should attempt to provide some level of care to animals in distress whenever feasible and safe to do so as a part of our commitment to customer service. We should display an open, caring concern for pets and animals when we deal with the public in these types of situations.

**Safety Considerations**

Caution should be used in approaching any animal, especially one that is injured. At no time is the safety of our members or that of the public to be compromised by attempting to capture an animal. If there is any doubt, contact one of the agencies listed in this procedure and request that they respond. When dealing with pet or animal rescues, they should be handled similar to "property" when evaluating the risk/gain profile of the incident.

**Handling Pets**

**A. Rescue Efforts (fires, trapped or injured pets)**

Rescuing pets or animals during an incident should take the same priority as any loss control activity. An evaluation should be made in terms of the risk or exposure that our personnel would face, versus the likelihood of a positive outcome.

**B. Treatment of Injuries**

Animal injuries can be treated in a similar manner as BLS injuries to a human. For example, bleeding can be controlled by direct pressure, elevation and bandaging. Burns can be cooled with water. Oxygen can be administered for breathing difficulties. Broken limbs can be stabilized using splints. At no time, however, should any attempt be made to provide fluids intravenously.

**C. Caring Attitude/Empathy**

We should realize that to many people, an animal or pet is considered a family member. We should attempt to treat their concerns with empathy and demonstrate a caring attitude towards their concern. In addition, if the incident has resulted in the death of an animal, we should attempt to assist them in the disposal of the animal by contacting the proper agency, such as local Animal Control, the Humane Society, or the ASPCA for guidance.

If there is any question regarding the handling or care of a pet, Contact Mesa Alarm and they will contact animal control as they are more than willing to provide guidance and assistance. They all stated that if they are not able to help, they will put us in touch with the proper agency. A case in point may be in the situation where we have treated and transported a rider who has fallen from a horse--what do we do with the horse? The proper agency in this case is Arizona Livestock, but ASPCA stated that they may be able to provide assistance in securing the animal until further action can be taken.

**D. Contact Numbers**

Whenever there is any question regarding handling an injured, non-injured, stray or trapped

animal, both the Humane Society and the AZ Society for the Prevention of Cruelty to Animals are willing to either provide direct assistance, or serve as a clearing house in directing us to the proper agency or veterinary service. Both can be contacted through Mesa Alarm.

#### **E. Stray Animals**

For stray, uninjured animals, call Mesa Alarm and they will refer the call to the Apache Junction Police Department (AJPD) Animal Control or Pinal County Animal Control.

#### **F. Injured Animals**

The three primary agencies that can be contacted to respond to injured animal calls (where the animal is not a threat to human safety) are:

- AJPD Animal Control
- Humane Society
- AZ Society for the Prevention of Cruelty to Animals

If it is necessary to move an injured animal out of a roadway, the recommended procedure is to wrap the animal in a blanket and immobilize it before moving it. Muzzling the animal with material such as kling or a backboard strap would be suggested. This will help to minimize the danger to the rescuers.

#### **G. Animal Rescue (non-emergency)**

In the event that you should encounter an animal that is in distress, but is not injured (cat-in-tree type of call, contact Mesa Alarm and they will contact one of the following agencies:

- AJPD Animal Control (480) 983-4405
- Humane Society (602) 997-7585 Ext. 2073
- Pinal County Animal Control (520) 866-7600
- AZ Society for the Prevention of Cruelty to Animals

If they are unable to provide timely assistance, they will direct you to an agency that can help.

#### **H. Dangerous Animals**

When there is a danger to human safety, Animal Control will respond. (Also request that appropriate Police Agency respond.). Responders should take actions to ensure that the safety of the public and department members is not compromised while waiting for the arrival of Animal Control.

Immediate actions to be taken if the animals' life is in danger:

If an animal is injured to such an extent that its life is in danger, at the discretion of the ranking Fire District Company Officer, the animal may be transported to a veterinarian for emergency care. Contact Mesa Alarm for proper pet clinic or animal hospital. The cost for this treatment will either be passed on to the owner, or if the owner cannot be identified, then ASPCA will pay for the treatment. No cost will be incurred by the Fire District or a member for bringing in an injured animal encountered as part of a fire or EMS response.

The animal should be transported only to those clinics listed. They are equipped with full emergency care facilities and have agreed to accept animals transported by the fire department to their facilities.

It is very important to remember that an injured animal may present a danger to rescuers. At no time should a member's safety be compromised in handling an injured animal. If an animal is considered dangerous, the call should be referred to either AJPD Animal Control or Pinal County Animal Control.

The first call, however, should be either the Humane Society or ASPCA since they have personnel available 24 hours. If they are not able to handle the problem, they will refer you to the appropriate agency.