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SI 01, Sec 07

HIGH-RISE/MULTISTORY EMERGENCY RESPONSE PROCEDURES

I. PURPOSE

These procedures are designed to provide effective management and control of essential functions at fires (including terrorist acts, explosions, collapse, earthquakes, etc) occurring in large multistory buildings. Such incidents present significant management, logistical and safety problems. The size and complexity of the interior spaces, the enclosed nature of the hazard area, and limited access to the fire area all contribute to the problems faced by suppression forces.

The Incident Command System (ICS) is a management system designed to ensure that sufficient resources are appropriately assigned and efficiently utilized to safely manage an incident. In this system, incident objectives can be accomplished effectively and in prioritized order. The objectives are identified by the first arriving officer and the Incident Command System is established with the arrival of the first alarm assignment.

Beyond the basic functions, the Incident Commander (IC) implements only those elements of the ICS needed and in the priority that will result in the greatest effectiveness. Individuals assigned to these positions must use the proper ICS terminology for the system to be effective. These positions are described in detail in this policy, which has been developed to provide guidelines for the management of a high-rise incident.

II. SCOPE

This policy shall apply to all SDFD Personnel.

III. AUTHORITY

The Fire Chief in coordination with the Assistant Fire Chief of Operations and Deputy Chief Shift Commanders authorize the information within this policy.

IV. DEFINITIONS

A. Attack Stairwell: This stairwell is used as the primary ascent/access point to the fire floor. This stairwell will be the primary location from which fire attack will take place.

B. Base: The exterior location at which the primary logistics functions are coordinated and administered, apparatus are parked, and initial stockpiling of incident equipment is assembled during a high-rise incident. Base is located a minimum of 200 feet from the building.

C. Command Staff: Consists of the Liaison Officer, Safety Officer, and Information Officer who report directly to the Incident Commander.

D. Division Supervisor: Division Supervisors manage a specific *geographic area*, usually one floor in a high-rise; and will assume a corresponding radio designation (e.g., "Division 12" on the twelfth floor). Division Supervisors report to the IC or the Operations Section Chief. Division Supervisors must ensure that company officers keep their personnel together and under their control. Company effectiveness, personnel safety and accountability will be greatly enhanced by adherence to this fundamental rule.

E. Fire Alarm Initiating Device: (FAID) water flow, smoke, or heat detector

F. General Command Staff: The group of incident management personnel comprised of the Incident Commander, Operations Section Chief, Planning Section Chief, Logistics Section Chief, and the Finance/Administration Section Chief.

G. Ground Support: Ground Support is responsible for: providing transportation of equipment and supplies to the incident floor, refilling of SCBA air cylinders, managing the Stairwell, and implementing the ground level traffic/movement plan at the incident. This may include marking safe access routes and zones. Ground Support reports to Logistics.

H. Group Supervisor: Group Supervisors manage a specific *function* and may not be confined to a specific geographic area. Examples: Ventilation Group, Rescue Group and/or Evacuation Group; each working several floors of a high-rise simultaneously. Group Supervisors must ensure that company officers keep their personnel together and under their control. Company effectiveness, personnel safety, and accountability will be greatly enhanced by adherence to this fundamental rule.

I. Incident Action Plan: A plan that contains the objectives reflecting the overall incident strategy for rescue of endangered occupants, control of the incident, and property conservation.

J. Incident Command Post: That location at which the primary command functions are executed. The location should be highly visible and provide safety for the Incident Command personnel.

K. Incident Medical Plan: This plan is developed by the Medical Unit Leader under the Logistics Section and identifies the procedures to be taken for the care and transportation of injured or ill *emergency personnel*, providing incident rehabilitation, treatment locations, and reporting procedures. For civilian injuries, the Incident Commander shall implement a Medical Branch under the Operations Section Chief to initiate a Mass Casualty Incident or Multiple Patient Incident plan.

L. Life Safety Building: Modern high-rise buildings >75’ built in the mid 1970s until present time. They are equipped with many modern safety features including a fire control room, public address system, emergency lighting, automatic stairwell unlocking, generators, fire pumps and smoke handling/pressurization systems.

M. Lobby Control: This unit functions to maintain company accountability, control all building access points, direct incoming crews to appropriate stairwell or elevator, monitor building systems until the Systems Control Unit is established, and account for and operate elevators, and liaison between the IC and building engineers. Lobby Control initially reports to IC or Logistics.

N. Medical Branch: That portion of the Incident Command structure designed to provide the Incident Commander with a basic expandable system for handling any number of *civilian patients* in a Mass Casualty Incident or Multiple Patient Incident plan.

O. Medical Unit Leader: This section that is responsible for providing medical aid and transportation for injured or ill *emergency personnel* and rehabilitation functions. This unit may provide support to Operations by providing care and transportation to civilian casualties but this is limited to situations where civilian casualties are few.

P. Peek-a-boo Technique: Technique of elevator door opening to be utilized during phase II elevator operations. Upon arrival at the desired floor destination the operator briefly presses and releases the door open button. The door will open slightly and then reverse direction and close. This provides the operator an opportunity to get a quick peek of the landing area before totally opening the door.

Q. Plenum: The area above a suspended ceiling that often serves as the return for the HVAC.

R. Pressure Regulating Device: Device designed for the purpose of reducing, controlling, or restricting water pressure. This device would limit standpipe system outlet pressure so that firefighters can safely and effectively operate hand-lines for firefighting.

S. Rapid Ascent Tactics: Rapid ascent tactics involve a rapid search of the attack stairwell, with an emphasis on searching the stairwell above the fire floor. Ideally this will be well underway or completed prior to fire attack operations. The attack stairwell must be kept clear of civilians once suppression operations begin. Crews assigned this function may also be tasked with giving floor updates and assisting with the opening of roof top access as directed.

T. Red Phone: Handset designed for communications within the building which plugs into jacks on floors, in elevators and stairwells as well as various other locations. The Color of the handset may not always be red.

U. Reflex Time: The amount of time required for a crew to ascend a building in order to reach the designated floor.

V. Stack Effect: The natural air movement throughout a high-rise building caused by the difference in temperature between the inside and outside air. The greater the difference the more pronounced the stack effect will be. When temperatures inside a building are warmer than outside temperatures the natural air flow inside the building will be in an upward direction creating a “positive stack effect”. When temperatures inside a building are cooler than outside temperatures the natural air flow inside the building will be in a downward direction creating a “negative” stack effect.

W. Staging: For a high-rise, the conventional concept of staging has been modified. Staging is generally two or three floors below the fire. This location places firefighters and equipment outside the IDLH environment, in a position to be immediately ready for an operational assignment.

X. Stratification of smoke: As smoke rises in a tall building it cools to a degree which is equal to or less than the ambient temperature inside the building. Once the buoyancy is lost the smoke stops rising and begins to spread laterally.

Y. Systems Control: That function which monitors and maintains the building’s fire control, life safety, environmental control, smoke handling systems, communications, and elevator systems. The System Control Unit Leader must establish and maintain close liaison with the building/facility engineering staff, utility company representatives, and other technical specialists.

Z. Tenant or Convenience Stairs: Stairs that serve multi-floor tenants that allow occupants to travel from floor to floor internally without having to exit their occupancy to utilize the elevator or common stairwell.

AA. Wrap Around Phenomenon: in center core construction an advancing attack line can push the fire around the center core and behind advancing crews.

V. POLICY

A. High-Rise Response Objectives

1. The first alarm resources dispatched to a reported high-rise incident include:

   a. 5 engines
   b. 2 trucks
   c. 2 battalion chiefs
   d. 1 rescue unit
   e. 1 helicopter
   f. 1 ALS ambulance
   g. 1 PDS unit
   h. First alarm resources should:

      1) Initiate ICS
      2) Provide prompt investigation of the reported incident.
      3) Start immediate rescue and initial fire attack.
      4) Handle any immediate support functions required to ensure the safety of building occupants and the firefighters.
      5) Access the Knox Box for building information.

2. The primary objectives of the initial responding companies are:

   a. Establish Command
   b. Personnel safety
   c. Rescue
   d. Locate and determine the extent of the emergency
   e. Initiate control efforts
   f. Property conservation
   g. To accomplish these objectives, ***at a minimum*** the following core functions shall be implemented and staffed with the first alarm resources:

      1) **Fire Attack Team** to the fire floor (first two engines and first truck).
      2) **Lobby Control** established inside the building (third engine company).
      3) **Staging** established inside the building (fourth engine company).
      4) **Water Supply** established (first two engines, staffed by engineers).

3. With these minimum functions staffed, there are still three companies uncommitted, allowing for tactical flexibility to either reinforce any of these (e.g., augment the capability of the first truck crew to conduct search and rescue), or to make additional assignments as conditions dictate (e.g., additional attack lines, occupant evacuation/medical aid, ventilation, etc.)
4. Tactical functions that should be given a high priority include the implementation of a search team dedicated to the stairwells, especially the attack stairwell (rapid ascent tactics).
5. Factors such as building type, time of day, occupancy load and size of the fire will help define the priority assigned to this function.
6. Smoke handling systems should be evaluated for effectiveness early in the incident. This may simply mean the monitoring of a smoke management system or require the implementation/augmentation of stairwell pressurization and ultimately ventilation once the location and scope of the fire are. Personnel would need to develop a ventilation plan to facilitate the strategic objectives.
7. All personnel shall utilize the ICS format and terminology in the management of the incident.
8. Company Officers shall use Pre-Fire Plans (PFP) to assist in identifying elevator, stairwell, Fire Protection Systems, and other important information. High-rise operational checklists and the Field Operations Guide (FOG) are resources to assist the IC in managing the incident.

B. <u>Initial Response to known emergency/fire - Incident Command responsibilities</u>

1. The first in Company or Chief Officer shall carry out the following tasks:

   a. Initial size up, evaluation, and risk assessment of the situation
   b. View all four sides of the building to accurately identify fire conditions. Keep in mind a sealed high-rise may conceal a significant fire with little to no outward signs.
   c. Give an initial radio report to the Fire Communications Center (FCC) of visible conditions that includes the following:

      1) Building height
      2) Occupancy type
      3) Obvious conditions
      4) Safety concerns (falling glass/debris/collapse)
      5) Occupant access/exiting problems
      6) Actions being taken
      7) Any additional pertinent information

   d. Utilize the Pre-Fire Plan, as required
   e. Assume IC.

1) Passing IC should be done in situations that are rare and require immediate interventions that necessitate all crew members' assistance.
2) Incidents of this magnitude require quick and decisive actions from the initial arriving Officers.
3) Sound initial actions can be the foundation of a successful incident.

2. The IC has discretion to assign units in the sequence that he/she feels satisfies the priority needs of the incident. The following assignments shall be made with units of the first alarm assignment:

   a. Initiate **Fire Attack**.
   b. Establish **Lobby** Control.
   c. Assign a company to establish **Staging**.
   d. Establish **water supply**.
   e. Clear the fire attack stairwell.
      The formation of search group(s) or rescue group(s) could be utilized for this function.
   f. Establish need for pressurization and ventilation.
   g. Helicopter recon (See the helicopter in this Standard Instruction for use and capabilities)

3. Once Command has been established, if there are indications that a working incident is in progress, an immediate request for a second and then third alarm **shall** be made.
   For example; "San Diego from Broadway IC, requesting a second alarm followed by a third alarm. Base will be located at 1st and Front Street."
4. Incident Commanders should anticipate that an incident of any magnitude may require additional alarms. This is necessary to fill ICS positions, support a continuous fire attack, perform search and rescue and accomplish the many support functions required. These requests should be made as soon as possible. Doing so will help to minimize the lead-time for resources to arrive on scene and be placed into positions.
5. All working high-rise fires shall include a request for a structural engineer in addition to utilizing the building engineer.
6. It is the responsibility of Command to identify a location for Base. The location shall be relayed to the FCC as soon as possible. All resources assigned in the subsequent alarms shall be directed to Base. ***The first-in Engine Captain of the second alarm should be prepared to assume the assignment of Base.***

C. Incident Command Positions and Command Officer Responsibilities

In a high-rise incident, company assignments are implemented as described within this Standard Instruction. The first-in Company Officer shall assume command. In some limited situations the first in Officer may pass command. This Officer shall assume IC until the arrival of the first-in Battalion Chief. This BC will assume the initial IC and follow up with a report to FCC via radio. The Incident Commander shall deploy resources to control the incident, and continue development, implementation, and modification of the Incident Action Plan. This includes a continual assessment of resource assignments and needs, fire progress, structural stability, and fire loading.

At a major high-rise incident involving greater alarms, it is necessary to build upon the basic ICS established by the first alarm assignment. As more resources arrive and are committed to the incident, command level responsibilities are assigned on a priority basis These procedures will help to ensure a smooth and effective expansion of the IC system. The IC has the option to assign Command Officers based on incident need. Arriving Battalion Chiefs shall report to the Command Post in full PPE, SCBA, with their 800 MHz portable radio, cell phone, and Field Operations Guide.

1. Battalion Chief's Arrival
   The following functions may require assignment as incoming Battalion Chiefs arrive:
   a. Operations Chief or Plans Chief; at the discretion of the IC
   b. A Battalion Chief shall be assigned to the incident floor as the Division Supervisor
   c. Logistics
   d. Safety Officer
   e. Air Operations
   f. Liaison Officer
   g. Rescue
   h. Medical Branch Director or Medical Unit Leader
   i. Subsequent arriving Chief Officers will be assigned as required.
2. Arriving Staff Officers and Staff Personnel
   a. Staff Officers are Battalion Chiefs and Captains in an administrative assignment.
   b. Staff Officers/Personnel arriving on scene shall be attired in the same level of PPE as the incident personnel. They each shall bring their portable 800 MHz radio, cell phone, and Field Operations Guide.
   c. The arriving Shift Commander, upon their discretion, may assume command of the incident or fill the role of the Liaison Officer. If a Shift Commander assumes IC, the initial Battalion Chief/IC shall be assigned as Plans, Operations, or another position as needed.
   d. Subsequent arriving Assistant Chiefs, Deputy Chiefs, Staff Battalion Chiefs, and Staff Captains may be assigned as:

1) PIO
2) Assistant Safety Officers
3) Liaison Officer
4) Medical Unit Leader
5) Other management responsibilities as required

e. The assumption of Command is optional for the Fire Chief, Assistant Chiefs, Deputy Chiefs, and Deputy Chief Shift Commanders.

f. Overhead or support staff personnel will aid the Incident Commander by providing assistance to command and general staff officers as needed.

3. Fire Attack Operations

If a search of the attack stairwell is not completed or underway when crews are ready to begin fire attack the IC shall conduct a risk/benefit analysis. The IC shall evaluate the benefit of attacking the fire and potentially exposing occupants in the attack stairwell to toxic fire gases versus keeping the stairwell door closed. Delaying firefighting temporarily compartmentalizes the fire until a search of the attack stairwell is completed or underway. The size of the fire, time of day and occupant load will be factors that shall be considered.

a. Stairwell Management

1) Crews shall attempt to minimize the migration of smoke by limiting the opening of stairwell doors.
2) If a saw is available notch the door on the lower corner opposite of the hinges to facilitate the passage of hose-lines through a closed door.
3) Avoid unnecessary equipment in the stairwells on the fire floor.
4) Equipment that is not needed for immediate operations should be placed in Staging or the on floor immediately below the fire floor.

b. Attack Hose Line Management

1) Appropriate hose line selection by company officers is critical.
2) If a small compartmentalized fire exists, the 1 ¾ high-rise hose pack with a low pressure breakdown (Slug) nozzle is appropriate.
3) If a large un-compartmentalized fire is suspected, consider selecting a 2 ½ attack line equipped with a smooth bore 1 1/8 tip.
4) Deploying a 2 ½ line requires sufficient personnel to be effective. Supervisors should plan on at least 6 firefighters to deploy a single line.
5) Reflex time shall be considered when making hose and nozzle selections.
6) Make initial connections to the standpipe outlet on the floor below the fire floor.

7) Back-up lines should be connected two or more floors below the fire floor.
8) An in-line standpipe gauge shall be used if the company is so equipped.
9) A firefighter should be stationed at the standpipe to: adjust pressure, communicate with fire attack and feed additional hose for firefighting.
10) The firefighting hose line must be flowing water ensure accurate pressure adjustments.
11) If low nozzle pressure is experienced firefighters should:

a) Ensure kinks are minimized
b) Valves are fully open
c) Ensure water supply is delivering adequate pressure
d) Remove the pressure restricting device if the standpipe is so equipped.
e) Adjust the field adjustable pressure regulating valve if the standpipe is so equipped.

c. Safety and safe zones

1) Consider the placement of a defensive line in center core construction to prevent wrap around phenomenon.
2) Frequent checks of overhead spaces in the plenum (false ceilings) should be done. Personnel should check for or fire extension or spread.
3) Opening of windows should be coordinated with the IC and fire attack.
4) All personnel shall operate in teams of two (2).

4. Lobby Control

A company from the first alarm assignment ideally the third engine will establish Lobby Control. Multiple alarm incidents will likely require a minimum of two companies to achieve all the objectives of lobby control.

Lobby Control reports to the IC or Logistics. Prior to Logistics being established, Lobby Control will remain on the primary tactical channel. Once Logistics is established, Lobby Control will switch to the secondary tactical channel and continue to monitor the primary tactical channel. Lobby Responsibilities include:

a. Initial accountability

1) Lobby Control will collect the company ID (diamond shape) tag from the Company Officer as a crew enters the building.
2) This is to maintain tracking of companies assigned to interior operations.

3) In the event of split crews entering the building, individual names will be logged on Form FD-901 contained in the personnel accountability box.
4) Lobby Control will manage the company ID tags to easily and quickly identify which companies have entered the building and which are functioning as Stairwell Support.
5) Personnel assign to non-IDLH assignments inside the building will be accounted for at Lobby accountability.

b. Control elevators

1) Lobby Control will control all elevators and will designate specific elevators to be used with assigned fire department operators.
2) All elevator cars shall be returned to the lobby (Phase I Recall).
3) If a car will not recall and cannot be accounted for it must be searched,
4) IC or Operations shall be notified.
5) Individual cars shall be operated in the Phase II mode (firefighter service).
6) Refer to the elevator section for detailed elevator operations.

c. Control ingress, egress and ascent locations

1) Lobby Control will control all personnel entering and exiting the building.
2) Determine the safest route that will protect personnel from falling glass and other items from the building.
3) Direct firefighters to appropriate route of ascent
4) Utilize SDPD and the Medical Branch/Division to assist with civilians exiting the building.

d. Facilitate movement of gear aloft

1) Lobby Control will initially facilitate the movement of needed gear & supplies to Staging.
2) Spare SCBA bottles and drinking water should be considered very early on in the incident
3) Equipment movement can be facilitated by utilizing elevators if deemed safe to use. (See the elevator section of this Standard Instruction)
4) Company's en-route to Staging should assist in the movement of required equipment.

e. Control building systems

1) Built-in fire protection systems
2) Fire pump(s)

3) HVAC/smoke management systems
4) Communications and public address system
5) Electrical power systems
6) In especially large and/or complex buildings a Systems Control Unit separate from Lobby Control may be established.

f. Locate and staff the Fire Control Room (Systems Control Unit)

1) Gather pertinent information from all available sources; panels and system printouts, building plans, etc.
2) Issue available red phones and key sets, with priority to:

a) Stairwell search
b) Staging
c) Fire floor
d) Elevator car operator(s)
e) Personnel assigned to go to the Fire Pump Room

3) Ensure stairwells are unlocked and/or keys are issued. If alarm panels are equipped with unlocking features for the stairwells ensure that the doors are unlocked.
4) Consider using the building's public address system to broadcast instructions to occupants.

a) In order to deliver effective announcements information regarding conditions should be obtained from ascending crews (fire attack, stairwell search).
b) Direct the occupants of selected floors to the most appropriate stairwell(s) to exit the building.
c) Instruct occupants on selected floors to shelter-in-place.
d) Shelter in place is generally recommended for occupants three or more floors below the confirmed fire floor.

5) Consider using the dedicated landline phone to notify FCC of necessary information that they can then provide to occupants who call 911.
6) Fire pump operation

a) If there is an indication of water flowing, send a firefighter to the fire pump room to ascertain that the building's fire pump is functioning properly
b) Valves are in correct position
c) Notify the first-in apparatus, or Water Supply Group what the system pressure is (indicated on the gauge on discharge side of fire pump).

7) Develop a plan for de-watering.

a) Flooding of basement areas should be prevented due to core equipment such as fire pumps and generators being located there.
b) Elevator shafts should not be used for de-watering.

5. Staging

The complexity of a high-rise incident requires that conventional concepts of Staging Areas be flexible. The many complexities of these incidents may include: limited access for equipment and personnel, vertical travel distance to the fire floor, construction or layout issues of available floors. Considerations should also be made to accommodate a large scale incident and its need for expanded staging operations.

a. A company from the first alarm ideally the fourth engine will be assigned Staging responsibilities by the IC. Staging reports to the IC or Operations.

1) Once this position is filled and the floor for Staging is identified; a status report will be made to the IC or Operations.
2) The company assigned Staging shall seek out and obtain the personnel accountability box that was placed by the company entering the IDLH. They then shall begin personnel accountability utilizing the tags and Form FD-901.

b. The Staging Area is generally two or three floors below the lowest fire floor as long as the atmosphere can be kept clear.
c. Staging will assume the Initial Rapid Intervention Crew (I-RIC) and manage personnel accountability (see accountability section), until relieved of this responsibility.

1) Assign an Accountability Officer and report their location to the IC
2) I-RIC shall ensure that a RIC bag is brought to the Staging floor.
3) Additional RIC gear shall also be assembled.

d. Staging is the assembly point where a cache of personnel and equipment are maintained awaiting assignment within the building.
e. Equipment shall not be stored or cached in the stairwell (storage in stairwell may restrict access/egress).
f. Staging Officer shall place personnel in the stairwell to direct crews to the Staging location.
g. Crews are not to bypass staging unless directed to do so.
h. The responsibility of the Staging Officer is to prepare the floor for staging operations.
i. Floor preparation includes:

1) Locating an acceptable rehab site
2) Identifying areas for an equipment cache including full and depleted SCBA cylinders

3) An area for fresh crews including RIC

j. The Staging Officer shall continually assess the best access for ascending companies. The Staging Officer shall also assess the need for the appropriate gear and equipment necessary to control the incident.

k. The Staging Officer, through the IC or Operations, may direct ascending crews to bring equipment other than that identified as standard high-rise equipment. This includes:

1) High-rise hose packs
2) Drinking water
3) Spare SCBAs/cylinders
4) Medical aid equipment including O2 bottles

6. Water Supply

A properly operating Fire Protection System (FPS) should be capable of providing adequate pressure and volume (fire flow) for the designed structure. This system will, by design, pump from a cistern to provide required fire flow to the roof. If the building is equipped with pressure regulating valves at each floor outlet, these will be uniquely adjusted to provide appropriate fire flow for the individual floor. All of this is based on the full performance of the FPS fire pump.

a. Fire Department Connections

1) Fire department pumping operations shall be set up as a standby contingency should the building's system fail to deliver an effective fire flow.
2) This is a shared responsibility of the first two arriving engines (Engineers)
3) Water Supply Group shall charge lines to the fire department connection (FDC)
4) An immediate pump pressure of 150 PSI should be supplied to the FDC unless signage indicates an alternate pressure.

b. Determine adequate pump pressure

1) Coordinate with Lobby Control or Systems Control to ascertain the status of the FPS
2) Communication with Fire Attack Team for the status of delivery pressure
3) If the FPS is providing adequate fire flow, the engine(s) may throttle down to idle and remain in standby mode.

c. Additional pump pressure for FDC on High Rise structures (per the Uniform Building Code - at least 75' in height from the Fire Department entrance to the roof, equipped with a fire protection system that includes a fire pump).

1) To supply higher pressure to upper floors, it may be necessary to insert a second pumper in series.
2) It shall be standard operating procedure to automatically implement this for ***all*** buildings that meet the definition of a high-rise structure.
3) High pressure hose shall be utilized whenever possible for the lines supplying the FDC. Connections to the FDC shall be made without the use of shut off buts.
4) Advantages gained by this procedure include:
    a) Sufficient fire flow pressure can be delivered that may be beyond the capability of only one pumper.
    b) The work of producing the high pressure is shared by both pumpers, reducing the chance of failure of one pumper being pushed to capacity or beyond.
    c) Redundancy is case of failure of one pumper during the operation; the other pumper can sustain a continuous flow (possibly at reduced pressure) until another engine can be brought into position and connections made without interrupting the flow.

d. Radio designator

1) Whenever two engines are utilized, this operation shall be designated the "Water Supply Group".
2) The Engineer operating the pumper connected to the building's FDC shall be the Water Supply Group Supervisor.
3) Transfer of Group Supervisor may be done at any time. The IC shall be notified of the transfer.

e. Hose line protection

1) It may be necessary to protect the hose lines from the potential of falling glass.
2) Personnel shall ensure that they are working in full PPE.
3) Covering the exposed hose with a combination of ladders and salvage covers
4) If glass is already falling in the vicinity, the area should be designated an exclusion zone with no entry permitted until deemed safe.

f. Back up planning for FDC failures:

1) Water Supply Group shall formulate a plan for catastrophic failure of standpipe and/or fire pump systems.
2) Aerial ladders may be utilized as standpipes
3) Laying large diameter hose up the stairwell

7. Rescue Group

Based upon the time of day, building type, occupant load and fire conditions the need for a Rescue Group may be required very early in the incident. The primary goal of this group is to perform rescues or assist with self-evacuation of the occupants. ICs should consider utilizing the 5th Engine, 2nd Truck and Rescue Company for this function.

a. Responsibilities of the Rescue Group:

1) Identify the evacuation and attack stairwells and ~~the~~ implement stairwell searches utilizing-rapid ascent tactics.
2) Rapid ascent tactics will not typically require a "hands on" rescue.
3) Crews should give direction to fleeing occupants to utilize the appropriate evacuation stairwell or travel to a safe refuge area.
4) The highest priority area to search is the Attack stairwell above the fire floor. Ideally this search should be complete or well underway prior to fire attack taking place.
5) After the initiation of fire attack; it is unlikely an evacuee could survive in the attack stairwell due to the exposure to smoke and fire gases.
6) Additionally, evacuation stairwells as well as the floors above the fire must be searched in a timely manner. There must also be an emphasis for searches to be done 2-3 floors above the fire floor and top 2-3 floors of the structure.
7) With the exception of small fires with limited smoke production; the entire structure will need to be searched due to the movement of fire gases throughout the structure.
8) Effective use of the public address system will facilitate use of the appropriate stairwell(s) and travel to safe refuge areas by evacuees.
9) Evacuation stairwells should be kept clear of smoke and heat to the highest extent possible.

a) Strict stairwell door opening discipline will help enhance pressurization operations and maintain stairwell integrity.
b) Maintaining a pressurized evacuation stairwell will greatly enhance occupant safety.
c) Personnel should continually prevent occupants from using the attack stairwell and direct them to the evacuation stairwell.

b. Occupant movement

1) Total evacuation

a) Extremely time consuming
b) Very complex moving large numbers of people

c) Least desirable

2) Partial evacuation
3) Shelter in place
4) Movement to safe refuge areas
5) If an area is deemed a safe refuge area crews should utilize a gas detector to ensure CO levels do not endanger evacuees.

c. Rescue crews should:

1) Ensure automatic unlocking stairwell doors are activated (unlocked)
2) Obtain keys
3) When using keys to unlock doors ensure they remain unlocked after removing the key.

a) If doors cannot be kept in an unlocked state, duct tape can be utilized to keep the locking mechanism disengaged.
b) Do not prop open stairwell doors unnecessarily.

4) Obtain red phone if available.
5) Conduct a continuous search of the attack and evacuation stairwells. This will be required throughout the incident.

8. Ventilation Group/Smoke Management

Modern life-safety high-rise buildings are equipped with air handling systems designed to control and evacuate smoke. These systems vary depending on the age, size and occupancy type of the building. Generally, these systems are designed to isolate smoke-filled floors by creating positive pressure gradients and exhausting the smoke to the exterior of the building.

a. Exhaust systems

1) Commercial high-rise building's air handling systems will exhaust smoke from the fire floor upon activation.
2) The system will also pressurize the floors above and below the fire to effectively sandwiching the products of combustion.
3) Stairwells will also pressurize creating a positive pressure gradient in order to keep them relatively free of smoke.
4) It's important to note that exhaust systems may cause smoke to be seen issuing from the top or sides of a high-rise, this may be completely normal.

b. Elevator shafts

These shafts have been responsible for spreading smoke, heat and fire gases due to their un-protected vertical configuration; therefore pressurization systems may help to prevent this.

1) There are a number of variables amongst systems.

a) These variables may be based on the era in which the building was designed, constructed and the codes present when the occupancy designation was made.

c. Not all smoke control systems provide complete floor pressurization and exhaust. At a minimum it should be expected that modern buildings will have pressurized stairwells.

d. Positive pressure gradients are essential for two chief reasons.

1) Help to provide tenable routes of egress and refuge for building occupants by limiting smoke migration.
2) Firefighters benefit by operating from areas of relatively higher pressures. The pressure works to push the fire away.

e. Modern systems when operating properly will effectively manage a considerable amount of smoke and greatly enhance occupant safety.

f. Even the best system can be overwhelmed either by the amount of smoke, system failures or simply by having too many stairwell doors open.

g. Utilization of building systems

1) If the building is equipped with a smoke control system, it is essential that:

a) Lobby Control should obtain as much information as possible from any and all indicators in the Fire Control Room
b) Utilizing the building engineer as a knowledgeable resource
c) Lobby Control/systems should ensure that the stairwells are pressurized
d) Considered augmenting stairwell pressurization with blowers

h. Ventilation group

1) Should be established if the building is not equipped with a smoke control system, it is deemed inadequate or inoperable.
2) All activities shall be directed by the Ventilation Group Supervisor
3) Coordination with Lobby Control or Systems Control is essential
4) Pressurization is essential until the location and scope of the fire is known. This action should further protect occupants and firefighters.
5) Ventilation shall be performed in coordination with Fire Attack.

6) Ventilation operations may adversely affect fire behavior by creating negative pressures that can potentially draw the fire towards attack crews.

i. In buildings not equipped with smoke handling systems consideration should be given to shutting down the HVAC system on arrival in order to limit the spread of smoke, heat and fire gases.

j. Vertical Ventilation

1) Can be accomplished utilizing selected and controlled stairwells
2) Pressurization of these stairwells may need to be shut down, to facilitate the movement of smoke from the fire floor(s).
3) Firefighters should not prop doors open unless absolutely necessary.
4) To vertically ventilate utilizing a stairwell, personnel should ensure that the doors or dampeners are open at the top of the stairwells.
5) The stairwell being utilized for ventilation must be kept clear of evacuating occupants
6) When developing a vertical ventilation plan;

a) Stratification should be expected
b) "Stack" effect should be considered on days with extreme temperatures. The natural movement of air may be altered due to this phenomenon

7) Blowers can effectively augment stairwell pressurization/ventilation operations by placing them:

a) At the bottom floor
b) Every ten floors
c) Two floors below the involved floors

8) Blowers shall not be placed in the stairwells, they shall be placed 4-6 feet back from door openings directing air into the stairwell.
9) When multiple fans are used a "V" converging fan placement shall be utilized.
10) Personnel should be stationed in close proximity to blowers in the event a rapid shutdown becomes required

k. Horizontal Ventilation

1) Can be accomplished by opening any available window(s)
2) Windows that have the capacity or mechanism to open offer personnel the best solution for their ventilation needs.

a) These types of windows may be encountered in residential high-rise buildings

3) Tempered glass

a) Windows are identified by a 3" luminous white "T" in the lower corner.
b) These windows are typically at the corners of the building and spaced every 50'.
c) The following factors must be considered before breaking any windows for ventilation:

i. Notify the IC, or Operations of intent and location prior to breaking windows
ii. Await clearance from the IC or Operations to proceed
iii. Clear the area below of personnel

4) Avoid breaking windows on the windward side of the fire floor unless absolutely necessary;

a) This action may potentially cause a blowtorch effect

i. Window failure can also cause this effect
ii. The high pressures of the wind at upper elevations may be extreme.
iii. The fire will be pushed in the direction of the wind movement.
iv. Fire can be pushed at extreme speeds down hallways or into other parts of the building.

b) The first choice should always be to create openings on the leeward side of the building.

5) Beware of the danger of an unprotected opening where personnel could fall outside the building.
6) Block the area with substantial objects such as furniture, and post at least one firefighter to maintain an exclusion zone.
7) Blowers may also be used to augment horizontal ventilation operations.

9. Accountability

a. Personnel accountability shall be a high priority at any incident.
b. At the earliest opportunity the IC shall assign an Accountability Officer (AO). More AOs can be assigned depending on access/ entry issues.
c. The AO will be located in the most advantageous area to capture accurate records of the personnel entering the IDLH.

1) All personnel will retain their personal ID tag until they are given a specific operational assignment in the fire area (entry into an IDLH area),
2) At the time of assignment; personnel will give their personal ID tag (oval shaped) to the Accountability Officer
3) Exceptions to this rule are when crews/personnel are assigned to staff functions in lower floors that are known to be outside any potential IDLH environment. These crews will retain their personal ID tags. Examples include:
    a) Crews identified as Stairwell Support
    b) Crews assigned to staff positions or other functions on lower floors, such as: Medical Unit Leader, Medical Branch or Occupant Evacuation Group.
    c) These personnel shall document their accountability with Lobby Control.

d. Personnel accountability may be established at Staging.
e. The Accountability Officer will direct crews to their assigned floor as directed by the IC or Operations and manage personnel accountability.

10. Establish Base

a. The Base location shall be identified by the IC.
b. Base reports to the IC or Logistics.
c. The Officer of first engine of the second alarm will typically assume the position of Base Manager, their responsibilities include:

1) Careful consideration should be made for the: parking, security, flow of personnel and equipment to the scene.
2) Evaluate area hazards and identify optional areas, if needed.
3) Assume control of personnel and resources assigned to Base.
4) The early coordination of the resources and personnel is critical for the efficient function of the Base Unit.
5) It is essential that crews responding on the second alarm or greater, report to Base. Units shall respond directly to Base unless specifically assigned elsewhere.
6) Establish routes into the Base parking area.
7) Parking
    a) Engines
        i. Should park diagonally
        ii. Ideally, the engines should be backed into this position
        iii. Facing in a direction to permit driving directly to an assignment

iv. Leaving space between units for opening of doors and compartments
v. If on a clear street, both sides of the street shall be utilized

b) Trucks

i. Trucks should be parked closest to the incident
ii. Separate from engines
iii. If on a clear street, direct trucks to park parallel to the curb utilizing both sides of the street.

8) Coordinate with Law Enforcement personnel for area and access control.
9) Identifying needed equipment
10) Place equipment in an accessible area (cache).
11) Coordinate with Ground Support for the movement of equipment and resources into the fire building.
12) Establish one or more safe routes to the fire building and coordinate the route with Lobby Control.
13) Maintain an accurate log of apparatus, equipment, and available personnel in Base and periodically advise the IC.

d. Crews reassign to an assignment will transport requested equipment from Base to the predetermined location.
e. Drinking water, high-rise packs, entry tools, spare SCBA bottles, and medical equipment for rehabilitation are examples of equipment that may be needed.

11. Evacuation Group/Occupant protective actions

a. An Evacuation Group separate from the Rescue group should be considered.

1) Time of day and occupancy load will dictate the priority of this assignment.
2) The Evacuation Group Supervisor shall determine the appropriate combination of protective actions.
3) Evacuation Group shall request necessary resources from Operations to maintain control and safety of the occupants.

b. Early identification of evacuation stairwell(s) is essential.
c. Selective use of the building's public address system should be used to direct occupants.
d. Evacuated occupants must be given clear direction toward a designated area.

1) This location should be at least 200' from the involved building

2) Away from Base
3) Continually managed

e. This management responsibility may be assumed by the Medical Unit, law enforcement, or a combination of each.

1) Anticipate the need for medical services and shelter needs of the evacuees. The IC should coordinate with the Medical Group to ensure timely and adequate capabilities are provided where needed.

f. Personnel assigned to Evacuation Group shall:

1) Give their company ID tags to Lobby Control.
2) If reassigned to an IDLH area; notify Lobby Control and report to the Accountability Officer
3) If they are reassigned to a function outside the building, they shall obtain their company ID tag from Lobby Control.

12. Systems Control Unit:

a. Systems Control may be assigned and separated from Lobby Control if the building systems are complex.
b. The Systems Control Unit Leader reports to the IC or the Logistics Section Chief.
c. The Systems Control Unit Leader monitors and maintains the built-in fire control systems including:

1) The fire pump
2) Smoke control & HVAC systems
3) Building communication systems (red phones & public address system)
4) Elevators
5) Power generation

d. Make contact with technical experts if available.
e. Develop a dewatering plan to avoid the flooding of basement areas.

1) The fire pump and generator are often located in these areas and flooding will damage these vital systems.
2) Keeping the fire pump and generator running are a high priority.

f. Develop a plan to deal with catastrophic failure of systems ex: fire pump and/or generator failures.

13. Ground Support Unit

a. Ground Support reports to the IC or Logistics.
b. Ground Support is responsible for managing the stairwell; duties include:

1) Providing transportation of equipment and supplies to the incident floor
2) Implementing an SCBA filling and bottle exchange plan.

c. Ground Support is responsible for implementing the ground level traffic/movement plan at the incident. This may include marking safe access routes and zones.
d. Elevators if deemed safe to use are the preferred method to move firefighters and gear aloft. See elevator section of this Standard Instruction.
e. Develop a stairwell lighting plan in the event of power failure.
f. As unit availability permits, personnel will be assigned the function of "Stairwell Support". (See Stairwell Support)

14. Stairwell Support

a. Stairwell Support reports to Logistics or the Ground Support Unit Leader.
b. For fires involving floors above the tenth floor, a Stairwell Manager should be assigned.
c. The Stairwell Manager reports to the Ground Support Unit Leader.
d. Stairwell Support will be needed to get equipment from equipment cache(s) to the Staging floor or designated area.
e. Elevators if deemed safe are the preferred method to move firefighters & gear aloft. (See elevator section in this Standard Instruction)
f. Stairwell Support should ideally consist of one person per two floors for a limited work period.
g. The duration of work periods should be based on stairwell conditions and workload.
    1) Stairwell support will take considerable resources and time to accomplish.
h. Companies assigned to Stairwell Support shall give their company ID tags to Lobby Control.
i. If reassigned to an IDLH area, these individuals shall notify Lobby Control, and report to the Accountability Officer responsible.
j. If personnel are reassigned to a function outside the building, they shall retrieve their company ID tag from Lobby Control.
k. To facilitate the transport of equipment and evacuation of civilians, individuals assigned to Stairwell Support should advise civilians evacuating the building to utilize the evacuation stairwell and stay to the right side of the stairwell as they descend.

15. Medical Unit Leader

a. The Medical Unit Leader reports to the Logistics Chief. Responsibilities include, but are not limited to:

1) Assessment of the current situation and request of necessary resources
2) Preparation of the Incident Medical Plan which shall include plans for evacuating injured firefighters.
3) Establish a medical aid station in Staging.
4) Establish a rehab area in Staging.

b. The Medical Unit Leader is primarily responsible for the development of the Incident Medical Plan.

1) Identifies the procedures to be taken for the care and transportation of injured and ill emergency personnel
2) Incident rehab
3) Treatment locations
4) Reporting

16. Safety Officer Responsibilities

a. The Incident Safety Officer is a member of the Command Staff and reports directly to the Incident Commander.
b. The Safety Officer is responsible for monitoring and assessing hazardous and/or unsafe situations and developing measures for assuring personnel safety.
c. The Safety Officer will correct unsafe acts or conditions through the chain of command.
d. The Safety Officer (or designated assistants) has emergency authority to:

1) Alter, suspend, or terminate unsafe acts or conditions when danger is imminent
2) The IC or Division/Group Supervisor shall be made aware that emergency authority was used and under what conditions.

e. Additional Assistant Safety Officers may be assigned as needed, utilizing Staff Captains.

D. <u>Initial Response to a known emergency/reported fire</u>

1. Units of the First Alarm

a. Initial arriving Officers shall establish:

1) Incident Command
2) Fire attack
3) Lobby
4) Water Supply
5) Staging
6) Accountability
7) Rapid Intervention Crew (RIC)

8) Rescue/Evacuation Group
9) Ventilation Group

b. Three companies, ideally the first two engines and first truck from the first alarm, will have primary responsibility to ascend the building. The companies ascending the building are responsible to:

1) Locate and identify the emergency
2) Determine the incident's scope.
3) Initial ascent shall not be made with less than 8 personnel,

c. Each crew will take the following standard high-rise equipment:

1) Standard high-rise for all companies

a) Full PPE with SCBA and radio
b) High-rise escape pack
c) Spare SCBA bottles
d) Forcible entry tools
e) FOG & High-rise Checklists
f) Pre-fire plan
g) Thermal imager
h) Accountability box
i) Flashlights

2) Engine specific

a) Hose packs
b) Standpipe kit (if equipped)

3) Truck Specific

a) Rescue saw
b) Pike pole
c) Dry chemical extinguisher

d. The Captain of the first crew to enter the building will begin to determine the location of the fire or emergency. This can be accomplished by:

1) Utilizing information obtained from the building's alarm panel
2) NOTE - If multiple alarms are initiated on the alarm panel; personnel should exercise extreme caution and vigilance.
3) Obtaining information gathered from the building engineer or other knowledgeable representative
4) Obtaining information from occupants or others familiar with the building
5) Obtaining information from visual indicators

e. The actions of the initial ascending companies are critical to the outcome of a high-rise incident. These actions include, but are not limited to:

1) Search and rescue
2) Internal exposure protection
3) Confinement and extinguishment efforts
4) Forcible entry
5) Personnel accountability
6) Determination of the status of the occupants in the immediate area above and below the incident

f. Crews ascending the building will select the most appropriate stairwell.

1) Personnel should check stairwell door accessibility prior to ascending the building. Utilize the unlocking feature on alarm panel

g. Identification of the attack and evacuation stairwells

1) Stairwell information shall be relayed to the IC.
2) Stairwells with roof access are best suited for the fire attack stairwell. This stairwell may be later utilized for ventilation.
3) Opening of any stairwell or roof access must be closely coordinated with fire attack as these actions may adversely change fire conditions.
4) Access to standpipes will help determine the selection of the fire attack stairwell.
5) Stairwells designated as “smoke towers” should not be utilized as a fire attack stairwell unless no other option is available. Smoke towers by design may create a negative pressure thereby drawing fire conditions towards firefighting personnel.
6) Attack stairwells should be cleared of any occupant or victim before fire fighting can begin.

h. Elevators may be utilized in accordance to the elevator section of this Standard Instruction.

i. Prior to the establishment of Lobby Control:

1) The first ascending units shall place their personnel accountability box in the lobby. The box should be left in a visible location, such as the Security Desk.
2) Officers shall place their Company ID (diamond shaped) tag on the box prior to ascending.
3) All subsequent companies shall place the Company ID tag on the box with the noted time of entry on form FD-901.
4) Lobby Control, when established, will continue the tracking of those companies already inside the building.

5) Ascending companies should also take an accountability box up to the staging area.

j. While ascending to the incident floor (either by stairs or elevator) the initial officer shall periodically stop and check conditions and the layout of the building. This should be done at least every five (5) floors.

1) Reports and fire conditions should be relayed to the IC.
2) Identification of areas suitable for staging should be relayed to the IC.

k. If the first company to arrive on the incident floor encounters an Immediately Dangerous to Life and Health (IDLH) atmosphere and they lack sufficient personnel to implement two in/two out, they shall not engage in firefighting activities.

1) An exception to this policy shall be if there is a known need to affect immediate rescue.
2) Actions that can be taken while awaiting sufficient resources to initiate firefighting activities include:

a) Preparation of hose lines for use
b) Connection to the water supply system
c) Personnel should check the stairwell above the fire floor for victims. These victims may require direction to the evacuation stairwell or rescue.

l. If the first company encounters an IDLH condition and sufficient personnel are available (eight ((8)) minimum) to begin fire suppression operations:

1) A personnel accountability box shall be placed in a visible or conspicuous location
2) The individual (oval shaped) personal ID tags shall be attached
3) The entry time entered on Form FD-901
4) The preferred location for this box is at the designated location for Staging.

m. Once on the incident floor, the initial ascending Company Officer shall assume the division designation of that floor, i.e. Division 16 for the 16th floor. An immediate report to the IC, or Operations if established, shall be made describing Position, Progress, and Needs (PPN) which includes:

1) Floor number
2) Conditions on the incident floor, stairwell, and the floor above
3) Rescue problems
4) Other specific problems
5) Actions of the company or division

2. Units of the Second Alarm

   a. IC shall establish:

      1) Base
      2) Evacuation Group/Occupant protective actions
      3) Systems Control Unit

   b. The primary objectives of the second alarm are to:

      1) Establish Base. The IC should consider utilizing the first engine of the second alarm.
      2) Augment and/or relieve fire attack personnel in order to sustain a continual application of water on the fire. The IC should consider utilizing the second & third engines and first truck to arrive of the second alarm.
      3) Augment Rescue Group operations and/or create an Evacuation Group. The IC should consider utilizing the fourth engine & second truck to arrive of the second alarm.
      4) Consider establishing a System Control Unit. The IC should consider utilizing the fifth engine of the second alarm.

   c. Augment/relieve fire suppression forces, considerations:

      1) Consider reflex time when assigning crews to reinforce or relieve the fire suppression forces located on the fire floor. The IC should make assignments as early as possible.
      2) Assign resources to check and control fire extension on the floor(s) above the incident.
      3) Reinforce the initial RIC with at least one full crew and establish a RIC Group.

3. Units of the Third Alarm

   a. For sustained incidents, additional alarms will be required to fill other functions. These functions may include, but are not limited to:

      1) Augmenting/relieving suppression or rescue operations
      2) Establishing Ground Support Unit
      3) Establishing Stairwell Support Unit
      4) Establishing Medical Unit Leader,
      5) Establishing Medical Brach Director as required for incidents with multiple patients.

   b. Augment/Relieve Suppression or Rescue Operations

      1) Assignment of 3rd alarm resources to augment and/or relieve crews engaged in suppression, rescue, or evacuation operations.

2) The IC should make assignment to best achieve the strategic objective of the incident.
3) Augmentation of RIC and accountability personnel shall be considered based on the size and complexity of the incident.

c. Additional Third Alarm Functions to Consider:

1) Technical specialists as needed
2) Command Staff, as required: Operations, Logistics, Plans, Air Ops
3) Medical Unit

E. Elevator Operation

Elevator use at a high-rise fire will greatly reduce reflex time. However, failures may occur due to the inherent nature of any complex machine potentially exposed to the effects of smoke, heat, and water. However the potential risks of mechanical failure can be reduced to an acceptable level through a standardized elevator operational checklist. The checklist shall be followed every time an elevator is utilized for fire suppression & rescue operations. With this in mind, elevators use shall be permitted if the reported fire is above the 7th floor and the "elevator operational checklist" is utilized.

1. The Fire Attack Group Supervisor will notify the IC the following information once an elevator has been cleared for use:
   a. Elevator location
   b. Elevator identification
   c. Elevator operator designation

2. Elevator use:

   a. On initial attack if a fire is at or below the 7th floor, or the elevators are determined to be unsafe the stairs shall be used.
   b. Prior to the use of an elevator the alarm panel should be examined to ascertain the level/floor of the fire alarm.
   c. NEVER utilize an elevator to carry firefighting personnel closer than two (2) floors below the lowest level of the alarm.
   d. If the elevators have automatically recalled to the lobby in Phase I; they shall not be utilized on initial attack.
   e. Banked elevators whose shafts terminate more than two (2) floors below the fire floor are considered safe for firefighter transport use.
   f. Caution should be noted with banked elevators, as the machine room can extend upwards of two floors above the upper termination point of the shaft.
   g. Fire conditions on floors within two floors of the upper termination point of a banked elevator shaft may affect the machine room; therefore they shall not be utilized for initial attack.
   h. Blind elevator shafts should not be utilized.

i. Elevators shall be operated by SDFD (Fire) personnel that are trained in their use.
j. Personnel operating elevators shall comply with the elevator operational checklist found in High-rise check list packets.
k. Elevator operators must be thoroughly familiar with emergency elevator operations.
l. Elevator operators shall report to Lobby Control with:

1) An elevator operational check list
2) Forcible entry tools
3) Radio
4) Hand lantern
5) Red phone (from alarm panel control room)
6) Dry chemical extinguisher
7) Six (6) foot pike pole
8) Spare SCBA bottle
9) Personnel utilizing elevators shall have their:

a) Masks donned in the stand-by mode
b) Dry chemical extinguisher at the ready

10) Maximum elevator capacity shall not exceed five (5) personnel
11) Prior to utilizing the elevator; personnel should be familiar with the location of nearby stairwells in the event of an emergency evacuation of the elevator car.

3. The elevator operational checklist shall be utilized when using elevators

a. Phase I Recall:

1) This feature may occur automatically or be manually initiated.
2) If a smoke or heat detector (FAID) is initiated in an elevator lobby, machine room or hoist-way the elevators will automatically recall to the designated level and remain there with the doors open.
3) Phase I may also be manually initiated in the main lobby/designated level or from the Fire Control Room, this shall be done in the following circumstances:

a) Smoke showing on arrival
b) Any additional reports aside from the initial 911 call reporting fire
c) Activation of multiple alarms or extinguishing systems

b. Use during initial attack

1) Elevators shall not be used for initial attack if in Phase I recall upon arrival. **<u>This situation urges extreme caution.</u>**

2) The alarm system is indicating that fire, smoke, water, or heat is affecting one of the components of the elevator system.
3) Crews shall ascend via the stairs and investigate the problem.
4) Once the scope of the incident is determined and the safety of elevator system is confirmed the IC may approve the use of the elevators.

c. Smoke detector activation

1) Be aware that if smoke/heat detectors outside the elevator lobby area are activated first, fire control doors will automatically close, and isolate elevator lobbies
2) This may result in delayed activation of the lobby detector and automatic recall.
3) Elevators may still allow occupants and/or firefighters to travel directly to a fire floor in normal operating mode.

d. Prior to the use of an elevator system the alarm panel shall be reviewed. This is done in order to determine the level of alarm activation.

e. Phase II Elevators

1) Firefighters shall only use Phase II equipped elevators.
2) Phase II is activated after Phase I is initiated;

a) The key is removed from the Phase I slot and placed in the "Firefighter Service" slot within the elevator car
b) The key should be then turned to the "on" position.
c) In Phase II the car will only respond to inputs from within the car.
d) If during Phase II operation the key is turned to the "off" position, the car will revert to Phase I and return to the designated floor.

f. Fire Service Mode

1) When in Fire Service Mode (Phase I & II) the Fire Helmet symbol within the car will illuminate solid.
2) **If this symbol flashes do not use the elevator**
3) The "flashing helmet" is initiated by activation of a heat and/or smoke detector (FAID) located in the elevator hoist-way or machine room.
4) Shunt Trip

a) If the hoist-way and/or machine room are sprinklered you should expect a feature called "shunt trip".
b) This item will activate prior to the fusing of a sprinkler head.

c) This feature removes all power from an elevator causing the car to stop, the brakes will set and only an elevator mechanic can retrieve it.
d) This may occur outside the elevator "landing zone".
e) This feature exists because water in a machine room or hoist-way can create catastrophic problems with elevators.

g. Inspect the shaft with a flashlight, if you see any smoke or water do not use.

h. Test "door close" & "door open" functions.

1) Provide constant pressure on the door close button until closed
2) Next provide constant pressure on the door open button until opened completely.
3) While closing briefly release the button and ensure door reverses direction
4) When the button is pressed and held again the door movement should resume closing/opening.
5) If the elevator does not have a door open/close button the floor selection buttons will serve this purpose.

i. Test "call cancel"

1) With the doors open make a floor selection
2) Depress "call cancel"
3) Floor light on panel should go out
4) Call cancel clears the input register/floor selection of all inputs.
5) If the elevator is moving, and call cancel is depressed it will cause the elevator to stop at the next floor in the direction of travel.

j. Test "Hold" function.
Select a floor on the panel and remove key. The elevator should not accept commands until returned to Phase II.

k. Periodic check on fire conditions

1) Stop every 5th floor en-route to your destination and check the shaft
2) Periodic stops will ensure the car is taking commands.
3) Always stop a minimum of 2 floors below the lowest level of alarm.
4) NEVER take an elevator to the floor of alarm.

l. Failure of protection functions

1) If the car is not responding properly immediately select "call cancel".

a) Options include activating the "emergency stop"

b) Returning the car to Phase I by turning the key to "off"
c) The car should stop and return to the designated level.
d) If there is no response from the elevator then pry open the car door. This should interrupt the interlock and stop the car.

m. Upon arrival at the desired floor

1) Conduct "peek-a-book" door opening to ensure a tenable environment.
2) It's critical to remember that the doors must be fully open before exiting the car, if not the doors will close behind firefighters
3) The elevator will be out of service because the crew will not be able to reopen the doors unless they have another elevator key.
4) If crews want to keep the car they can place the key in the "hold" position.
5) If Firefighters want to return the elevator car to the designated level they can do so by placing the key in the off position & exiting the car. Leave the key in the slot for others to use.
6) The car is now in Phase I and will return to the designated level and open the doors.
7) This may be beneficial in the initial phases of a fire prior to the assignment of dedicated elevator operators.

F. Helicopter Operations

1. All helicopters shall report to the Incident Commander, Operations Section Chief, or the Air Operations Branch Director.
2. Helicopters may be tactically utilized to:

a. Locate occupants in windows and provide smoke reports to command on the ground. This may enable the command staff to send firefighters directly to trapped victims.
b. Determine vertical ventilation options.
c. Determine fire extension to other floors.
d. Spot exterior air shaft extensions in the building's construction that could allow for an exterior ground attack
e. Identify locations for ground crews to bring in high-volume water streams just a few stories from the fire floor. From these vantage points high volumes of water can be directed to the seat of the fire.
f. Provide "real time" imaging of incident and fire activity by way of microwave downlink equipment to the Command Post and FCC.

g. Provide airborne thermal imaging and recording when equipped with a Forward Looking Infra-Red (FLIR) system. This may be helpful if fire brands are being thrown into/onto other structures. FLIR can also be utilized for the locating of occupants within the building that may not otherwise be directly seen.

3. If required, additional air support can be requested through FCC.

   a. If additional air support is requested, the coordination of additional aircraft will be managed by the Air Operations Chief or Pilot-in-Command. .
   b. If the SDFD is not staffing both helicopters, a request can be placed with SDPD for the use of one of their Type 3 helicopters.

4. Coordinating and/or shutting down the airspace with the FAA and/or any other aircraft supporting the incident will be the responsibility of the Air Operations Chief or Pilot-in-Command. This responsibility may be delegated to the Helicopter Coordinator if assigned.

G. Incident Communications Procedures

1. Units assigned to fire and rescue activities shall remain on the primary tactical channel. This is designed to prevent loss of communications when additional channels are assigned. This channel will be identified as the Operations Tactical Channel.
2. Units assigned to logistics functions shall utilize the secondary tactical channel. This channel will be identified as the Logistics Tactical Channel.
3. If incident requirements exceed this plan, the IC shall request additional tactical channels from FCC. These additional tactical channels may be assigned to Branches, Groups, or Divisions. An example would be the Medical Branch or Group on a third tactical and Air Operations on a fourth tactical.
4. Personnel are to exercise radio discipline to limit the amount of radio traffic.
5. If the use of repeated radio communications becomes difficult inside a high-rise structure, FMARd (13P) is to be utilized as a default backup channel.

   a. To ensure the ability to receive any traffic sent by personnel who have encountered this problem, it shall be standard procedure for at least one radio at the ICP to be set on FMARd (13P) to continuously monitor for this condition.
   b. If necessary to make additional use of direct channels, the IC (or Operations if established) may assign the following conventional (direct) channels:

      1) FIREMARS (13A) (direct mode only)
      2) I TAC 1(13J)
      3) I TAC 2 (13K)
      4) I TAC 3 (13L)
      5) I TAC 4 (13M)

6) FMAR 2 (13O)
7) FMARd (13P)

c. If the use of direct channels becomes necessary due to signal degradation from the structure, it is advisable to assign individuals at strategic locations inside to serve as "Human Repeaters".
d. Repeaters will ensure integrity of radio communications between units inside and the ICP outside.
e. These personnel can relay messages that have been transmitted but not acknowledged.

H. Reduced Response Ringing Alarm

A significant number of high-rise ringing alarm responses are received and acted on daily by our Department. These responses are assigned one Engine and one Truck Company, which minimizes the impact on resources. This High-Rise Policy has been developed to allow for a smooth transition from a ringing alarm to a more complex incident when the conditions encountered by the investigating companies require a greater number of resources.

1. For Command purposes, on a two unit response to a ringing alarm, the engine company Officer will assume Incident Command (IC) responsibilities.
2. The truck company Engineer will locate and monitor the enunciator Panel. They will have an 800 MHz portable radio in their possession to communicate with the ascending companies.
3. The engine company Engineer will spot the apparatus as directed and be ready to supply the standpipe/sprinkler system. He/she shall monitor the apparatus radio for instructions.
4. The remaining personnel from each company (6 total) will ascend the structure with the standard high-rise equipment as identified in this Standard Instruction.
5. If the conditions are manageable by the initially assigned companies, the engine company Officer will advise the FCC and terminate the incident after operations are concluded with the alarm system returned to service.
6. If the conditions encountered are beyond the capability of the initial companies, additional resources will be requested based on need.
7. If the crews encounter a working fire, the IC will request a first and second alarm in sequential order.
8. If, in the judgment of the IC, the incident will exceed the capabilities of the second alarm, he/she will request a third alarm.
9. The IC will order the engine company Engineer to charge the standpipe/sprinkler system and the truck Engineer to assume Lobby Control.
10. The engine company Officer will assume a command position outside of the fire area until relieved.
11. The truck company Officer will then assume the division designation of the fire floor for future identification.

12. This configuration allows for a four person entry team and two initial rapid intervention (I-RIC) crew members.
13. The engine company Engineer will determine a Base location and radio that information to the FCC.
14. Refer to pervious sections of this policy for detailed information on the management of a working incident.

I. High Rise Operational Training

1. To maintain adequate operational skills to manage incidents in high-rise buildings, all companies shall participate in an annual training exercise developed by an assigned Battalion Chief.
2. This training should include, but not be limited to:

   a. Implementation of the Incident Command System positions
   b. Fire Control Room operations
   c. Elevator operation
   d. FDC operations and pumping into the system
   e. Review and operation of smoke control systems
   f. Communications
   g. Hose line deployments
   h. Transporting equipment aloft
   i. Helicopter coordination
   j. Personnel accountability

3. This training is to be provided and rotated quarterly so that at the end of the calendar year all companies on all divisions will have participated. The schedule will be developed so as not to impact IST and other daily department functions.

   a. First Quarter – Battalion 1 and 2
   b. Second Quarter – Battalion 3 and 4
   c. Third Quarter – Battalion 5 and 6
   d. Fourth Quarter – Battalion 7

J. High Rise Resource Utilization

This list of assignments provides an overview of resource deployment at a high-rise incident. This list in no way limits the Incident Commanders tactical flexibility. In fact if conditions warrant the Incident Commander is expected to make changes in resource deployments and assignments, if doing so based on information known at the time has a strong likelihood of positively impacting the outcome of the incident.

FIRST ALARM

First two Engines & First Truck form *Fire Attack Group*
First two Engine Engineers form *Water Supply Group*
Third Engine assumes *Lobby Control Group*
Fourth Engine Assumes *Staging & RIC*

Fifth Engine, Second Truck & Rescue Company assume *Rescue Group (Rapid Ascent Tactics)*
Truck Engineers assume *Ventilation group*

SECOND ALARM

First Engine assumes *Base*
Second & Third Engine & First Truck to *relieve/augment initial attack crews*
Fourth Engine & Second Truck *Augment Rescue Group* and/or establish an *Evacuation group*
Assume *Systems Control Unit* or augment Systems Control as a function of Lobby Control

THIRD & SUBSEQUENT ALARMS

Establish *Ground Support*
Establish *Stairwell Support*
Augment core functions & expand ICS system to support size of incident