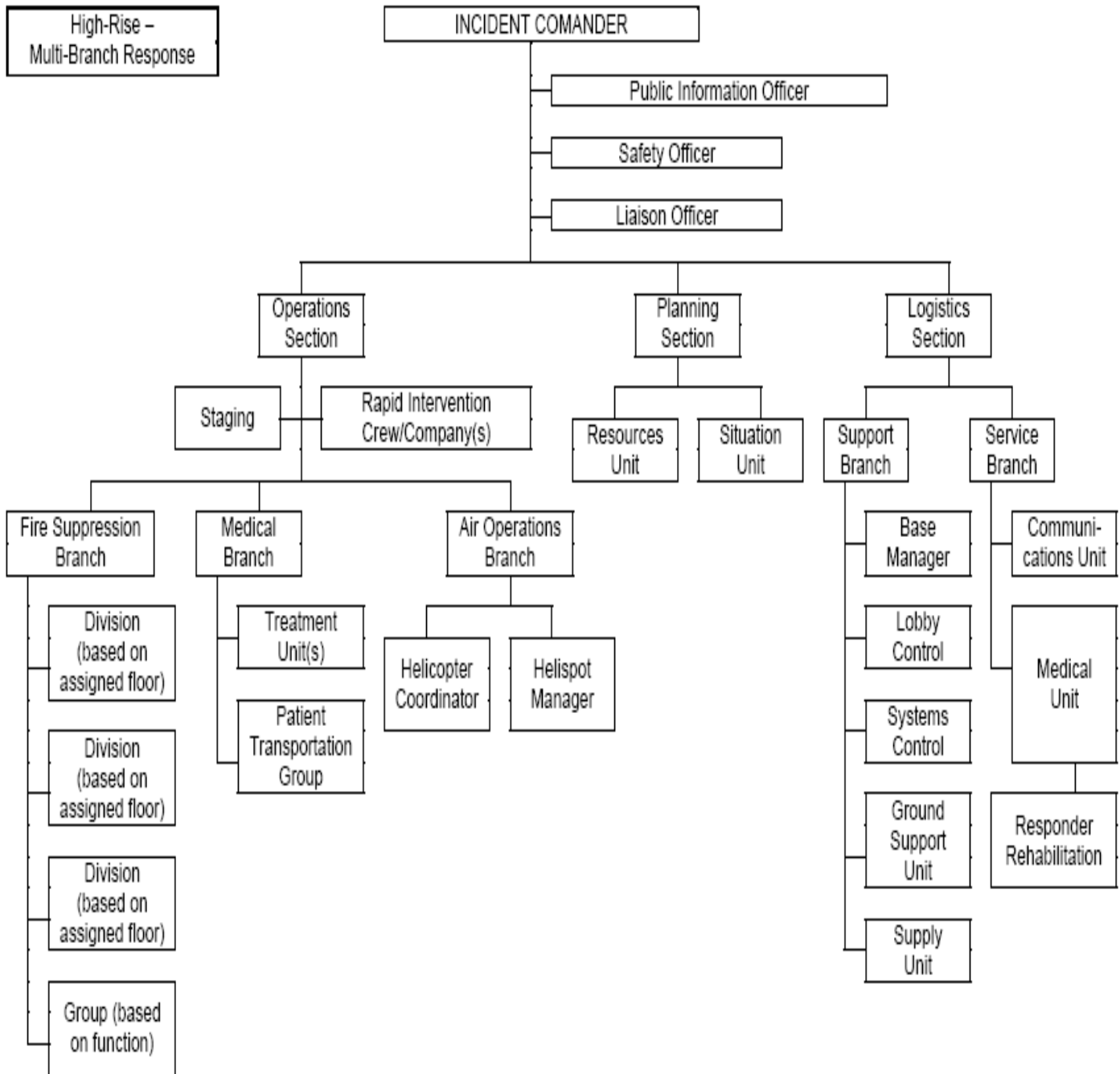


High-Rise Reference Guide



High Rise "Quick" Worksheet

Address:

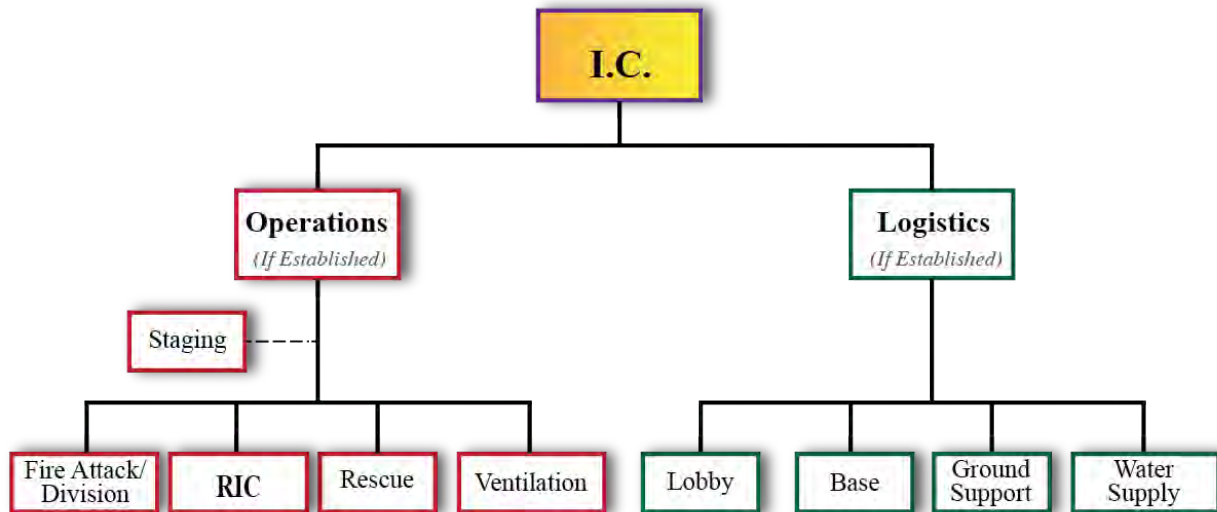
Command Location:

Alarm	E	E	E	E	E	T	T	BC	BC	R4	ALS	IC: Command Channel			
1															
Fire Attack: E E T DIV: TAC: ID Stairwell w/Roof Access, ID Stairwell for Occupant Evac, Personnel Accountability Box at Security Desk, Check floors on way up, ID Staging Floor, PRV Adjustment tool, Caution Ventilating into Stairwells with occupants			Lobby: E TAC: Company Accountability, Elevator and Building Access Control, Systems, establish equipment stockpile points			Staging : E TAC: 2-3 floors below fire, eval need for high rise equip as companies ascend, ID Staging area for ascending companies. Locate drinking water for crews, set up SCBA bottle area full and depleted, ID Medical Unit location Establish RIC and Accountability Water Supply Group: First two engines relay into FDC			Radio Report: Building Height - <i>Occupancy Type</i> – Residential-Commercial <i>Conditions</i> – Smoke –Fire- Evacuees <i>Safety Concerns</i> – Falling material – traffic - access <i>Rescue Problems</i> – Occupant location – Large numbers <i>Actions being taken</i> – Fire Control Room – Fire Attack <i>Name the Incident</i> - Primary Objectives: Personnel Safety; Rescue; Extent, Confine & Extinguish Fire; Property Conservation Additional Alarms: 2 nd 3 rd 4 th						
2 nd Alarm	E	E	E	E	E	T	T	BC	BC	ALS	LA	Staff	Com 1	Air Operations	
Base: 200 FT E TAC Location: (Id Routes, hazards, required equip placed in accessible area)			Ground Support: E TAC (Transport equip and supplies to Staging floor, control ground level traffic movement)			Augment Fire Floor: Medical Unit: (FF Injuries)			Eval Fire Pumps, Utilize Water Dept, Water Supply Group Supervisor:						
3 rd Alarm	E	E	E	E	E	T	T	BC	BC	ALS	Technical Specialists: Building Engineer, SD&E, Hazmat, Elevator, Water, Structural Engineers				
Stairwell Transport: E E E TAC Equip from base to incident floor via Ground Support, Fires above 10 floors use Stairwell Manager						Systems Control: E TAC Fire Control System, Life Safety Systems, Environmental Controls, Comm, Elevator Systems						Units Augment Fire Floor and/or Staging: Div _____ Units Div _____ Units Units to Floor above and below fire: Div _____ Units Div _____ Units			
4 th Alarm	E	E	E	E	E	T	T	BC	BC	ALS	Communications Plan				
Augment Operations as Required Units/Staff:											Monitor conventional (direct) channels for above/below ground.				
												Tac	Tac	Tac	Comments
Initial Plan: Where is Fire in 30 minutes (circle all that apply) Shelter Occupants in Place; ID Attack and Evac Stairwell; Contain Fire to ___ Floor; Control Building Systems; Clear Hazards; Division off Incident; Augment attack crew; Eval floor above/below; Caution ventilating with occupants in Stairwell															
Code N	PIO	PD	SDGE	MAST	CANTEEN	REHAB	CPTR 1	PPN	Base	Ground Support	Stairwell				
Ops Chief AC			Plans Chief TAC			Logistics Chief TAC									

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- B. Fire Attack**
- C. Lobby**
- D. Staging**
- E. Water Supply**
- F. Rescue**
- G. Ventilation**
- H. Systems**
- I. Fire Pump**
- J. Elevators**
- K. Base**
- L. Ground Support**
- M. Tracking Sheet**

High-Rise ICS



Primary responsibilities:

- Personal safety
- Rescue
- Locate & assess scope of fire
- Confine & extinguish fire
- Establish command structure
- Property conservation
- Tactical considerations: Occupancy type, time of day and potential occupant load
- Base decisions on potential fire growth in 30 minutes
- Sealed highrise can conceal a significant fire with no outward signs

High-Rise ICS

Upon arrival:

- **Initial size-up & radio report:**
 - **Building height & occupancy type**
 - **Observed conditions & safety concerns**
 - **Immediate rescue issues**
 - **Actions being taken**
 - **Resource needs (*smoke showing call a 2nd and/or a 3rd*)**
 - **Name the incident**

Suggested assignments:

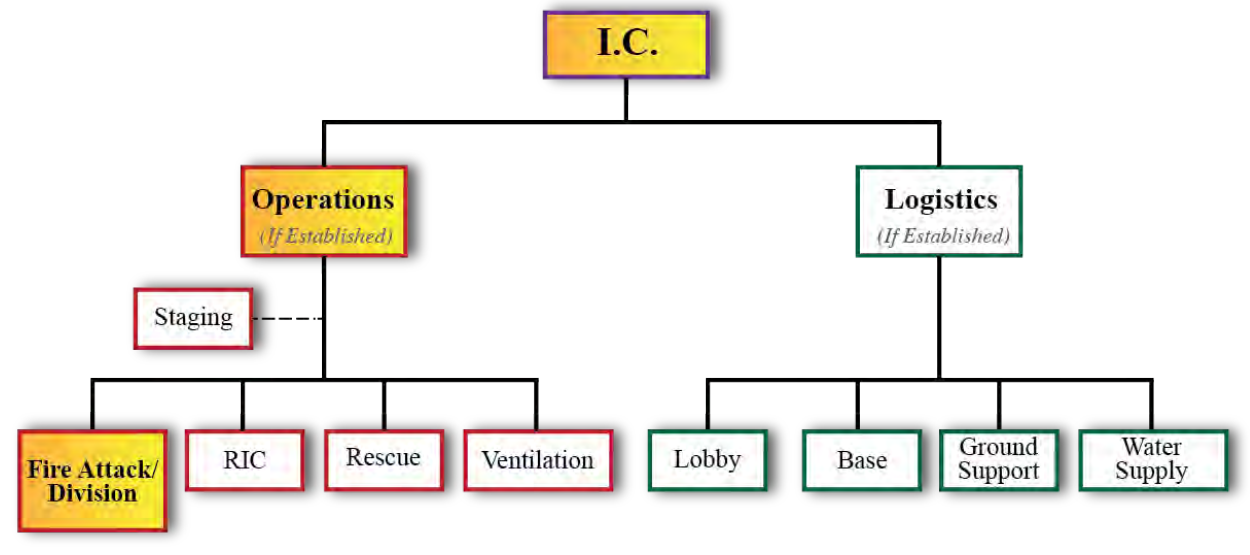
- **Fire Attack Group: *1st & 2nd Engines & 1st Truck***
- **Lobby Control: *3rd Engine***
- **Staging: *4th Engine***
- **Water Supply Group: *Engineers from 1st & 2nd Engines***
- **Rescue Group: *Heavy Rescue, 5th Engine & 2nd Truck***
- **Ventilation Group: *Truck Engineers from 1st & 2nd Trucks***

Additional priorities:

- **Monitor for EMER & CARS traffic**
- **Ensure RIC group is established**
- **Augment and/or relive suppression crews**
- **Augment other core functions**
- **Establish Base & Ground Support**
- **Establish Logistics**
- **Request additional TAC channels**

High-Rise ICS

Fire Attack Group/Division



Primary responsibilities:

- Form Fire Attack Group (2 engines & 1 truck)
- Review alarm panel & level of alarms
- Identify attack & evacuation stairwells
- Locate & assess scope of incident
- Is stairwell search underway?
- Attack fire or compartmentalize fire
- Frequently check overhead for fire

Fire Attack Group/Division

General:

PPE/Radios FOG/Cklists
Bottles TIC
Escape pack Account. box
Forcible entry **Duct tape

Engine specific:

Hose & nozzle
Standpipe kit

Truck specific:

Rescue saw & blades
Pike pole
Extinguisher

** Duct tape to keep doors unlocked but allows them to close maintaining smoke barrier

On initial arrival:

- Company Officer to alarm panel, assess location, type & number of alarms
- Ensure auto unlock and/or obtain keys
- Obtain red phone if available
- Locate and assess elevator for use
- Locate stairwells & designate attack & evacuation stairwells. Consider stairwell with roof access for attack

Ascent:

- Leave accountability board & tags in lobby at point of ascent
- Stop & check conditions/floor layout every 5 floors (elevator or stairs)

Fire floor:

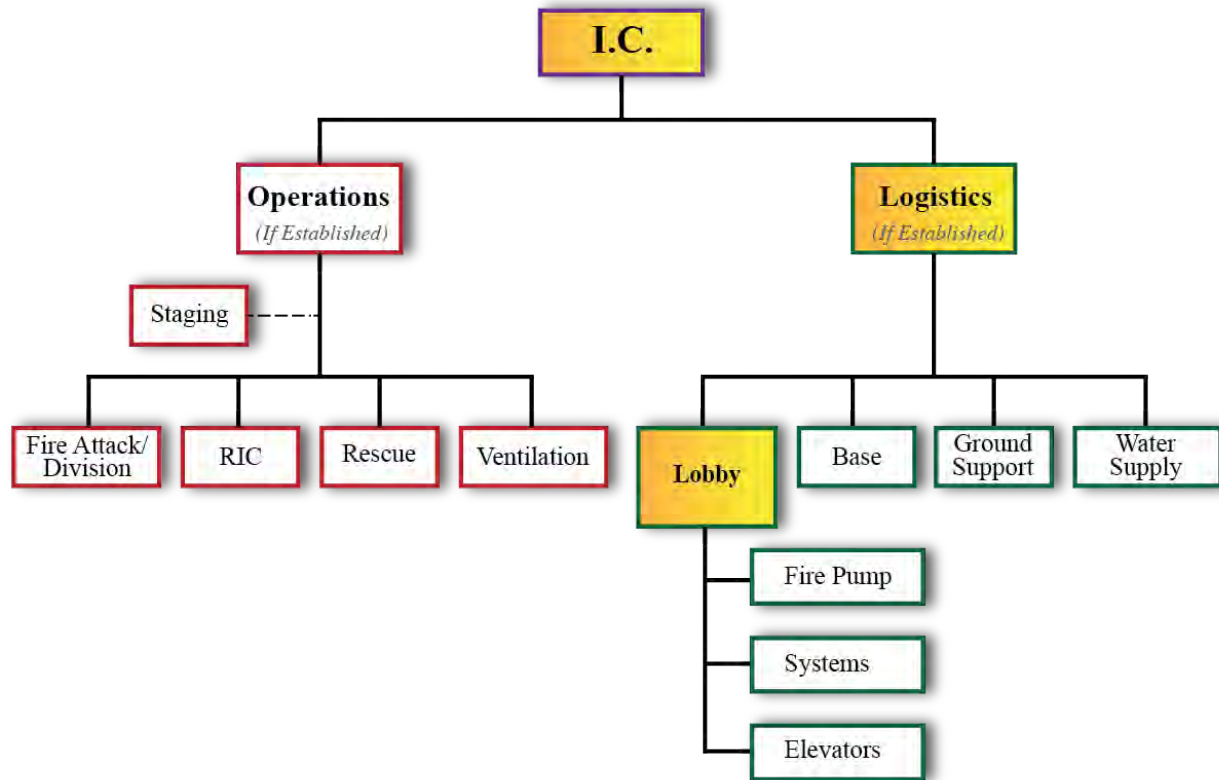
- Locate fire floor & assume Division #?
- Identify suitable floor for Staging
- Attack or compartmentalize?
- Notch door/smoke control
- Ensure I-RIC. Leave tags at staging

LOW PRESSURE TROUBLESHOOTING:

- No kinks & valves open
- PSI from supply adequate
- Consider smoothbore
- Remove restrictor/adjust PRV
- If equipped with an in-line standpipe gauge ALL ADJUSTMENTS SHALL be made when flowing

Fire Attack Group/Division

Lobby Control



Primary responsibilities:

- **Control all entrance & exit points**
- **Establish accountability system**
- **Direct crews to appropriate stairwell/elevator**
- **Direct fleeing occupants to safe egress**
- **Establish systems control**
- **Recall/account for elevators. Assign operators**

Lobby Control

Accountability:

- **Maintain accountability system for all personal entering & exiting building**
- **Account for personnel already in building upon arrival ex: Fire Attack Group**

Building access:

- **Maintain control of all entry & exit points**
- **Direct incoming crews to appropriate stairwell and/or elevators**
- **Ensure stairwells have auto-unlocked and/or keys are issued**
- **Direct fleeing occupants to safe routes of egress**
- **Utilize banner tape & SDPD to assist in flow of people**
- **Beware of falling debris**

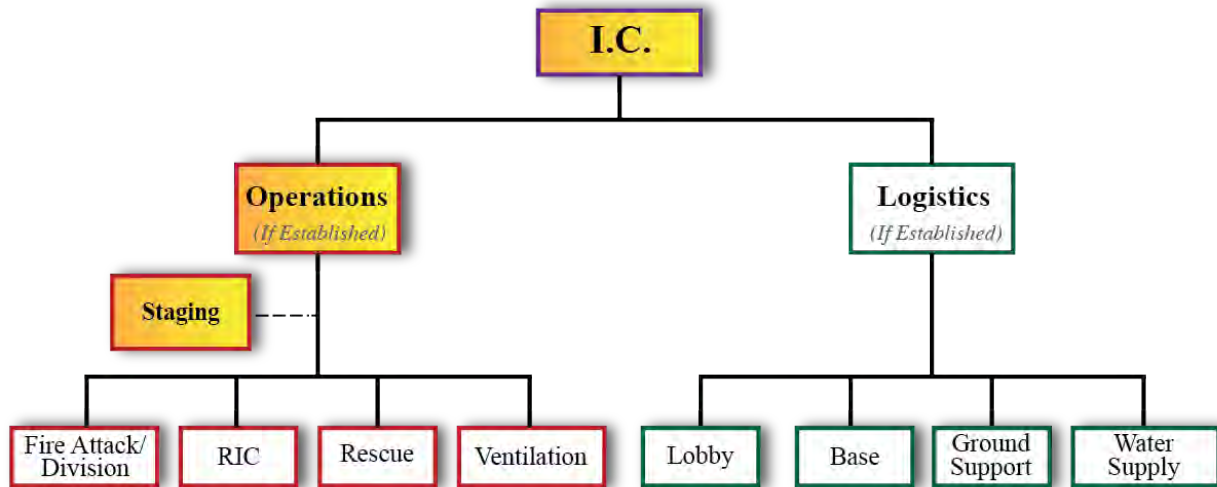
Elevators:

- **Recall & account for all elevators**
- **If elevators are utilized assign elevator operators. One operator per car**

Systems Control:

- **Refer to Systems Checklist for detailed information**
- **Monitor & operate building systems which include such things as: fire pump, air handling, communications, public address system, and generator**
- **Request the Building Engineer and any other required technical experts**

Staging Manager



Primary responsibilities:

- **Select suitable area for staging**
- **Establish accountability system**
- **Bring RIC bag/Augment I-RIC**
- **Develop an equipment cache**

Staging Manager

If assigned Staging bring pens, pencils, duct tape, banner tape, clipboards, and writing paper. Staging will require organization & documentation.

Staging location:

- 2-3 floors below fire floor
- Restrooms, lighting and open space should be considerations
- Clearly identify location & create check in/out point
- Use banner tape/signage to identify different areas and facilitate workflow
 - Rest & Rehab
 - Full/empty bottles
 - Ready to deploy area
 - Medical
 - Various equipment
- Request SCBA Bottles & drinking water early on
- Develop an equipment cache
- Ensure medical support is in place at Staging
- Anticipate power failure and make contingency plan for lighting

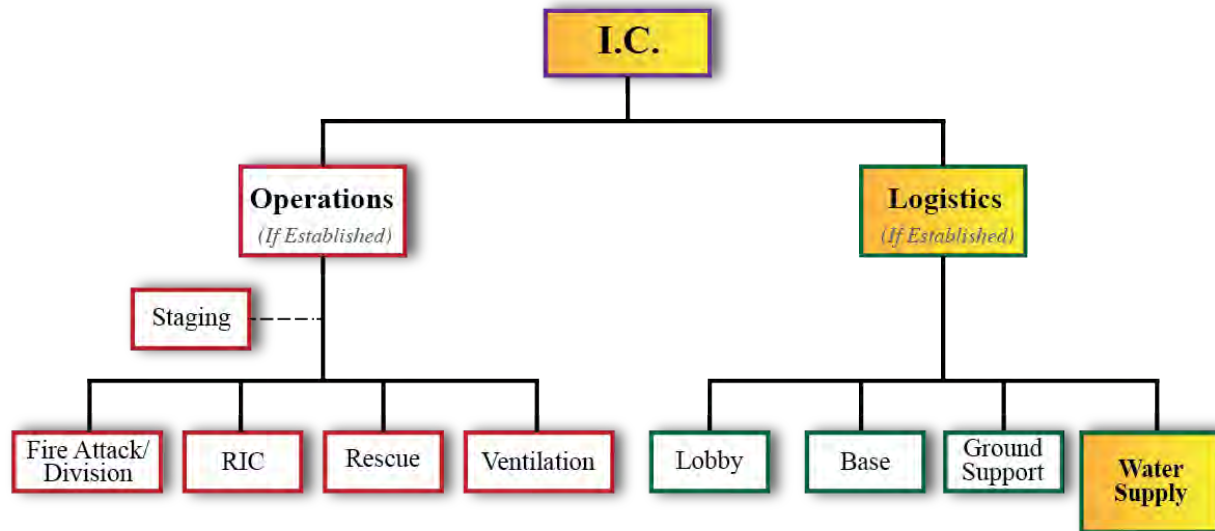
Accountability:

- Establish accountability system
- Collect accountability boards left by fire attack crews

RIC:

- Augment I-RIC
- Ultimately as personal arrive a distinct RIC Group will be designated

Water Supply Group



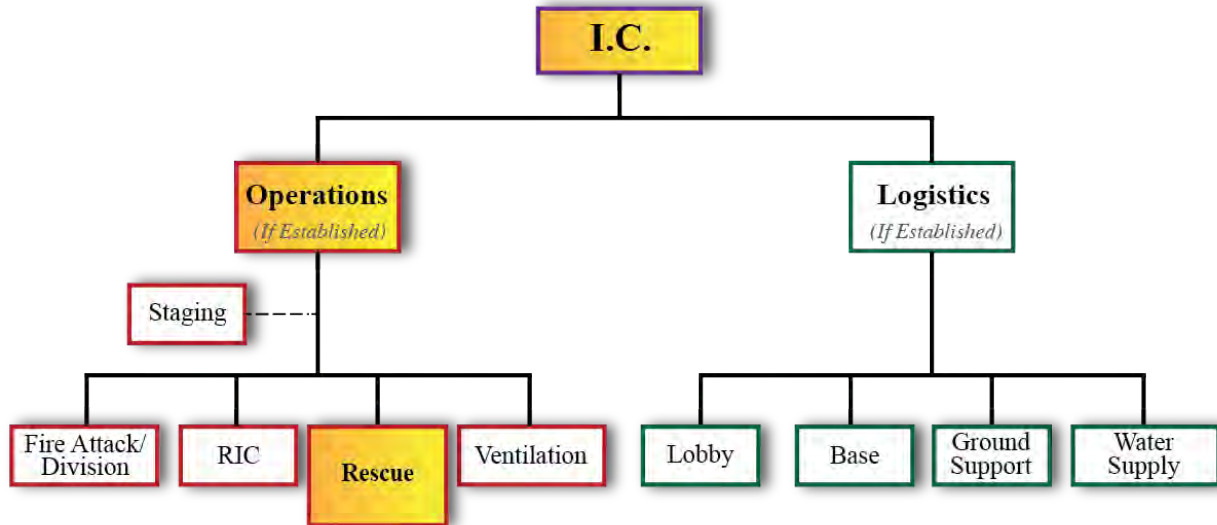
Primary responsibilities:

- **Secure water supply**
- **Two pumps in series connected to FDC**
- **Position apparatus taking into consideration:**
 - **FDC location**
 - **Potential falling debris**
- **Provide initial pump pressure of 150 until status of fire pump is determined**

Water Supply Group

- **Contact systems control to determine operational status of fire pump**
- **Utilize building fire pump to provide pressure and our apparatus as a back-up to that system**
- **If building fire pump is operational and effective apparatus may be idled down**
- **If FDC's are placarded with a specific pressure then pump that pressure**
- **If no placard: $PP=NP+SL(25)+FL+5$ psi/floor**
- **Ensure pressure is adequate for fire attack crews**
- **Split work between pumpers and anticipate re-fueling requirements**
- **Take proactive action to ensure safety from falling debris**
- **Develop a plan for catastrophic water system failure**

Rescue Group



Primary responsibilities:

- **#1 priority is a rapid search of the attack stairwell above the fire floor**
- **Consider occupancy type, size of fire & time of day when developing search priorities**
- **Utilize “Rapid Ascent Tactics” to assist fleeing occupants to evacuation stairwell or safe refuge**
- **Continually roam stairwells**

Rescue Group

Basic gear is a light load, speed is essential:

Full PPE/Radios

Forcible entry tools

Keys

TIC

Red phone (if available)

****Duct tape**

Spare bottle per person

****Duct tape to keep doors unlocked but allows them to close maintaining smoke barrier**

General search priority:

- **Attack stairwell**
- **Evacuation stairwell/fire floor**
- **Top 3 floors/3 floors above & below the fire**
- **The entire building will require a search unless the fire is very small and contamination is obviously limited**

Prior to ascent:

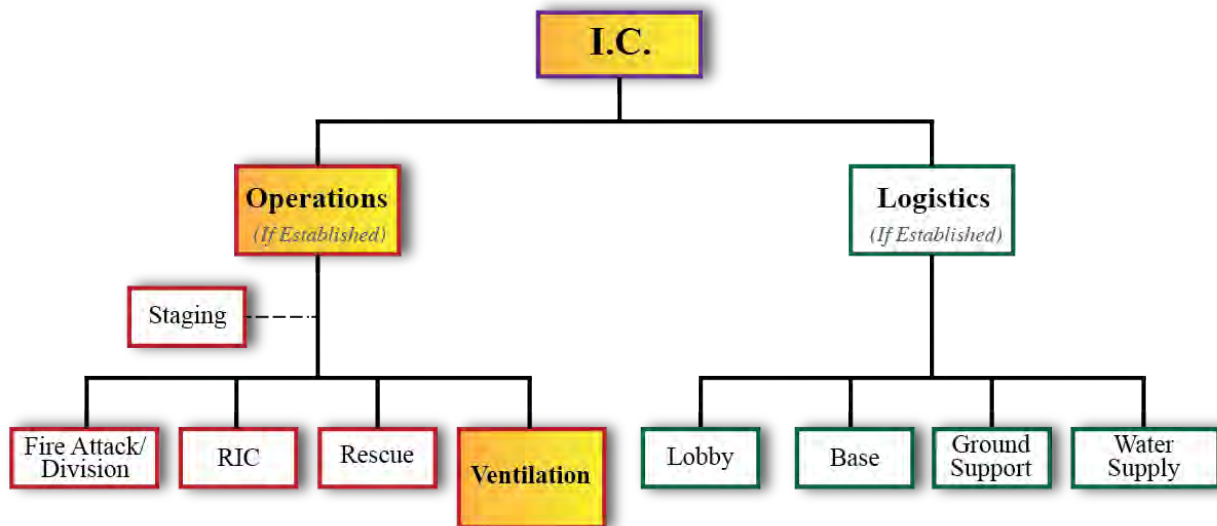
- **Ideally ascent will be done via elevators to facilitate a rapid search**
- **Ensure stairwell has auto-unlocked if equipped and/or you have keys**
- **Determine attack & evacuation stairwell**

Ascent:

- **During ascent give condition updates and be prepared to assist by opening roof top doors as directed**
- **Do not open roof top doors without coordinating with fire attack crews, fire behavior can be adversely affected**
- **Rapid ascent tactics typically do not involve “hands on rescues” rather fleeing occupants will be looking for instructions. Direct them to the evacuation stairwell or safe refuge areas**

Rescue Group

Ventilation Group



Primary responsibilities:

- Consider era of construction & determine presence of smoke handling systems
- If no dedicated smoke handling system consider shut-down of HVAC
- Assess stairwell pressurization
- Coordinate with attack & rescue crews to determine effectiveness of pressurization and smoke handling systems

Pressurization is vital until the location and scope of the fire have been determined

Effective stairwell pressurization is essential and should be a top priority

Ventilation Group

Pressurization:

- Pressurization is vital to occupant egress and firefighter safety
- Do not prop stairwell doors open. Use duct tape to keep unlocked but still allow door to close
- If stairwell pressurization systems are augmented with blowers ensure pressure gradients do not prevent stairwell doors from being easily opened

Fan Placement:

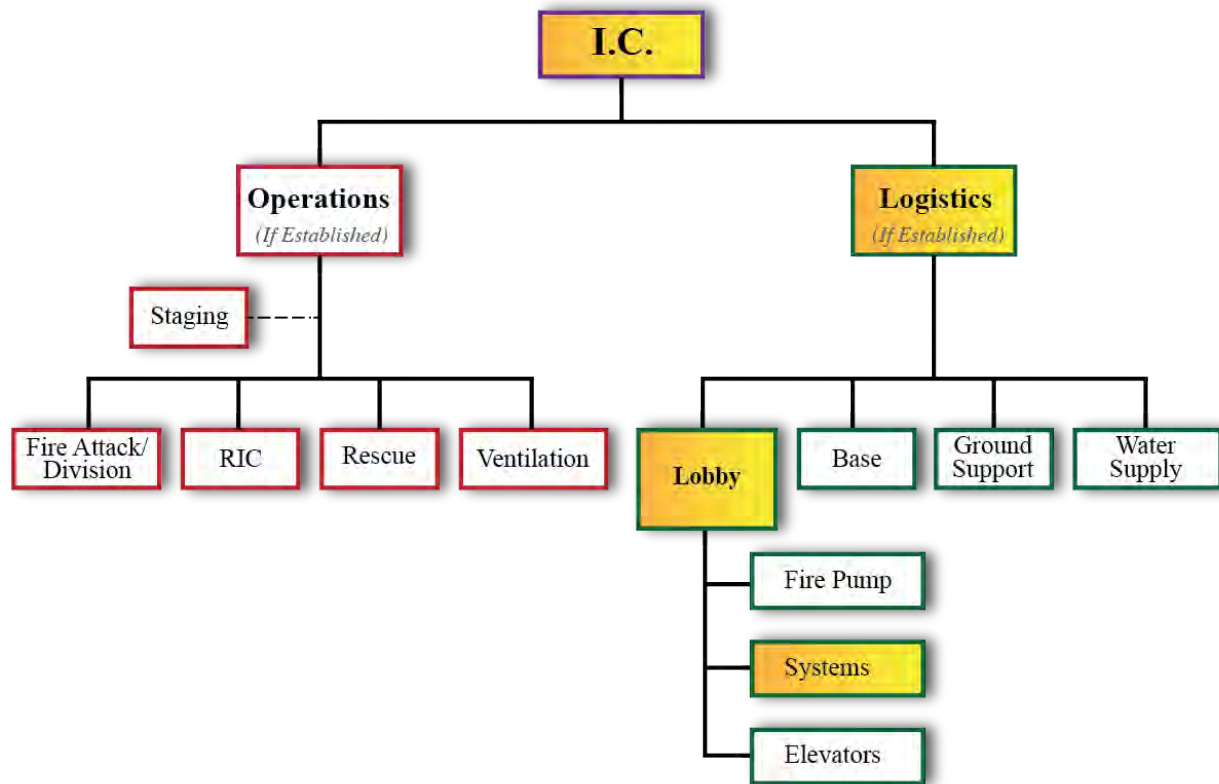
- Fans should not be placed in stairwells due to CO accumulation
- Fans should be placed 4-6' back from door openings. If using 2 fans utilize a converging "V" pattern
- Place fans on bottom floor, every 10 floors and 2 floors below the involved floor(s)
- Personnel should be in close proximity of running fans if immediate shut-down should be required
- Monitor CO levels

Ventilation:

- Work in a coordinated manner with fire attack crews as ventilation may adversely affect fire behavior
- Ventilation should not be done utilizing evacuation stairwells
- To facilitate ventilation objectives portions of pressurization systems may need to be shut down
- Stratification in tall buildings should be considered
- Stack effect may be prevalent when outside temperatures are extreme
- Horizontal ventilation ideal in residential. Commercial more complex
- Break glass only with IC permission
- When conducting horizontal ventilation consider wind speeds aloft
- Consider hoselines in place on floor above ventilation openings
- Place physical barriers at openings as necessary to prevent falling out

Ventilation Group

Systems Control



Primary responsibilities:

- Request building engineer/technical experts
- Ensure stairwells auto-unlock and/or keys are issued
- Monitor & operate systems:

Alarm panel

Smoke handling system/Pressurization

Fire Pump

Elevator recall & accountability

Power generation

Public address system/communication system

Systems Control

Alarm System:

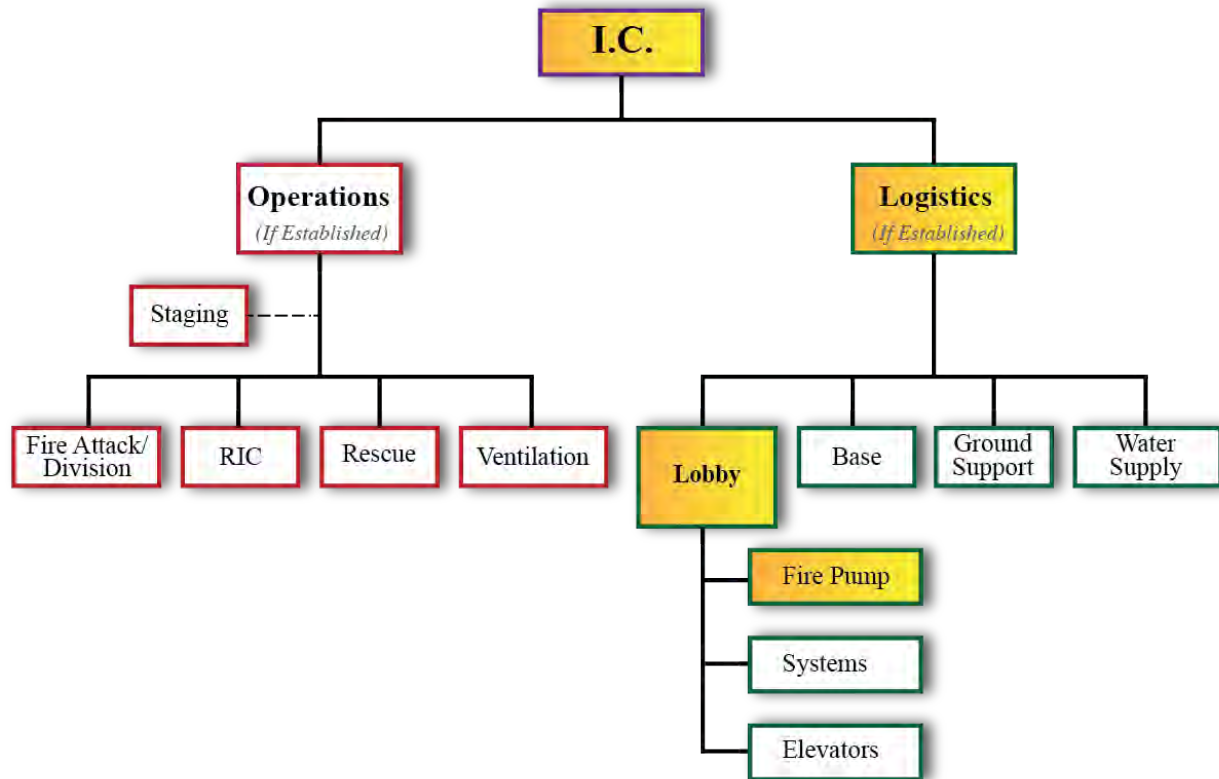
- Note location, type & number of alarms on arrival & notify ascending crews if additional alarms initiate
- System may be silenced to reduce confusion, this will silence audio but strobes will continue to operate. If this is done ensure advisory information & instructions are broadcast over the PA to building occupants

Systems:

- Evaluation of the various systems and their effectiveness will require communication and coordination with others ex: ascending crews can provide excellent information regarding smoke handling systems and stairwell pressurization effectiveness
- Ensure stairwells have auto-unlocked and/or keys are issued
- Recall and/or account for all elevators
- Ensure a firefighter has been assigned to the fire pump room. Make contact & ensure pump is running effectively
- Assess presence & effectiveness of smoke handling system/stairwell pressurization. Advise Ventilation Group. Stairwell pressurization is vital
- If no dedicated smoke handling system consider shut down of HVAC system to limit smoke & heat spread
- Monitor & operate building interior communications system “red phones”
- Operate public address system
- Monitor power generation system & fuel level if applicable
- Develop a contingency plan for catastrophic systems failures
- Develop a dewatering plan to prevent basement from flooding which can compromise vital systems

Systems control initially operates under and reports to Lobby Control. As the incident grows in complexity a Systems Control Group may be established as desired and report to Logistics

Fire Pump Operations



Before leaving to find the pump room:

- Obtain red phone if available & hearing protection
- Confer with Systems Control and observe status of fire pump if available
- Obtain keys and/or bring forcible entry to gain access to pump room
- Very large buildings may have pumps in more than one place ex: ground floor & half-way up the building

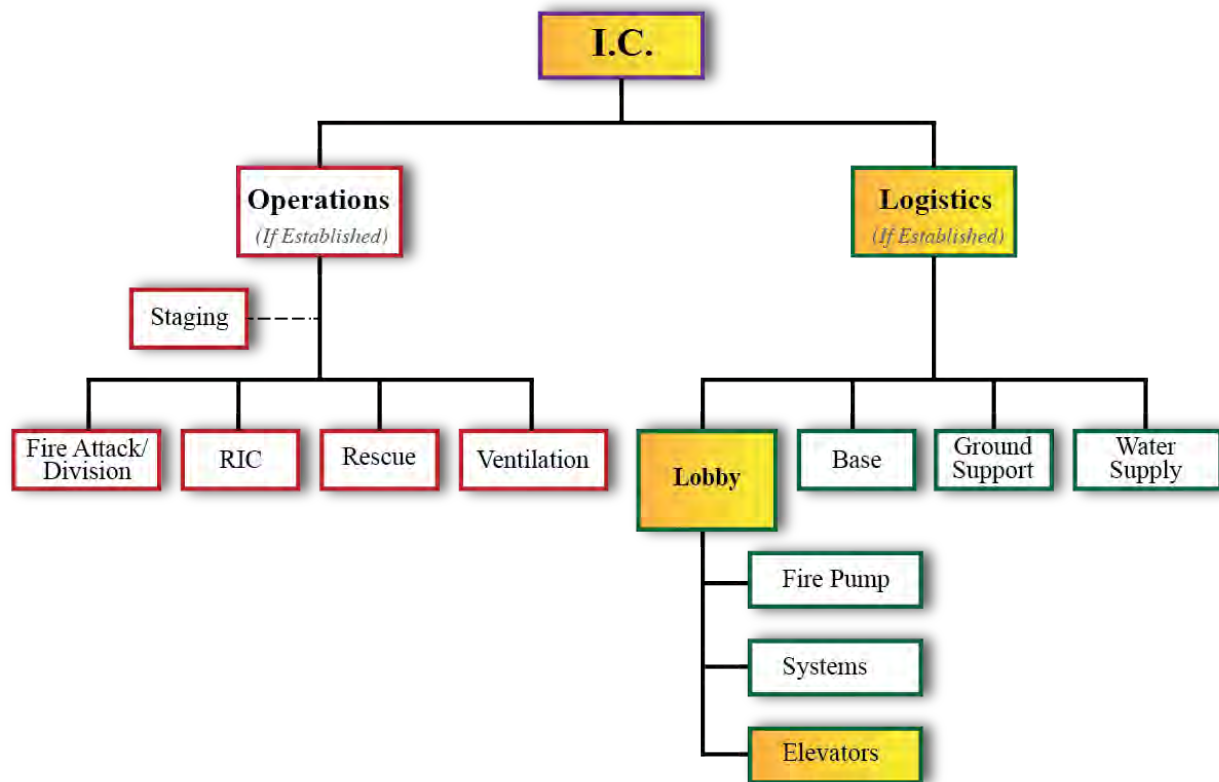
Fire Pump Operations

At the pump room:

- **Determine if pump is operating. It should be automatically activated.**
- **Look for outlet pressure gauge & compare it with the performance placard. Actual output pressure should match expected pressure**
- **If any problems are noted with pump or gaining access to the pump is delayed immediately notify Lobby Control**
- **If required attempt to troubleshoot the problem by checking valve positions, control panel switches, circuit breakers, fuel level & air intake**
- **If pump is diesel, continually monitor fuel status**
- **If flooding is occurring notify Lobby Control and develop a dewatering plan in order to keep the pump running**

Fire Pump Operations

Elevator Operational Checklist



REQUIRED GEAR: Full PPE/SCBA/radio & spare bottle, forcible entry tools, 6' pike pole, high power flashlight, extinguisher & "red phone" if available.

- Determine level of alarm/fire
- For fire attack purposes elevators shall only be utilized for fires above the 7th floor
- If elevators are in *Automatic* Phase I Recall upon arrival do not use for initial attack
- Blind shaft elevators shall not be utilized
- Banked elevators with shaft termination within two floors of fire shall not be utilized
- Elevator Checklist shall be utilized

Elevator Operational Checklist

Fire is above the 7th floor? Correct

Elevator is not in automatic Phase I recall on arrival? Correct

No smoke or water is in the hoistway? Correct

The elevator is Phase II equipped & the helmet is not flashing? Correct

Place elevator car into Phase II

Helmet is solid illuminated throughout fire ops. IF HELMET EVER FLASHES ELEVATOR IS UNSAFE



Call Cancel Test:

Make floor input & depress Cancel. Input should disappear? Yes/no



Door Function Test:

Press door close, close completely. Press door open, during opening briefly release button. Door should reverse direction when button is released. Re-depress door open and fully open the door. Functions as described? Yes/no



Hold Function Test:

Place key in "Hold" position. Attempt to make floor selections. Panel should not accept the inputs? Yes/no



If all responses are yes or correct you may continue

5 firefighters max load, full PPE masks donned in stand-by. Always orient to stairwell when entering elevator in case of elevator malfunction requiring low visibility egress

NEVER GO TO THE FIRE FLOOR. Stop 2 or more floors below the fire

Stop every 5 floors to inspect hoistway & examine floor layout. If Smoke or water is present in hoistway the elevator is unsafe



At destination do a peek-a-boo look to ensure safe conditions

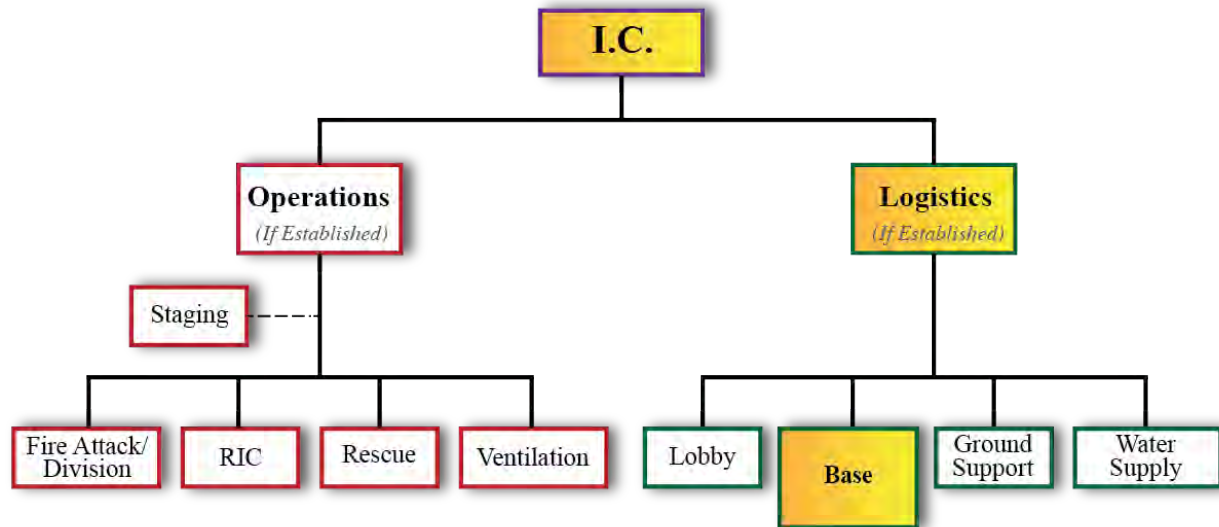
Never exit car until door is fully opened, if you exit the car when not fully open the door will close behind you. Elevator is lost



If car acts erratically or the helmet flashes the car is unsafe. Do the following and then exit the car.

- Depress Call Cancel, should stop at next floor
- Depress Emergency Stop if equipped
- Return car to PHASE I which should cause car to return to designated level
- Break door interlock with a pry tool

Base Manager



Primary responsibilities:

- **Locate a suitable area for Base taking into account anticipated size & complexity of fire**
- **Typically >200'. Account for falling debris**
- **Coordinate with SDPD to establish secure parking & traffic plan**
- **Designate areas for people, gear, rigs etc.**
- **Implement crew check in/out process**
- **Build gear cache**
- **Determine resource levels to be maintained in Base**

Base Manager

Physical location:

- **Coordinate with SDPD to locate secure parking & develop traffic plan**
- **Park apparatus at 45 degrees. Grouped by type with trucks closest**
- **Consider factors such as protection from elements, restrooms, lighting**

Organization:

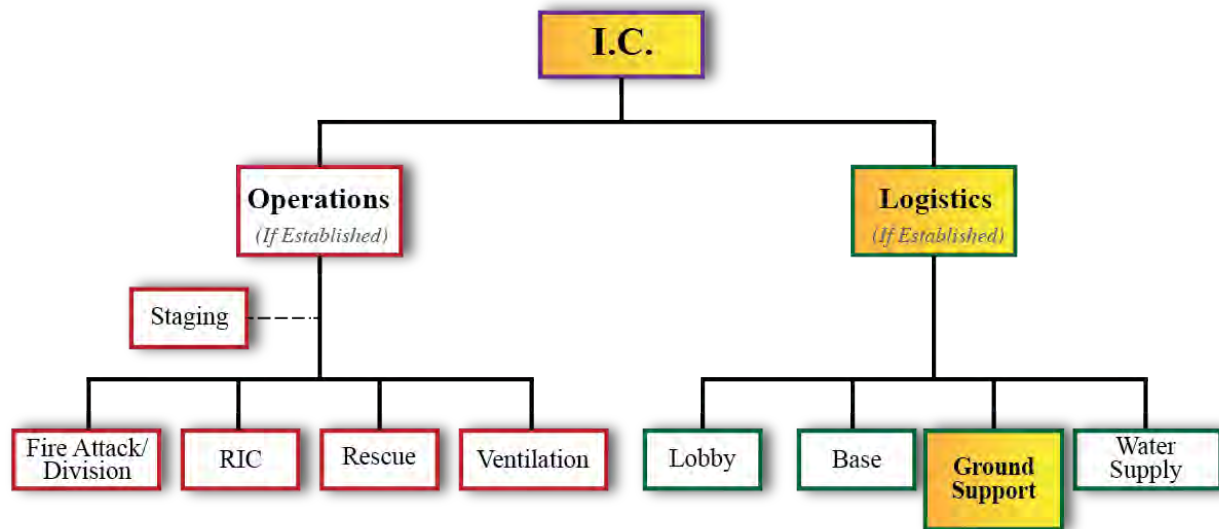
- **Establish entrance & exit choke points**
- **Establish accountability system for personal & equipment**
- **Utilize banner tape and signage to organize & support efficient operations**

Equipment:

- **Organize a gear cache & package for movement by Ground Support Unit**
- **Anticipate the need for drinking water & food**
- **Construct hose packs as required**

Base Manager

Ground Support Manager



Primary responsibilities:

- Provide transportation of personnel & gear to Staging either via the stairwells or elevator
- Implement safe ground level traffic plans for movement of personnel, supplies & motor vehicles
- Implement SCBA filling & exchange plan
- Provide fuel & servicing of all power equipment
- Develop a plan for laying hose & lighting in the event of catastrophic systems failures

Ground Support Manager

Transport Manager:

- Designate safe routes of travel for people & gear to & from building
- Designate safe routes of travel for motor vehicles in/out of Base
- Assign personal to move gear from Base to point of ascent
- Stairwell movement of gear to Staging ideally requires 1 firefighter every 2 floors & an officer every 5 floors
- Coordinate with Medical Unit to ensure a plan for evacuating injured firefighters is in place
- Develop a plan for general motor vehicle transport

Apparatus & Equipment Manager:

- Create a schedule for fueling of apparatus & power equipment
- Create a plan for responding to requests for apparatus & power equipment maintenance

Air Supply Manager:

- Estimate total number of personal requiring SCBA's and potential duration of incident
- Implement plan to exchange and fill SCBA's

Ground Support Manager

HIGH RISE TACTICAL ASSIGNMENT TRACKING SHEET

TACTICAL ASSIGNMENT	SUPERVISING		UNIT		UNIT		UNIT	
	UNIT	TIME/ LOCATION	UNIT	TIME/ LOCATION	UNIT	TIME/ LOCATION	UNIT	TIME/ LOCATION
FIRE ATTACK / DIV. <i>1st Alarm = 1st 2E, 1T</i>								
STAGING <i>1st Alarm = A.O. & Initial RIC</i>					RAPID INTERVENTION CREW			
LOBBY CONTROL <i>1st Alarm Includes Unit Accountability</i>					SYSTEMS CONTROL			
WATER SUPPLY GROUP <i>1st Alarm = 1st 2E</i>								
FIRE ATTACK / DIV. <i>Floor above Fire</i>								
FIRE ATTACK / DIV.								
RESCUE GROUP								
VENTILATION GROUP								
EVACUATION GROUP								
MEDICAL BRANCH <i>Civilian Needs</i>								
BASE								
GROUND SUPPORT					STAIRWELL SUPPORT			
MED UNIT/ REHAB <i>For Fire Personnel</i>								

COMM PLAN: **ALL OPERATIONS FUNCTIONS = PRIMARY TAC** **ALL LOGISTICS FUNCTIONS = SECONDARY TAC** **IC MONITORS DIRECT CHANNEL(s)**

SINGLE RESOURCE ASSIGNMENTS

OPERATIONS	LOGISTICS	SAFETY	PIO	LIAISON	
PLANS	SITUATION	RESOURCES			

HIGHLIGHTED ITEMS ARE CORE FUNCTIONS OF THE FIRST ALARM

