I. PURPOSE

The purpose of this policy is to provide a framework for firefighting operations on Wide-Rise responses.

II. SCOPE

This policy shall apply to all sworn San Diego Fire-Rescue Department (SDFD) personnel, excluding Lifeguard personnel.

III AUTHORITY

The Fire Chief authorizes this policy.

IV. POLICY

A. Wide-Rise Buildings

1. 100,000-499,999 sq. ft.
    i. Range from large home improvement stores to distribution centers
    ii. Have fewer life safety requirements
    iii. Can be found adjacent to similar-sized buildings to prevent the increased cost of life safety requirements found in 500,000+ buildings
        a) Adjacent buildings may share Fire Protection System (FPS) access and can be located outside of either building
2. 500,000+ sq. ft.
    i. Increased life safety requirements
        a) Fire Control Center similar to a High-Rise building greater than 75’
            1) Must contain systems for fire protection, emergency communication, and smoke control
        b) Water reservoirs and fire pumps are usually required because the municipal water supply cannot meet fire flow demands, may have low pressure for the building's size, and the fire load is high.
        c) The FPS may be located in nearby structures

B. Risk Management and Safety Considerations

1. Complete a 360-degree inspection (360) of the building
    i. This may require communication with multiple units to complete
    ii. Crews should utilize the Thermal Imaging Camera (TIC) to help determine the heat, fire conditions, and the location of the fire. This will determine the best access points
        a) TICs may have reduced effectiveness in buildings with activated fire sprinkler systems
    iii. The inspection should include, but is not limited to:
        a) Building Construction

b) Flow paths
c) Points-of-entry
d) NFPA 704 Placards
e) Occupancy, regardless of the time of day due to potential 24/7 operations
f) Smoke Removal System exhaust ports

iv. A completed 360 is recommended before entry into an Immediately Dangerous to Life or Health (IDLH) Environment, with a report provided to the Incident Commander (IC)

2. Fire Protection Systems (FPS)

i. Fire Sprinkler Systems
a) Early fire sprinkler system support via the Fire Department Connection (FDC) is critical to mitigating the incident.
1) Historical data has shown that a large amount of fire resources deployed on wide-rise fires has had less impact on the outcome than supporting the fire sprinkler systems early in the incident
b) In-rack fire sprinkler systems and/or specialty FPS may be present in some buildings, depending on the fuel loading
c) The FDC for a building may not be found at the front of the structure and may be located in an adjacent structure
1) Consider Pre-Fire Plans and district familiarization on these high-risk/low-frequency buildings

ii. Fire Alarm Panel
a) When checking the fire alarm panel or Fire Command Center, indicators of a working incident can be, but are not limited to:
1) Water flow alarms
2) Smoke detector activation
3) Manual pull stations
4) Specific Zone Activations
5) Smoke Control System Activation

3. Self Contained Breathing Apparatus (SCBA) Air Management

i. Strict adherence to the SCBA Air Management Policy should be followed, including the following:
a) "Supervisors and personnel operating on the fire ground share responsibility for considering the time needed for the safe exit when the mission objective is reached, or anyone's SCBA air reserve is at 50%, whichever occurs first. This will be based on the person with the least amount of remaining air."

4. Roof Report

i. Roof reports are an assessment of the conditions of the roof to provide IC information to help determine the operational strategy and tactics

5. Victim Search Operations

i. Targeted searches may be more effective in wide-rise buildings due to the square footage that would need to be covered and the amount of personnel it would take to accomplish a complete primary search of the entire building

ii. Search operations in large open areas, complex interior arrangements, and/or industrial settings with severe or worsening fire and smoke conditions can be ineffective and dangerous

iii. A thorough understanding of the fire and smoke conditions and an assessment of the risk management plan developed by IC should be made before conducting a search operation

iv. Refer to large area search techniques in Chapter 18 of the Drill Manual

6. Fire load and stacking

i. Wide-rise buildings have heavy fire loads and utilize the height of the building for optimal space usage.

ii. These features impact the ability of the unsupported fire sprinkler system and hose lines to control a fire.

iii. The height of stacking in wide-rise buildings can produce additional hazards such as but not limited to:

a) Fire growth, similar to crowning, not visible in smoky conditions that may spread behind the firefighters and cause entrapment

b) A collapse hazard triggered by the increased weight of water from the fire sprinkler system or hose line, in addition to a weakened support structure caused by heat

7. Hazardous Material potential

i. Common in wide-rise buildings

ii. Add the Hazardous Materials Team to the incident when Haz Mats are present

8. Develop a plan before entry

i. Having a well-formulated and communicated plan before entry reduces potential maydays and firefighter fatalities.

9. Smoke presentation

i. Large square footage buildings can distribute the smoke volume to appear to be a smaller fire than it is. Any visible smoke can indicate a working incident.

ii. Smoke Removal Systems can limit the amount of observable smoke and mask fire involvement.

iii. Smoke Removal Systems have exhaust ports on the exterior of the building that provide an early indication of fire conditions inside during a 360.

C. Wide-Rise Response Strategic Objectives

1. The first alarm resources dispatched to a reported warehouse fire will generate a High-Rise/Wide-Rise Response:

i. 5 engines

ii. 2 trucks
iii. 2 battalion chiefs (BCs)
iv. 1 USAR Unit
v. 1 ALS ambulance

2. The primary objectives of the initial responding companies are:
   i. Ensure the safety of occupants and emergency personnel
   ii. Provide emergency medical treatment and transport
   iii. Determine resources needed to mitigate the incident
   iv. Support the fire sprinkler system
   v. Confine and extinguish the fire
   vi. Gather information from civilians and Pre-Fire Plans
   vii. Develop an Incident Communications Plan
   viii. Determine the Incident Operational Strategy
   ix. Conserve property after control of the fire has been made
3. Determine Incident Operational Strategy
   i. Offensive strategy
   ii. Defensive strategy
   iii. Combination efforts
      a) Occurs in large structures when a portion of the building operations has been deemed defensive and another portion of the building has offensive functions in operation.
      b) These efforts are often taken when a firewall is in place, and the adjacent portion has little to no involvement and is structurally sound
4. Identify the Occupancy type
   i. Construction/building type
      a) Age
      b) Size
   ii. Mixed Use Compartmentalized vs. Uncompartmentalized
   iii. Fuel load
   iv. Occupancy Use
      a) Placarding
      b) Time of day
         1) All wide-rise buildings should be treated as potentially being occupied 24/7
5. Determine the location of the fire and the best access
   i. Multiple Points of Entry (POE) require multiple Rapid Intervention Crews (RIC)
6. Apparatus placement in support of strategic objective
   i. Engine placement

a) FDC connections
b) Consider defensive operations
c) Should support suppression efforts

ii. Truck placement
a) Ideally on corners, for maximum scrub area
b) Determine the priority of either rescue or ventilation/roof access
1) Factors such as building type, time of day, occupancy load and size of the fire will help define the priority assigned to this function.
c) Develop a ventilation plan to facilitate the strategic objectives.
d) To help facilitate these objectives, company officers may use the Pre-Fire Plans (PFP) to assist in identifying elevator, stairwell, FPS, and other important information.

D. Incident Command Operations and Responsibilities

1. Incident Command (IC) Guidelines

i. The first in Company or Chief Officer shall carry out the following tasks:
a) Conduct a 360 of the building to identify occupancy type and fire conditions accurately.
1) If the size of the building does not permit an accurate 360 to be conducted by the first-in officer, communication with multiple units may be required
b) Give an initial radio report to the Emergency Command and Data Center (ECDC) of visible conditions that includes the following:
1) Building height (if known)
2) Occupancy type
3) Obvious conditions
4) Safety concerns (construction features/collapse)
5) Actions being taken
6) Any additional pertinent information
7) Additional resource request
c) Establish IC

ii. Request additional alarms
a) If there are indications of a working incident, the IC should immediately request additional alarm(s).
1) Indicators of a working incident can be but are not limited to:
(i) Any measure of smoke showing
a. Due to the structure's immense size, the volume of smoke can be greatly dispersed, disguising a fire exceeding the capabilities of the fire protection system.
(ii) Signs of Water flow
(iii) Fire alarm panel indicators

b) Identify a staging location and relay the location to ECDC with a request for an additional tac channel. All resources assigned in the subsequent alarms will be directed to staging. The first-in engine of the second alarm should be prepared to assume the assignment of Staging Area Manager.

c) These requests should be made as soon as possible to minimize reflex time. This is necessary to support a continuous fire attack, perform search and rescue and accomplish support functions.

iii. Gather additional information

a) Obtain information from building representatives, to include:

1) Location of the fire or hazard
2) Access points
3) Evacuation status
4) FPS status
5) Unique building hazards

iv. Develop a water supply plan

a) Establish a Water Supply Group
b) Establish a minimum of two water sources
c) Consider public vs. private hydrants

1) Private hydrants can have less pressure and supply requirements than public hydrants
2) Consider relay pumping operations

v. Establish Fire Attack/Division(s)/Branches

a) On incidents with nothing showing or when the location is not identifiable, Fire Attack is an appropriate assignment

1) The Fire Contol Panel or Fire Control Center can provide a location to investigate
2) Multiple units should be assigned to investigate with accountability occurring at each point of entry

(i) While investigating with nothing showing, this should be relaying to the IC where entry is occurring

3) Hoselines should not be deployed until the best access has been identified
4) Multiple units should be assigned to address hose line management with larger diameter hose lines
5) Crews should not enter the IDLH until the IC or Operations have communicated a plan and RIC has been established at the point of entry
6) Once best access is determined, crews can work on addressing any forcible entry needs and setting up hose lines until this has occurred

b) Once the fire is confirmed, a Branch or Division should be established

1) This may not be immediately discernable because of the size of the building

(i) Communication with individuals familiar with the building may help determine geographical location

2) If the building is extremely large (more than a home improvement store) and has multiple points of entry on each side, the establishment of Branches should be prioritized over Divisions and set up immediately.
   (i) Branch I: Alpha side
   (ii) Branch II: Bravo side
   (iii) Branch III: Charlie side
   (iv) Branch IV: Delta side

vi. Establish RIC
   a) Set up RIC before any crews enter an Immediate Danger to Life and Health IDLH
   b) There may be multiple points of entry requiring multiple RICs
      1) Assign a RIC Group Supervisor
      2) When Branches are established, each Branch may be assigned their own RIC Group as needed

vii. Establish a Roof Division/Vent Group
   a) Conduct a roof assessment
      1) Evaluate the roof structure and conditions
      2) If an IDLH environment is present, have an assessment conducted before any entry into the IDLH area
      3) Assess the need for vertical ventilation

viii. Establish a Rescue Group if there are multiple rescues occurring
   a) Rescue Operations require tag lines and/or constant contact with hose lines because of the size of the area that may be required to search and the high risk associated with the operation

ix. Develop an incident communication plan
   a) Implement expanded communications
      1) Branch Directors and Division/Group Supervisors communicate with IC/Operations on the assigned command channel
      2) Consider requesting additional tactical (tac) channels from ECDC
   b) Establish direct channels

2. Incident Command Responsibilities
   i. Develop an Incident Action Plan
   ii. Communicate clear incident objectives prior to units engaging
   iii. Evaluate and continually assess resource assignments and needs, fire progress, structural stability, and fire loading
   iv. If the initial IC is a company officer, they should be prepared to provide a turnover to the first-in BC

3. First-in Battalion Chief's Arrival
   i. Assume IC, establish an incident command post (ICP) and consider the following assignments for incoming BCs:

a) Operations Section Chief (OSC)
b) Assign BCs to established Divisions as a Division Supervisor or to established Branches as a Branch Director
c) Rescue Group Supervisor
d) RIC Group Supervisor
e) Safety Officer
f) Logistics Section Chief
g) Liaison Officer
h) Medical Branch Director or Medical Unit Leader
i) Subsequent arriving Chief Officers will be assigned as required
    1) BCs should report to the command post in full PPE with an SCBA, radio, and cell phone

4. Staff Officers and Operations Support Personnel should report to the ICP for assignment.
    i. Subsequent arriving Assistant Chiefs, Deputy Chiefs, Staff Battalion Chiefs, and Operations Support Personnel may be assigned as:
        a) Public Information Officer (PIO)
        b) Assistant Safety Officers
        c) Medical Unit Leader
        d) Other management responsibilities as required
5. The assumption of Incident Command is optional for the Fire Chief, Assistant Chiefs, Deputy Chiefs, and Deputy Chief Shift Commanders.

E. <u>The Expanding Incident</u>

1. Operations should be established once a working incident has been verified
2. Expanded communications may occur at the IC's discretion
3. If geographical designators such as Division Alpha (A) through Delta (D) have been established to identify the sides of the building, they should be renamed to Branches and communicated to all units
    i. Branch I-IV will replace Division A-D
4. Branches I-IV
    i. Branch I will have the ability to divide their Branch with Division A-F as needed
    ii. Branch II will have the ability to divide their Branch with Division G-K as needed
    iii. Branch III will have the ability to divide their Branch with Division L-Q as needed
    iv. Branch IV will have the ability to divide their Branch with Division R-W as needed
    v. Division X-Z will be available for the IC or Operations to assign as needed
    vi. Each Branch will have their own RIC Groups based on the number of POEs, if applicable

F. <u>Offensive Tactical Priorities</u>

1. Engine Company Tactical Priorities
    i. The 1st-in Engine Company should make FDC location and water supply priority in order to back up the Fire Protection System (FPS)
        a) A water supply group should be established consisting of at least two engineers, preferably those closest to the FDC and water supply
        b) Connect an independent water supply to the FDC to back up the system that may already be inadequate due to the fire size and fire load.
        c) Supply the FDC/standpipe with an initial pump pressure of 150 psi
        d) Verify that all valves are operational and open, including in the fire control room
        e) Do not shut off any systems until deemed appropriate by the Operations Section Chief or the IC
        f) Determining the fire location and size may require significant time, which can contribute to fire growth without additional immediate support to the FPS
        g) The FPS may quickly become overwhelmed by multiple sprinkler heads flowing and/or only having the water pressure of the municipal water system
    ii. Fire Attack/Division
        a) Access Knox box for keys
        b) Locate the alarm panel to identify the area/unit involved
        c) Identify the best access point
        d) Identify any potential building hazards
        e) Locate building personnel to assist with any of the above
            1) Have a building rep report to the ICP
        f) Understand the plan and have RIC established prior to entering an IDLH environment
        g) Coordinate all ventilation efforts with Ventilation Group/Roof Division
    iii. Attack Hose Line Selection
        a) For a compartmentalized fire, consider any of the following:
            1) 2 ½" hose lines with a flow rate of 250 gpm should be used based on building size, heavy fire loads, conditions
                (i) 2 ½" requires significantly more reflex time and personnel than 1 ¾"
                (ii) 1 ¾" hose line has little to no impact on fires involving the square footage and heavy fire loads found in wide-rise buildings
            2) Only in a confirmed small, observable, confined fire should 1 ¾" be considered:
                (i) A condo lay can be used for extended distances and multiple lines
                    a. Consider reflex time for a condo lay and whether predicted fire growth should involve a 2 ½" attack hose line instead
                (ii) 1 ¾" pre-connect hose lines in office spaces close to the exterior of the building
        b) For a large, un-compartmentalized fire, a 2 ½" attack line equipped with a smooth bore 1 1/8" tip should be used.

1) Deploying a 2 ½" line requires sufficient personnel to be effective. Supervisors should plan on at least 6 firefighters to deploy a single line.

c) Exercise door control and be mindful of flow path

1) This may include the notching of lower door corners to allow for door closure with hose lines in place

2. Truck Company tactical priorities

i. Based on the building type and location of the fire, the IC should prioritize truck company assignments for known rescues and ventilation needs.

ii. Truck companies should coordinate spotting on corners (A/B, A/D) to maximize scrub area, capturing 3 sides of the building and allowing access for window rescues and roof operations.

a) When spotting, take into consideration the collapse zone.

iii. Rescue Group

a) Utilize a TIC while maintaining contact with hose lines and/or tag lines. Constant verbal communication must be in place at all times.

b) Company Officers should provide updates on location with the IC, Operations, or a RIC Group Supervisor

iv. Ventilation Group/Roof Division

a) Utilize the TIC to monitor fire conditions below

b) It is vital for ventilation operations to be well coordinated with interior crews

1) A ventilation hole should not be opened until effective water application is occurring

c) Monitor smoke conditions closely

1) If smoke conditions drastically change with or without ventilation occurring, this must be communicated to the IC/Operations and interior crews

d) Communicate with on-scene aerial resources with Forward Looking Infrared (FLIR) to evaluate fire conditions below

v. Truck companies can be assigned to interior divisions if there are no immediate rescue or ventilation needs.

3. Tactical priorities (non-company specific)

i. Search

a) Primary Search

1) A complete search for victims throughout the entire building may be extremely difficult due to their size and layout. Teams should consider conducting targeted searches based on the information gathered.

2) Should be conducted in accessible areas within 150' from the exterior or non-IDLH environments separated by firewalls

(i) A risk management plan incorporating mitigation efforts and approval from the IC or Operations or a safety officer for searches greater than 150'

G. Defensive Tactical Priorities

1. Notify all units on all incident radio channels that the incident is in a defensive mode or that there is a change from offensive to defensive strategy mode
2. Notify ECDC
    i. Request to initiate the one long beep dispatch alert tone to alert personnel on scene
3. Conduct a Personnel Accountability Report (PAR)
4. Establish Collapse Zones
    i. Identify and keep personnel out of identified collapse zones
5. Deploy and operate ground and elevated master streams
6. Estabish cut-off points of the fire
    i. Determine where the fire will be confined
        a) The fire may confined to a quadrant or quadrants or the entire building itself
7. Identify, search and protect exposures

H. Additional Considerations

1. Complexity of operations
    i. Be aware of potential disorientation due to the complexity of the building layout. Ensure communication and accountability are emphasized throughout operations.
2. Structural Concern
    i. Consider the potential for localized collapses of building elements. Maintain a safe distance from identified hazards
3. Fire Sprinkler System
    i. Confirm that fire sprinkler systems are operational and do not shut them down until deemed appropriate by the IC or Operations
    ii. Buildings with a sprinkler system have private hydrants with reduced fire flow. Consider accessing both public and private hydrants to ensure an adequate water supply.
4. Preplanning and Training
        a) Regular preplanning and training for wide-rise fires are essential for effective incident response
5. Aerial Resources
        a) Whether in an offensive or defensive strategy, Unmanned Aircraft Systems (UAS) or the Copter can provide valuable information about but not limited to:
            1) The location of the fire
            2) The effectiveness of water streams
            3) Hotspots that need addressing
            4) Spot fires in high wind conditions

6. Overhaul
    i. Overhaul should be performed from the exterior during a fire that is in the defensive strategy. Localized collapse of storage racks and storage piles saturated with water are a safety hazard to firefighting personnel.
7. Logistics Incident Support
    i. Fuel Plan
        a) Apparatus operating at high rpm burn through fuel at a rate of approximately four hours with a full tank. A fuel truck or apparatus rotation to a fueling site should be part of the incident logistics plan.
    ii. Meals and hydration
    iii. Shelter
    iv. Bathrooms
8. Hazard Notification
    i. Use ECDC radio tone signals as needed for life hazard notifications.

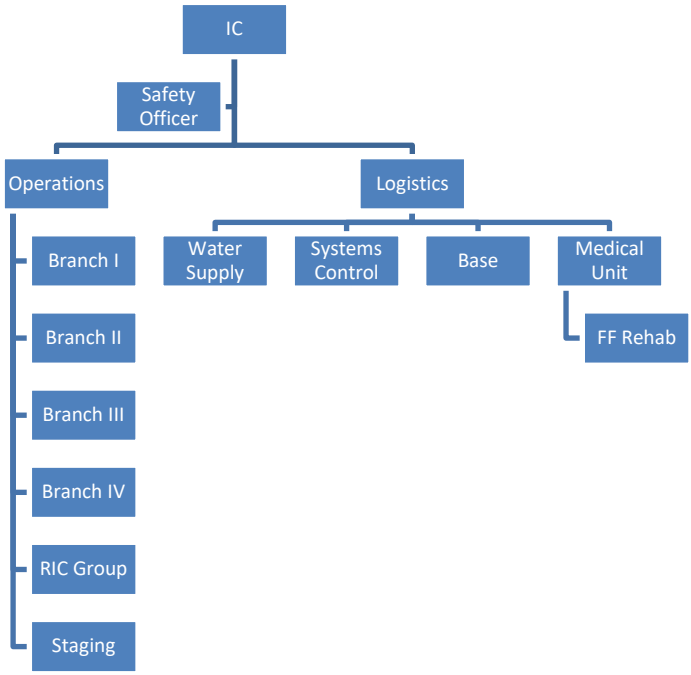
V. DEFINITIONS

A. In-rack fire sprinkler systems: A specialized fire suppression system designed for use in storage rack areas, typically found in warehouses or other facilities with tiered storage. It consists of a network of sprinklers installed within the rack structure, providing targeted fire protection by discharging water directly onto the burning materials. This system helps contain fires at their source, preventing them from spreading to other shelves or racks. (RETURN)

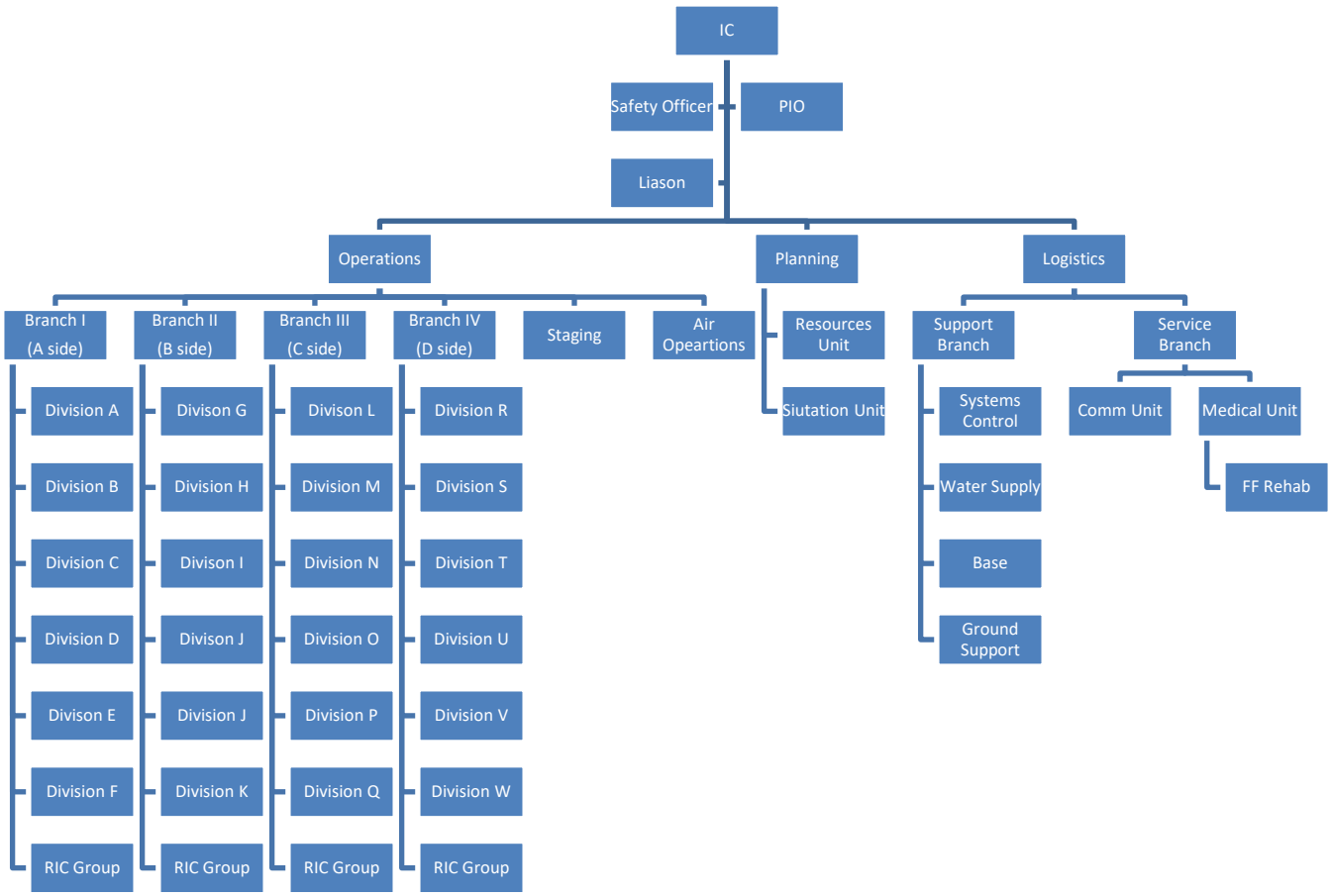
B. Risk Management Plan: aims to identify, evaluate, and control potential hazards to ensure the safety and well-being of firefighters and the public. It involves identifying risks, assessing their severity and likelihood, developing control measures, and regularly monitoring and evaluating the plan's effectiveness. (RETURN)

VI. ATTACHMENTS

A. Wide-Rise Incident (Initial)



B. Wide-Rise Expanded Incident



Division X-Z are used for unknown variables and at IC or Operations discretion