

I. INTRODUCTION

- A. Purpose: To provide procedures and guidelines for personnel responding to and operating at working structure fire incidents.
- B. Scope: This instruction applies to all personnel responsible for performing tasks in the operational area of a structure fire.
- C. Author: The chief deputy of Emergency Operations is responsible for the content, revision, and annual review of this instruction.
- D. Definitions: See Appendix I
- E. Underwriters Lab (UL) studies: See Appendix II
- F. Operational Modes: See Appendix III

II. RESPONSIBILITY

- A. The first arriving company officer is responsible for:
 - 1. Performing an initial size-up.
 - 2. Developing a mental incident action plan (IAP) to determine the initial operational mode.
 - 3. Transmitting the size-up radio report to the Los Angeles Communications Center (LACC).
 - 4. Taking initial actions consistent with the incident priorities and tactical operations of the incident.
 - 5. Considering the use of transitional attack when operating in the offensive mode and with fire showing.
 - 6. Establishing the Incident Command System (ICS).

- B. The incident commander (IC) is responsible for:
1. Overall management of the incident.
 2. Identifying incident objectives.
 3. Communicating the current operational mode and providing status reports to LACC.
- C. The incident safety officer is responsible for:
1. Identifying and evaluating hazards, knowing the current operational mode, and advising the IC in the area of personnel safety. The safety officer has the authority to alter, suspend, or terminate any unsafe activity. The safety officer investigates accidents and near misses involving Department personnel.
- D. Company officers are responsible for:
1. Reporting automatic holding position.
 2. Performing in the appropriate ICS role (e.g., incident commander, operations, division/group supervisor, staging manager, etc.).
 3. Working within the operational mode and completing tasks consistent with the incident priorities.
 4. Maintaining company unity.
 5. Providing safety briefings.
 6. Providing status reports to the IC.
- E. Chief Officers are responsible for performing in the role of IC, operations section chief, branch director, division/group supervisor, incident safety officer, or agency representative.
- F. LACC is responsible for maintaining radio communications with the IC and ensuring all requests for resources and information are addressed. LACC shall assign additional radio channels to the communications

plan when requested by the IC or as Department policy dictates. LACC shall start an incident timer upon arrival of the first arriving resource on all working structure fires and make an announcement every ten minutes of the time elapsed until personnel are no longer working in the immediately dangerous to life health environments.

III. POLICY

- A. Incident priorities: The incident priorities for a structure fire are:
1. Protection of life.
 2. Incident stabilization through fire control.
 3. Property/environment protection and conservation.
- B. Operational modes: After identifying the objectives supporting the incident priorities, the IC identifies and communicates the proper operational mode through the analysis of information gathered during the size-up process. The following are the operational modes:
1. Investigation mode.
 2. Offensive mode.
 - a. Transitional Fire Attack.
 - b. Interior Fire Attack.
 3. Defensive mode.

Note: Refer to appendices I and IV for additional information.

- C. Command: The management of resources at structure fires will adhere to the Incident Command System policy (Volume 10, Chapter 1, Subject 2 and Volume 10, Chapter 1, Subject 3) unless superseded by Executive Action (EA) memorandums.
- D. General emergency procedures: The following policies apply unless superseded by Department EA(s):

1. Emergency Incident Policies – Volume 10, Chapter 2, Subject 1.
 2. Response to Alarms – Volume 10, Chapter 2, Subject 2.
 3. Code “N” – Volume 10, Chapter 2, Subject 3.
 4. Fire Investigation Request - Volume 10, Chapter 2, Subject 4.
 5. Mobile Air and Light Unit Placement - Volume 10, Chapter 2, Subject 7.
 6. Helicopter Drops on Structure Fires - Volume 10, Chapter 2, Subject 13.
 7. Rehabilitation/Medical Treatment - Volume 10, Chapter 2, Subject 16.
 8. Emergency “Class A” Foam Resupply, Storage and Use - Volume 10, Chapter 2, Subject 22.
 9. Façade Buildings - Volume 10, Chapter 2, Subject 23.
 10. Structural Fire Watch - Volume 10, Chapter 2, Subject 24.
 11. Occupant Support - Volume 10, Chapter 2, Subject 27.
- E. Safety: Personnel operating at structure fires shall adhere to the following Department policies and procedures unless they are superseded by Department EA(s):
1. Personal Protective Equipment - Volume 10, Chapter 3, Subject 1.
 2. Operational Retreat - Volume 10, Chapter 3, Subject 2.
 3. Personnel Accountability - Volume 10, Chapter 3, Subject 3.
 4. Two-in Two-out, Rapid Intervention Crews - Volume 10, Chapter 3, Subject 4.

5. Firefighter Emergency - Volume 10, Chapter 3, Subject 5.
6. Electrical Emergency - Volume 10, Chapter 3, Subject 6.
7. Elevator Use: Operation of elevators under fire conditions can be erratic and dangerous. Due to these hazards, the following safety guidelines apply:
 - a. Elevators should not be utilized for initial investigation and/or fire attack.
 - b. Elevators should not be used as a logistics transport until deemed safe by the IC.
 - c. The responsibility for the use of elevators rests with the IC.

F. Resource Use:

1. Standard response: The standard response to a structure fire will comply with "Response to Alarms" (Volume 10, Chapter 2, Subject 2) and "Emergency Incident Policies" (Volume 10, Chapter 2, Subject 1), unless superseded by Department EA(s).
2. Additional alarms: Requests for additional alarms from the IC shall include staging location(s), identification of the staging manager, and route of travel.

IV. PROCEDURES

A. Assessing the fire and limiting fire growth:

1. Size-up: Upon arrival, the first arriving officer/IC is responsible for evaluating fire conditions, and providing initial radio size-up report to LACC. Evaluation of fire conditions includes:
 - a. Locating the fire: The location and extent of the fire in the building must be determined. Attempt to locate the fire from an exterior location before entering the structure. Officers shall use all means available to make this

determination. The location of the fire and current conditions will dictate the best location to attack the fire.

- b. Identifying the flow path: Identify the presence and/or location of the flow paths. Efforts should be taken to control ventilation and the flow path and/or potential flow paths to protect potential building occupants and limit growth. If a flow path is visible, consider closing doors and windows to limit air flow. Before closing, firefighters should rescue victims readily accessible via doors/windows.
- c. Structure fire size-up report shall be consistent with Volume 10, Chapter 1, Subject 1:
 - 1) Location of fire by address.
 - 2) Products of combustion (e.g., fire, light/heavy smoke, nothing showing, etc.).
 - 3) Numerical floor height and type of occupancy, e.g., two-story commercial.
 - 4) Special instructions (e.g., exposures, location of fire within stated structure, operational mode if determined).
- d. Example: A typical size-up report for a working structure fire.
 - 1) Initial size-up report: "L.A., Engine 3, 5100 E. 3rd St. with fire showing from a one story commercial building threatening exposures, to the Bravo side."
 - 2) LACC's size-up report: (Alert tones), "Engine 3, 5100 E. 3rd St. with fire showing from a one story commercial building threatening exposures Bravo side."
- e. First arriving officer/IC is responsible for conducting a 360 building assessment of the structure involved. Where impractical because of building size or obstructions, the IC should delegate an individual or other resource to view parts of the structure unseen by the IC. The following are guidelines for 360 building assessment:

- 1) Identify known or potential rescue problems.
 - 2) Identify active and potential flow path of fire and fire gasses.
 - 3) Identify the location and extent of fire.
 - 4) Determine the size, age, and construction type of the building.
 - 5) Assess structural stability.
 - 6) Identify other hazards (i.e. electrical, exposures, and access).
2. Follow up report: Based on the initial assessment, the company or chief officer who will be assuming command is responsible for providing a radio follow up report to LACC. In conjunction with Volume 10, Chapter 1, Subject 1 and this policy, the follow up report should:
- a. Identify the incident with a one or two syllable geographic name (e.g., Sunset IC, Bell IC, etc.).
 - b. Identify the Incident Command Post Location.
 - c. State other pertinent information (general situation status, additional resources, etc.).
 - d. Announce operational mode.
 - e. State the check-in location and travel routes.
 - f. Issue a communication plan if needed.
 - g. Example follow up report:
 - 1) "L.A., Engine 1, I've been passed command from Engine 3. This will be the 3rd Street Incident, Engine 1 will be 3rd Street IC. The command post will be at Engine 1 in front of the structure. We

have heavy fire involving a one story commercial building with exposures on the Bravo side. We are operating in the offensive mode, with a transitional attack on the Bravo side.”

3. Ensure adequate water supply to support fire flow.
4. Cool the space from the most effective location: With the information obtained during the size up, locate the fire and identify the flow path (e.g., 360 building assessment) to determine if high heat conditions exist inside the structure. When high heat conditions are present, determine the most effective way to apply water to the superheated space, or directly on the fire. The primary goal in this step is to reduce the thermal threat to occupants and firefighters as soon as reasonably possible. In some cases, the fire environment is cooled most effectively by directing a hose stream from an exterior position just prior to entry. Additional flow paths should not be created to employ this tactic.
5. Change operational mode as needed: Assess fire conditions to determine if a change to the operational mode is required. When in the offensive mode, a transitional fire attack (initiated by exterior water application) may be used to cool the fire prior to a shift to an interior fire attack to complete extinguishment. All operational modes and fire attack changes shall be announced over the command and tactical radios.
6. Extinguish the Fire: Once the thermal threats have been controlled, the fire should be extinguished in the most direct manner possible. Multiple lines shall be deployed for larger one-story structures and all multiple story structures. The potential for the thermal threat to return should be recognized. The IC shall ensure that a standby crew/rapid intervention crew (RIC) is in place for interior fire attack operations.

B. Tactical actions of opportunity: **MAY OCCUR AT ANY TIME.**

1. Rescue: The potential for rescue should be considered at all times. Firefighters should be prepared to search for, rescue, and

provide care for occupants with the resources and personnel on scene. A victim survivability assessment must be made prior to initiating search and rescue operations. While protection of life is the highest incident priority, consideration should be given to suppression of the fire (e.g., exterior water application to cool the fire, rapid interior fire attack to extinguish the fire, flow path control to limit fire growth) to improve survivability of victims and firefighters. Preventing the fire from getting larger can extend the time required for rescue.

2. Exposure protection: When given the assignment of exposures, the group leader shall develop an exposure protection plan to prevent the fire from extending to uninvolved buildings, separate units, or other compartments within the building of origin. Structures threatened near a fire building (exterior exposure) and compartmentalized spaces within the fire building not yet involved (interior exposures) must be protected to minimize the danger to occupants as well as to contain the fire. Group leader should consider the following:
 - a. Assess all sides of the involved structure.
 - b. Assess the structural integrity of the fire building to determine the proper and safe location for hand lines and/or master stream operations.
 - c. Assess the potential threat to surrounding structures based on the current and expected fire behavior.
 - d. Coordinate tactical operations with fire attack and ventilation group.
 - e. Request needed resources.
 - f. Secure needed water supply.
3. Coordinated ventilation: Personnel shall manage and control the openings to the structure to limit the access to oxygen while removing smoke, fire, and steam. All ventilation must be coordinated with suppression activities. Uncontrolled ventilation

allows additional oxygen into the structure which may result in a rapid increase in the size and intensity of the fire. When given the assignment of ventilation, the group leader shall:

- a. Perform a ventilation profile size-up to determine ventilation requirements. Ventilation profile size-up consists of assessing the following:
 - 1) Building construction, structural integrity, size, and occupancy type.
 - 2) Locations of smoke or fire venting from the structure.
 - a) Evaluate the volume, velocity, density, and color of the smoke venting from the structure to determine the fire's current phase and potential for growth.
 - 3) The direction and speed of the wind and its potential influence.
 - b. Determine the needs of fire attack using face-to-face or radio communication. Communicate clearly and coordinate all ventilation operations with the division/group/unit assigned to fire attack.
 - c. Select and implement coordinated ventilation techniques to improve interior conditions for potential victims and interior crews and limit fire growth.
 - d. Continually assess the effectiveness of coordinated ventilation operations through observation and information received from division and group supervisors (e.g., fire attack and search).
 - e. Provide periodic status reports to the IC.
4. Utilities: Electrical, natural or liquid petroleum gas, and water can hinder suppression or rescue efforts and threaten

firefighters. Controlling utilities not only prevents further property damage, but also provides safer conditions for personnel. During a working structure fire, utilities shall be shut off. The utility company representatives shall be requested to respond when services have been disrupted.

5. **Salvage:** Salvage is the protection of buildings and their contents from unnecessary damage due to water, smoke, heat, and other elements. Salvage should be a concern during every phase of the incident, from forcible entry to overhaul. Firefighters should use compartmentalization to control fire spread and smoke whenever possible.
6. **Overhaul:** Overhaul involves searching for and extinguishing any hidden, remaining fire and making sure that the structure, its contents, and the fire area are in safe condition. It also encompasses fire cause determination and recognizing and preserving any evidence of arson.
7. **Occupant support:** The IC shall be responsible for establishing the occupant support functions at emergency incidents. If necessary, the IC may request additional resources to establish the occupant support function responsibilities. (Volume 10, Chapter 2, Subject 27).

Note: Reference Department Truck Company Operations Training Guide for instruction on ventilation, utilities, salvage, and overhaul.

C. Resource allocation:

1. **Resource Use:** Effective use of on scene resources is required to address the incident priorities. The IC shall consider allocating resources for the following:
 - a. Investigation of potential risks/problems on the fire ground.
 - b. Establishing the ICS.
 - c. Rescue/fire attack/property conservation.

- d. Establishing stand-by crew/ (RIC).
 - e. Ensuring adequate water supply to support fire flow.
 - f. Coordinated ventilation.
 - g. Securing utilities.
 - h. Supporting fixed fire protection systems.
2. Resource Deployment: Resources responding to a structure fire shall adhere to the guidelines identified in “Assessing the Fire and Limiting Fire Growth” (section IV-A) and “Tactical Actions of Opportunity” (section IV-B). The following are additional responsibilities of resources responding on a first alarm working structure fire:
- a. First-arriving company (Engine, Quint, or Light Force) shall:
 - 1) Position engine past structure or stop short to leave room for 1st quint/truck.
 - 2) Transmit radio size-up report.
 - 3) Assume command or take initial actions. If taking initial actions, pass command to a specified fire ground officer.
 - 4) Quints arriving first at structure fires should use water supply and pumping capabilities of the apparatus to charge hoselines required to limit the growth of the fire until relieved.
 - 5) Ensure adequate water supply to support fire flow.
 - a) A second supply line should be considered on any working fire where the following conditions exist:
 - i. Commercial structure.

- ii. Large volume of fire.
 - iii. Exposure problems.
- b. Second-arriving company shall:
 - 1) Announce automatic holding location.
 - 2) Assume command if assigned.
 - a) By radio or face-to-face, communicate the assignment of crewmembers to a supervising company officer.
 - 3) Request and assign additional resources as needed.
 - 4) Ensure adequate water supply to support fire flow.
 - a) A second supply line should be considered on any working fire where the following conditions exist:
 - i. Commercial structure.
 - ii. Large volume of fire.
 - iii. Exposure problems.
 - 5) Support the actions of assessing the fire, limiting fire growth, and tactical actions of opportunity as assigned.
- c. Additional companies:
 - 1) Automatic holding – announce location and available water supply.

- 2) Support the actions of assessing the fire, limiting fire growth and tactical actions of opportunity as assigned.
- d. First-arriving squad:
 - 1) Automatic holding – announce location and available water supply.
 - 2) Determine appropriate location for rehab and medical treatment area.
 - 3) Support the actions of assessing the fire, limiting fire growth, and tactical actions of opportunity as assigned.
3. Resource deployment for chief officers. Considerations for assignment:
 - a. First-arriving battalion chief assumes the duties of IC.
 - 1) Ensure the tasks listed in assessing the fire and limiting fire growth (section IV-A) are performed.
 - 2) Ensure tactical actions of opportunities (section IV-B.) are performed. These may occur at any time.
 - 3) Ensure adequate water supply to support fire flow.
 - 4) Develop IAP (Volume 10, Chapter 1, Subject 1), unless superseded by the Department EA(s):
 - b. Additional chief officers assigned the following positions based on size and need of the incident:
 - 1) Incident safety officer
 - 2) Division/group supervisors
 - 3) Operations chief

- 4) Initial IC/BC becomes deputy IC upon arrival and transfer of command to next arriving and higher ranking chief officer.

L.A. Co. F.D. STRUCTURE FIRE S.O.P. SAMPLE

APPENDIX I

Definitions:

360 BUILDING ASSESSMENT: The following are guidelines for 360 building assessment:

1. Identify known or potential rescue problems.
2. Identify active and potential flow path of fire and fire gasses.
3. Identify the location and extent of fire.
4. Determine the size, age, and construction type of the building.
5. Assess structural stability.
6. Identify other hazards (e.g., electrical, exposures, and access).

DEFENSIVE MODE: Operational mode initiated when fire conditions prevent an interior attack. Attack lines and all personnel operate outside the collapse zone using defensive tactics.

DOOR CONTROL: The process of ensuring the entrance door(s) providing access to the fire area is controlled and closed as much as possible after teams enter the structure. Steps must be taken to prevent the door from locking behind the entering members. By controlling the door, the firefighter controls the flow path of fire conditions from the high pressure of the fire area towards the low-pressure area on the other side of the door. Door control also limits fire development by controlling the flow path of fresh air at the lower level of the open door towards the seat of the fire.

FIRE CONFINEMENT: Those actions taken to locate and hold a fire to a given area of present or anticipated involvement by preventing the spread of a fire into any uninvolved area.

FIRE EXTINGUISHMENT: Those actions following fire confinement to extinguish a fire by removing the basic elements of the fire triangle: fuel, air supply, or heat.

FIRE FLOW: The rate of water flow required to control a fire.

FLASHOVER: The near-simultaneous ignition of most of the directly exposed combustible material in an enclosed area due to thermal radiation. This causes the fire to spread rapidly throughout the space, resulting in fire involvement of the entire compartment or enclosed space.

FLOW PATH: The movement of heat and fire gasses from the higher pressure within the fire area towards the lower pressure areas accessible via doors, window openings, and roof structures. As the heated fire gasses are moving towards the low pressure areas, the energy of the fire is pulling in additional oxygen from the low pressure areas. Based on varying building design and the available ventilation openings (e.g., doors, windows, etc.), there may be several flow paths within a structure. Any operations conducted in the flow path will place members at significant risk due to the increased flow of fire, heat, and fire gasses toward their position.

FLOW PATH CONTROL: The tactic of controlling or closing ventilation points, which will:

1. Limit additional oxygen into the space thereby limiting fire development, heat release rate, and smoke production.
2. Control the movement of the heat and smoke conditions out of the fire area to the exterior and to other areas within the structure.

FUEL LIMITED FIRE: A fire in which the heat release rate and fire growth are controlled by the characteristics of the fuel because adequate oxygen is available for combustion.

FULLY DEVELOPED STAGE: The stage of fire development when the fire has reached its peak heat release rate within a compartment. This usually occurs after flashover, resulting in floor to ceiling burning within the compartment, creating heat conditions untenable for civilians and firefighters.

GROWTH STAGE: The stage of fire development when the heat release rate from an incipient fire has increased to the point where heat transferred from the fire and the combustion products are pyrolyzing adjacent fuel sources. The fire begins to spread across the ceiling of the fire compartment (rollover).

HEAT RELEASE RATE: The rate at which energy is generated by the burning of a fuel and oxygen mixture.

HORIZONTAL VENTILATION: The opening or removal of windows or doors on any floor of a fire building which will become flow paths for fire conditions.

INCIDENT COMMANDER: This is the first or highest ranking officer or acting officer on the incident, who is responsible for command and control of the incident and establishing incident strategy.

IGNITION STAGE: The early stage of fire development where the fire's

progression is limited to a fuel source and the thermal hazard is localized to the area of the burning material.

INTERIOR FIRE ATTACK: A systematic deployment of personnel advancing a charged hose line from the exterior of the structure to the area of involvement within the interior to complete fire extinguishment.

INVESTIGATION MODE: A thorough assessment or investigation into the nature of the problem, type, and severity of the incident that provides the information needed to evaluate and decide on the operational mode.

LEGACY FIRE: Fires that primarily consist of natural fiber contents such as wood, wools, and cottons. These fires have a relatively low heat release rate when compared to hydrocarbon based products.

MODERN CONTENT FIRE: Fires that involve hydrocarbon and synthetic based contents such as foam rubber, nylon, rayon, and polypropylene. Modern fires have a relatively high heat release rate when compared to the natural fiber products found in legacy fires. Modern fires rapidly react to ventilation and the in-flow of additional oxygen.

OFFENSIVE MODE: An operational mode that takes direct action to mitigate the problem. Attack lines are operated within the collapse zone, most often an interior attack.

PYROLYSIS: The transformation of materials into their basic compound when subjected to heat. Contents will continue to off-gas and add to the flammable fuel load within the compartment as long as the material is subjected to elevated temperatures.

ROLLOVER: Occurs in the growth stage when sufficient fuel, heat, and oxygen are available to allow flame spread in the upper hot gas layer inside the compartment. When observed at the ceiling level, rollover shall be taken as an indicator that fire conditions are rapidly deteriorating and flashover may be imminent.

SMOKE: The combination of airborne solid particulates, liquid particulates, and gasses emitted when a material undergoes pyrolysis or combustion. Smoke is a heated fuel source. Smoke is a toxic mixture that contains numerous poisonous gasses such as: carbon monoxide, hydrogen cyanide, and phosgene.

TENABILITY: An assessment on whether units can operate within the fire area based on the conditions encountered and the impact of these conditions to potential civilians and firefighters.

TRANSITIONAL FIRE ATTACK: Firefighting operation where water is applied from an exterior position to the interior of a structure to reduce the thermal threat and cool the environment just prior to initiating interior operations.

VENTILATION: The controlled and coordinated removal of heat and smoke from a structure, replacing the escaping gasses with fresh air. This exchange is bi-directional with heat and smoke exhausting at the top and air flowing in towards the fire at the bottom. The fire will pull the additional air flow into the building towards the fire which can intensify the fire conditions. This exchange can occur by opening doors, windows, or roof structures. Coordinated and controlled ventilation will facilitate quicker extinguishment and limit fire spread.

VENTILATION INDUCED FLASHOVER: A flashover initiated by the introduction of oxygen into a pre-heated, fuel rich (smoke filled), oxygen deficient area. This phenomenon can occur with legacy content fires but has become prevalent with modern content fires. Modern content fires rapidly consume more of the available oxygen within the fire area creating conditions favorable to a possible ventilation induced flashover.

VENTILATION PROFILE: The appearance of the fire building's ventilation points showing the flow paths of heat and smoke out of the structure as well as any air movement into the structure. During the ventilation profile, assess the following:

1. Building construction, integrity, size and occupancy type.
2. Location of smoke or fire venting from the structure.
3. The volume, velocity, density, and color of the smoke venting from the structure to determine its current phase and potential for fire growth.
4. The direction and speed of the wind and its potential influence.

VENTILATION LIMITED FIRE: A fire in which the heat release rate and fire growth are regulated by the available oxygen within the space.

VENTILATION TACTICS: The coordinated and controlled opening of ventilation points in a structure to directly support interior operations.

VERTICAL VENTILATION: The vertical venting of structures involving the opening of bulkhead doors, skylights, scuttles and roof cutting operations. These are methods of releasing smoke, heat, and steam from inside the fire building.

APPENDIX II

UL STUDIES

1. Fire Service Summary Report: Study of the Effectiveness of Fire Service Vertical Ventilation and Suppression Tactics in Single Family Homes: 53 pages, no executive summary, <http://ulfirefightersafety.com/wp-content/uploads/2013/07/2010-DHS-FD-Summary.pdf>
2. Report on Structural Stability of Engineered Lumber in Fire Conditions: 178 pages, Executive Summary pages 3-8, <http://www.ul.com/global/documents/offerings/industries/buildingmaterials/fire-service/NC9140-20090512-Report-Independent.pdf>
3. Impact of Ventilation on Fire Behavior in Legacy and Contemporary Residential Construction: 405 pages, Executive Summary pages 3-5, <http://www.ul.com/global/documents/offerings/industries/buildingmaterials/fire-service/ventilation/DHS%202008%20Grant%20Report%20Final.pdf>
4. Improving Fire Safety by Understanding the Fire Performance of Engineered Floor Systems and Providing the Fire Service with Information for Tactical Decision Making: 77 pages, Executive Summary pages 3-4, <http://www.ul.com/global/documents/offerings/industries/buildingmaterials/fire-service/basementfires/2009%20NIST%20ARRA%20Compilation%20Report.pdf>
5. Analysis of Changing Residential Fire Dynamics and Its Implications on Firefighter Operational Timeframes: 18 pages, no executive summary, http://www.ul.com/global/digitalassets/hcpages/newscience/images/fire-safety/docs/Analysis_of_Changing_Residential_Fire_Dynamics_and_Its_Implications_on_Firefighter_Operational_Timeframes.pdf
6. Analysis of One and Two-Story Single Family Home Fire Dynamics and the Impact of Firefighter Horizontal Ventilation: 27 pages, no executive summary, http://www.ul.com/global/digitalassets/hcpages/newscience/images/fire-safety/docs/Analysis_of_One_and%20Two_Story_Single_Family_Home_Fire_Dynamics_and_the_Impact_of_Firefighter_Horizontal_Ventilation.pdf
7. Study of the Effectiveness of Fire Service Vertical Ventilation and Suppression Tactics in Single Family Homes: 529 pages, Executive

Summary pages 3-7, http://ulfirefightersafety.com/wp-content/uploads/2013/06/UL-FSRI-2010-DHS-Report_Comp.pdf

L.A. Co. F.D. STRUCTURE FIRE S.O.P. SAMPLE

APPENDIX III

OPERATIONAL MODES OF ATTACK

Operational Mode: After identifying the objectives that support the incident priorities, the operational mode will be selected for the incident. The IC shall communicate the current operational mode to on scene resources. The IC identifies the proper mode through the analysis of information gathered during the size up process to determine:

- Location and extent of fire – Where is the fire burning and where is it headed? What is burning?
- Fire effect – Is structural integrity compromised?
- Survivability of occupants – Is the interior environment of the structure survivable?
- Savable property – Is there property to save?
- Entry and tenability – Can firefighters access the interior?
- Coordinated ventilation – Can ventilation operations be performed and coordinated?
- Resources needed – Are sufficient resources available for the initial attack?

While it is the responsibility of the IC to decide on the operational mode, all firefighters must be able to perform tactics supporting the appropriate mode. The operational modes are:

- Investigation.
- Offensive.
 1. Transitional Fire Attack.
 2. Interior Fire Attack.
- Defensive.

INVESTIGATION:

The first arriving officer has the responsibility to investigate the scene. The size-up process provides the information needed to evaluate and decide on

the operational mode best suited for the present and expected conditions. The investigation mode allows the company officer time to identify problems, weigh risks, think clearly, and develop a plan. Other responding companies shall support the investigation by holding one block out identifying available water and assisting in the investigation as assigned.

OFFENSIVE:

During an offensive mode operation, fire conditions will allow for a transitional fire attack or an interior fire attack.

- Transitional fire attack: The action of a hose stream being applied from the exterior to cool the interior environment of a structure fire before entering to initiate interior fire attack operations. Applying a hose stream from the exterior reduces the thermal threat and cools the interior environment.
- Interior fire attack: A systematic deployment of personnel advancing a charged hose line from the exterior of the structure to the area of involvement within the interior to complete fire extinguishment.

Because the offensive mode has a higher risk to firefighters, the IC must determine if the interior attack is worth the risk. The IC must also determine if sufficient resources are available to safely sustain a coordinated attack. During the offensive mode, handlines are extended into the fire area to support the primary search and to control the spread of the fire while support activities such as: forcible entry, coordinated ventilation, and RIC are provided to support interior crews. It is imperative that company officers maintain communications with the IC and each other to provide status updates on the location of the fire, effectiveness of coordinated ventilation operations, and the building's integrity.

DEFENSIVE:

During the defensive mode, fire conditions advance to the point where there is a danger of imminent collapse, there is little chance of saving lives or property, or there are insufficient resources on scene to safely sustain an interior fire attack. In the defensive mode, operations are conducted from a safe distance outside of the structure and may focus more on containing the fire rather than on extinguishing it. During active defensive operations, perimeter control becomes critical since firefighters should not enter the uncontrolled interior fire area. The IC determines that the life safety priority cannot be supported by an offensive mode operation. The IC may concede property to the fire and decides where the cut-off will take place.