

## REGIONAL STANDARD OPERATING PROCEDURES

### **Fire Attack**

#: 103.09

REV: 10/2015

#### **PURPOSE**

The purpose of this Standard Operating Procedure is to provide a consistent approach to structural firefighting strategies and tactics. Fire officers should be well-versed in the principles of modern fire dynamics to enable them to think critically and adjust tactics to a specific emergency. These procedures are in no way intended to replace one of the most important assets on the fireground, the thinking fire officer.

These procedures are written to provide a standardized vision of strategies and tactics that will be used on the fireground. If a condition or situation dictates the need to deviate from these procedures, the Officer should immediately notify the Incident Commander of their actions.

#### **EXPECTATIONS**

All firefighters should be intimately familiar with these tactical procedures. Company officers should understand all company assignments and how each unit works within

the larger fireground picture. All personnel should know these procedures well enough that if ever the situation dictates the need to deviate from these procedures, they realize the impact their actions will have on other operating companies and communicate accordingly.

## **DEFINITIONS & CONCEPTS**

Collapse Zone- Area endangered by a potential building collapse. The collapse zone distance is equal to 1½ times the height of the building. All apparatus and personnel should be clear of the collapse zone when operating in the defensive strategy.

Defensive Strategy- Command option when conditions have progressed past the point of tenability for Offensive Strategy and/or when additional resources are not available. This strategy is declared when risks outweigh benefits. This strategy includes an exterior attack for an extended duration.

Divisions- Tactical-level management unit in charge of a geographic location (Delta Division, Roof Division)

Door Control – The process of ensuring the entrance door providing access to the fire area is controlled and closed as much as possible before and after teams enter the structure. Steps must be taken to prevent the door from locking behind the entering members. By controlling the door, we are controlling 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.

Flow Path - The movement of heat and smoke 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 gases are moving toward 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 (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 smoke toward their position.

Flow Path Control - The tactic of controlling or closing ventilation points which limits additional oxygen into the space thereby limiting fire development, heat release rate, smoke production and the movement of the heat and smoke conditions out of the fire area to the exterior and to other areas within the building.

Groups- The management unit at the tactical level in charge of a function (Fire Attack Group, Ventilation Group, Search Group)

Incident Commander – Referred to as “Command” of the incident. The Incident Commander is responsible for the oversight and direction of the incident strategy.

Initial Rapid Intervention Team (IRIT) – Crew of personnel on the initial arriving company who temporarily assembles to provide for the safety and rescue of the firefighting crews. Once additional manpower assemble to meet the required “Two-In, Two-Out” rule, they assume their primary function on the fireground. This OSHA standard has two exclusions that allow fire companies to take the IRIT exception:

1. There is an immediate life safety hazard.
2. The fire is encountered in the incipient phase of the fire and can be extinguished with a water can

Risk Management -

Risk management analysis should be conducted on all incidents:

We may risk our lives a lot, in a calculated manner, to protect savable lives.

We may risk our lives a little, in a calculated manner, to protect savable property.

We will not risk our lives at all to protect lives or property which are already lost.

Offensive Strategy- Command option where critical life safety situations are present and crews will be entering the IDLH to conduct search, rescue and fire control efforts. This strategy will be utilized when conditions within the IDLH are still tenable for trapped victims, for the quick and immediate suppression of early stage burning, or for credible reports of entrapped occupants or firefighters. This may be considered on non-fire related emergencies as well (structural collapse, confined space, trench collapse).

S.L.I.C.E.R.S. – SLICE-RS is an acronym for a tactical approach to Fire Attack centered on reducing temperatures inside a structure by firefighting personnel as quickly as possible. Depending on conditions, this may be accomplished prior to entering the building for extinguishment or rescue, by way of a transitional attack. The SLICE-RS acronym is further defined later in this SOP.

Transitional Attack - The tactic of applying exterior water for 20-30 seconds via **straight-stream** directed at the ceiling of the fire building at or near the room of origin, prior to entering the fire building. This tactic reduces fire size and heat release rate, dramatically reduces room temperatures and has proven to improve tenability for any victims on the interior of the fire building. Transitional attack is typically followed by interior operations working toward fire control, search, and rescue.

VENT-ISOLATE-SEARCH (V.I.S.) – A search tactic that involves entering the structure through a window to search areas/rooms with a higher potential for possible victims (typically bedrooms). The priority upon entering the area via a window is to immediately close the door to that room or area in order to isolate the area being searched from the fire area, thereby eliminating the entrance window as a developing flowpath. It is critical that we understand and practice that even when encountering a victim prior to closing the door to the bedroom, we bypass the victim for a short period to control the flow path before initiating the rescue.

## **INCIDENT SIZE UP**

It is critical that the company officer communicate a concise size-up of every situation. This information sets the tone for the incident and prompts the dispatcher to ensure the appropriate resources are allocated based on the incident type. Size up and initial reports are further described in the Regional SOP 101.00, Command Procedures.

## **INCIDENT PRIORITIES**

The following priorities will guide decision-making during the incident:

- Life Safety
- Incident Stabilization
- Property Conservation
- Customer stabilization

## OFFENSIVE STRATEGY

For the initial arriving Company Officer that assumes the role of Forward Command, the following tactical goals apply:

<p style="text-align: center;"><b>Structural Fire Tactical Goals</b> <b>S.L.I.C.E.R.S.</b></p> <p><b><u>Sequential Actions</u></b></p> <p><b>S</b>ize Up <b>L</b>ocate the Fire <b>I</b>dentify and Control Flow Path <b>C</b>ool the Space from Safest Location <b>E</b>xtinguish the Fire</p> <p style="text-align: right;"><b><u>Actions of Opportunity</u></b></p> <p style="text-align: right;"><b>R</b>escue <b>S</b>alvage</p>
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(Table 2: SLICERS Acronym)

## **Sequential Actions (To take place in order):**

### **Size Up**

Size-up must occur at every fire, and as a result of the size-up, the resources available and situational conditions should be communicated by way of the initial radio report. A tactical plan for the fire must be developed, communicated and implemented. First arriving officers/Incident Commanders are responsible for obtaining a 360 degree view of the structure involved. Where impractical because of building size or obstructions, the Incident Commander should delegate other arriving units to view parts of the structure unseen by the Incident Commander.

### **Locate the Fire**

The location and extent of the fire in the building must be determined. Officers should use all means available to make this determination. Thermal imagers should be at the ready for the initial 360 degree lap of the structure. The location of the fire and current conditions will dictate the best location to attack the fire.

### **Identify the Flow Path**

The Incident Commander should identify the presence and/or location of any flow paths. Effort should be taken to control ventilation and the flow path to protect potential building occupants and limit fire growth. If a flow path is visible, consider closing doors and windows to limit air flow. When closing doors and windows, firefighters should be aware of any potential rescues readily accessible via doors/windows.

### **Cool the Space from the Safest Location**

Given information obtained during the size up, locating the fire and identifying the flow path, the Incident Commander will determine if high heat conditions exist inside the structure. When high heat conditions are present, the Incident Commander will determine the safest and most direct way to apply water to the superheated space, or directly on the fire when available. The primary goal in this step is to reduce the thermal threat to firefighters and potential occupants as soon as reasonably possible.

### *Extinguish the Fire*

Once the thermal threats have been controlled, the fire should be extinguished in the most direct manner possible. The Incident Commander should recognize the potential for the thermal threat to return and should move to extinguish the fire quickly. The Incident Commander should ensure the proper initial rescue teams (IRIT) are in place for interior fire attack operations.

### **Actions of Opportunity (May occur at any time):**

#### *Rescue*

The Incident Commander should consider the potential for rescues at all times. Firefighters should be prepared to remove occupants. It should be reinforced that often the best initial action to take is to suppress the fire and remove that element from the tactical equation. The Incident Commander and fireground officers must make a rapid and informed choice on the priority and sequence of suppression activities versus occupant removal. As life safety is the highest tactical priority, rescue shall always take precedence. The Incident Commander must determine the best course of action to ensure the best outcome for occupants based on the conditions at that time. VIS (Vent Isolate Search) is a search method at the disposal of fireground personnel assigned to perform primary search. It provides for quick access to bedrooms at single family residences both single and multi-story. VIS is defined earlier in this procedure.

#### *Salvage*

Protecting any unburned items located within the building is also an action of opportunity, with efforts placed on minimizing heat, smoke and water damage to the contents of the building. Firefighters should use compartmentalization to control fire spread and smoke whenever possible. Early salvage efforts may include closing doors when possible to limit smoke and heat spread, deploying salvage covers to protect occupant belongings and removing items to an exterior location if these items are not critical to the investigation of the fire cause and origin.

#### *Special Note on Ventilation:*

Fireground personnel should manage, and control openings to the structure to limit fire growth and spread, and to control the flow path of inlet air and fire gases during tactical operations. **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 hazard of the fire due to increased heat release rates.

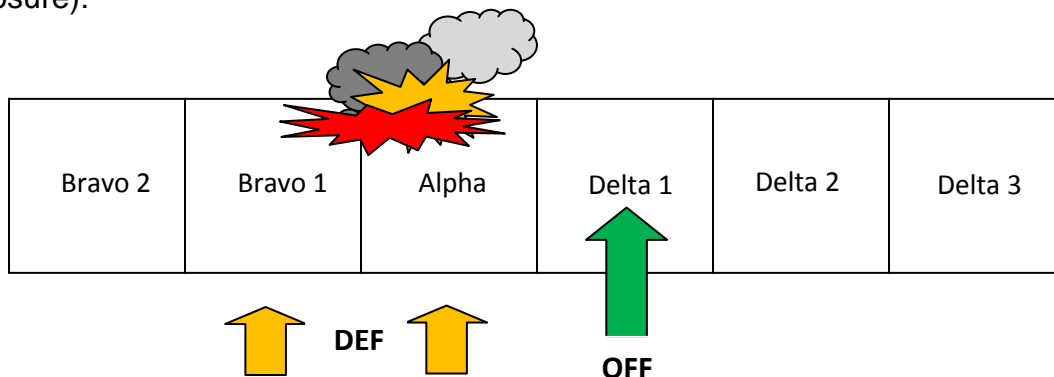
## DEFENSIVE STRATEGY

The defensive strategy is implemented whenever the risk-versus-benefit analysis determines that the risk to firefighters' lives and safety outweighs any possible benefit that might be achieved through an offensive attack.

Changing from an offensive to defensive strategy shall warrant an emergency traffic tone provided through dispatch. After requesting the emergency traffic tone, the IC should make the formal announcement via radio of the change in strategy and request all personnel to exit the building and provide PAR's upon safe departure of the structure. It is imperative that the defensive attack be delayed until obtaining all PAR reports from crews working on the fireground. When the IC initiates a defensive strategy, the main objectives are to save property that has not yet been destroyed, protect the environment, and protect exposures that are threatened by the fire.

Exiting the structure shall be defined as leaving the structure as an intact crew, keeping the hose line for crew and personal protection while exiting. Abandoning the structure means to exit the building as fast as possible leaving any hose lines behind. Methods for informing interior crews of a change in strategy requiring their exit from the building include radio transmission, long single horn blasts from apparatus, and the surging of the hose lines at the pump panels. Reasons for an abandonment of the structure include imminent structural/roof collapse or increasing potential for flashover.

During incident operations involving strip-mall type occupancies there may be circumstances that prompt the Incident Commander to maintain an offensive position during a defensive strategy. Positioning personnel on the interior of the Bravo and/or Delta occupancies may be determined to be advantageous in performing evacuation and assisting fire control efforts while still maintaining a defensive strategy on the involved (Alpha) occupancy. It is critical that all fire personnel understand that the overall fireground strategy will remain defensive, until formally changed by the incident commander. The incident commander will specify exactly which occupancy (or occupancies) fall under the defensive strategy (i.e. Defensive strategy on the Alpha and Bravo 1 occupancies while assigning crews in an offensive position working in the Delta 1 exposure):





Typically, defensive attacks are conducted in the following situations:

- Structural integrity concerns, fire conditions, or other hazards prohibit entry.
- Resource needs outweigh resource capabilities.
- A risk-versus-benefit analysis indicates that the risk is too great compared to what can be saved.

During the decision process of switching to a defensive strategy, several tactical considerations must be evaluated by the IC:

- Establishing a collapse zone
- Evaluating exposure protection and evacuation.
- Evaluate the location, number, and type of aerial master streams.
- Estimating water supply
- Calculating staffing and apparatus.
- Establish/re-establish groups/divisions to maintain an adequate span of control.

Defensive fires appear to be a greater challenge and may seem more spectacular, but in reality they are easier to handle and pose fewer risks to firefighters providing proper precautions are taken. The Incident Commander must keep in mind the factors that lead to a defensive decision. Firefighters should never be needlessly placed in a dangerous environment.