



SOUTH LYON FIRE DEPARTMENT

Manual of Procedures 404

GENERAL STRUCTURAL FIRE FIGHTING

Issued: February 6, 2011
Revised: October 12, 2016
Approved: Chief Mike Kennedy

I. SCOPE

The general structural firefighting procedure will provide guidelines to incident commanders (IC), company officers, and firefighters operating at structural fires. This procedure applies to structure fires. However, officers may need to alter the procedure to meet the needs of a specific emergency.

Before an entry is made, the SLFD will comply with the MIOSHA 2 In/2 Out rule. When the first two firefighters enter an Immediately Dangerous to Life or Health (IDLH) atmosphere to start fire attack there must be two other firefighters, fully equipped, on the outside and ready to move in if the interior firefighters need to be rescued. In accordance with MIOSHA Part 451, nothing in this section is meant to preclude firefighters from performing emergency rescue activities before an entire team has assembled.

This MOP needs to be referenced with MOPs 425 – 432, Command Functions.

II. UNDERWRITER LABORATORIES AND THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY FIRE DYNAMIC RESEARCH FINDINGS

SLFD shall apply the following to tactical decision making.

Water does not push fire or threaten trapped occupants:

- A. Water should be applied to a fire as soon as possible and from the safest location because research has proven it reduces thermal temperatures.
- B. Simply put, if you see fire, put water on it immediately. This greatly increases civilian and firefighter survivability as well as property conservation.

The recently created pneumonic, S.L.I.C.E.R.S., should replace RECEO VS.

Sequential Actions

Size Up
Locate the Fire
Identify and control flow path
Cool the Space from the Safest Location
Extinguish the Fire

Actions of Opportunity

Rescue
Salvage

Coordinate ventilation and fire attack. Ventilation continues to be an important tactic that requires significant coordination and control. Adding air to a building without the immediate application of water on today's fires greatly increases fire spread and reduces survivability for victims and firefighters. It is not possible to make statements about the effectiveness of ventilation without consideration for the timing and application of water. Venting does not always lead to cooling; well-timed and coordinated ventilation leads to improved conditions.



SOUTH LYON FIRE DEPARTMENT

Manual of Procedures 404

Control the door, control the flow path. Forcing, or opening, a doorway for entry creates an inflow ventilation flow path. Controlling the door to reduce airflow is an important step to improve the survivability of victims and firefighters, control heat release rates and reduce the chance of flashover.

Closing interior doors to improve compartmentalization is critical to victim and firefighter survivability. What used to be referred to as "Vent-Enter-Search (VES)" is now known as "Vent-Enter-Isolate-Search (VEIS)." When conducting VEIS tactics, closing the door to an entered compartment prior to conducting search operations is vital to controlling the flow path.

Assess exterior and interior collapse potential:

- Structural stability and potential for collapse must be a priority for consideration during size-up and brief initial reports (BIRs) should identify the presence or potential presence of engineered, lightweight building materials.
- Sounding the floor for stability is not an exclusive reliable indicator of structural stability and therefore should be combined with other tactics to increase safety.
- Floor sag is a poor pre-indicator of floor collapse as it may be especially difficult to determine the amount of deflection while moving through a structure.
- Thermal imagers are not an exclusive, reliable indicator of the presence or absence of fire in a basement and cannot assess structural integrity above floor coverings.
- Water application to a fire in a basement should be applied from an exterior access, penetrating nozzle or via holes cut into the compartment. Conducting an attack on a basement fire from the floor above via interior access is not recommended.

Conducting a 360° size-up of the fire occupancy should be completed prior to making entry. Wind-driven fires represent an immediate life-threat to firefighters, particularly in light of flow-path research. Attacking the fire from the windward side of the structure may be the most effective way to save lives.

Discourage or eliminate the widely-used term "nothing showing" from the brief initial report. As a result of modern fuel loads and energy-efficient building-construction materials, fires in structures can be expected to become ventilation-limited quickly. Smoke or open flame may not be visible from the exterior by arriving fire companies and the term unintentionally but significantly contributes to complacency.

III. OAK WIN INCIDENT PROFILE

Whenever SLFD is dispatched on a reported/confirmed structure fire in the City of South Lyon, a fire officer or company officer of the first responding apparatus needs to request that Novi Regional 911 request an "Incident Profile" from Oakland County Sheriff Dispatch. Novi Regional Dispatch will make this request on MABAS_D. This request needs to occur early in the incident and can occur without requesting a 2nd alarm. If a 2nd alarm is eventually requested, then the incident will already be on an Incident Profile.

Oakland County Sheriff Dispatch will assign a specific Incident Profile to the structure fire. Once the Incident Profile is assigned, the Incident Commander will need to move and confirm that all on-scene traffic is transferred to the FD_CMD talk group of the assigned Incident Profile i.e. FD_CMD1.



SOUTH LYON FIRE DEPARTMENT

Manual of Procedures 404

The additional MABAS talk groups of the assigned Incident Profile are available to the Incident Commander to accommodate operational demands. It is expected that most structure fires in the City of South Lyon will be handled by keeping all traffic on the FD_CMD talk group.

If a firefighter MAYDAY occurs or there is a RIT activation, the Incident Commander will keep the MAYDAY or RIT event on the talk group upon which it occurred. All other incident traffic will be moved to another talk group in the Incident Profile.

IV. FIRST ARRIVING ENGINE COMPANY

Based on conditions and safety considerations, the IC will determine if the initial strategy will be offensive, defensive, or transitional. The IC will direct the first engine company and be ready to advise other arriving companies of conditions and needed tactical support functions.

The first engine company will initiate suppression while pumping from its tank. Suppression shall take initial precedence over rescue. The first engine company will usually not lay its own supply line unless conditions warrant.

The first engine will position usually just beyond the structure allowing a view of at least two sides while leaving room for the ladder company.

V. LADDER COMPANY

Unless the IC assigns the ladder company a specific task, the ladder company shall *automatically* commence the activities listed below. *The CO of the ladder company shall not request an assignment from the IC upon arrival. The ladder company shall position and go to work.*

Primary Objectives

1. Ventilation / door control / controlling flow path
2. Forcible entry / softening the building
3. Proactive placement of ground ladders for entrance / egress
4. Search rescue with charged hoseline
5. Control of utilities

Other primary objectives can include

1. Elevated rescue
2. Elevated exposure protection
3. Elevated attack with hand lines
4. Salvage operations – early
5. Master stream attack

Members operating on the ladder company must remember that their duties will usually not include stretching attack lines into the building.

Coordination of fire attack and ventilation is of the utmost importance. The ladder company must perform ventilation in accordance with recent scientific research from Underwriters Laboratory and the National Institute for Standards and Technology. Ventilation prior to water application may result in explosive fire growth. The ladder company may assist in door control to actual restrict air flow to restrict fire growth.



SOUTH LYON FIRE DEPARTMENT

Manual of Procedures 404

When these objectives are performed they should be conducted with two person teams. The nozzle should be between the fire and the victim and or rescuers.

Positioning / Set-Up

The ladder truck will usually position in the front of the building (Sector A). If collapse conditions are present, the ladder truck should consider the corner safe zone.

If able, the driver of the ladder company shall proactively rotate and extend the aerial ladder towards the building to allow for quick deployment if needed.

The ladder truck will usually not lay a supply line. This will facilitate quick positioning and set up. However, if conditions warrant, the ladder truck may make a forward lay e.g. a fully involved building with no exposure or life hazard, or there is an urgent need to put master streams in place.

VI. ADDITIONAL COMPANIES

With the exception of the first engine and ladder, all additional companies shall Level I stage per MOP 425 – Command Functions #1.

VII. #1 Rule of Air Management

All members utilizing an SCBA in the hazard zone of an incident shall monitor the amount of air in their SCBA cylinder as well as their rate of air consumption in order to exit the hazard zone prior to the low air alarm activation of the SCBA. Just as ocean divers are trained to surface with an emergency reserve of air, firefighters shall exit the hazard zone of an incident with an emergency reserve of air.

It is critical that firefighters understand that the initial 75% of the air supply is the "working and exiting air." This includes air utilized for gaining access, working toward the tactical objectives, and exiting the hazard zone.

The remaining 25% of the air supply is the emergency reserve to be used only in the event an emergency occurs while exiting such as becoming lost, trapped, or entangled upon exiting the hazard zone.

VIII. TASK LEVEL AIR MANAGEMENT

Every member shall check their SCBA during regular maintenance activities to insure that they have a full air cylinder and the pass device works. On the fireground, every firefighter is responsible for managing their own air supply and frequently communicating the status of their air supply to the company officer. In turn, the company officer will give frequent progress reports including air status to command or the sector officer.

Prior to entry into the hazard zone, the company officer will brief his/her crew on the plan for achieving the tactical objectives including exiting the hazard zone together.

This insures the crew has a "round trip ticket" into and out of the hazard zone safely. All members shall maintain constant contact with the hose line and manage the line so that excessive hose is not brought into the structure. This will assist in reducing travel time while following the hose line out of the building when air management is the most critical. All members of the crew will exit prior to the low air alarm sounding on the SCBA.



SOUTH LYON FIRE DEPARTMENT

Manual of Procedures 404

IX. IAFC RULES OF ENGAGEMENT FOR STRUCTURAL FIREFIGHTING

SLFD will strive to adhere to the following rules to engagement during structural firefighting.

FIREFIGHTER SURVIVAL

Size-Up Your Tactical Area Of Operation - To cause the company officer and firefighters to pause for a moment and look over their area of operation and evaluate their individual risk exposure and determine a safe approach to completing their assigned tactical objectives.

Determine The Occupant Survival Profile - To cause the company officer and firefighter to consider fire conditions in relation to possible occupant survival of a rescue event as part of their initial and ongoing individual risk assessment and action plan development.

Do Not Risk Your Life For Lives Or Property That Cannot Be Saved - To prevent firefighters from engaging in high risk search and rescue and firefighting operations which may harm them when fire conditions prevent occupant survival and significant or total destruction of the building is inevitable.

Extend Limited Risk To Protect SAVABLE Property - To cause firefighters to limit risk exposure to a reasonable, cautious and conservative level when trying to save a building.

Extend Vigilant And Measured Risk To Protect And Rescue SAVABLE Lives - To cause firefighters to manage search and rescue and supporting firefighting operations in a calculated, controlled and safe manner, while remaining alert to changing conditions, during high risk primary search and rescue operations where lives can be saved.

Go In Together, Stay Together, Come Out Together - To ensure that firefighters always enter a burning building as a team of two or more members and no firefighter is allowed to be alone at any time while entering, operating in or exiting a building.

Maintain Continuous Awareness of Your Air Supply, Situation, Location and Fire Conditions - To cause all firefighters and company officers to maintain constant situational awareness their SCBA air supply and where they are in the building and all that is happening in their area of operations and elsewhere on the fireground that may affect their risk and safety.

Constantly Monitor Fireground Communications for Critical Radio Reports - To cause all firefighters and company officers to maintain constant awareness of all fireground radio communications on their assigned channel for progress reports, critical messages or other information that may affect their risk and safety.

You Are Required To Report Unsafe Practices Or Conditions That Can Harm You. Stop, Evaluate, And Decide.

To prevent company officers and firefighters from engaging in unsafe practices or exposure to unsafe conditions that can harm them and allowing any member to raise an alert about a safety concern without penalty and mandating the supervisor address the question to ensure safe operations.



SOUTH LYON FIRE DEPARTMENT

Manual of Procedures 404

You Are Required to Abandon Your Position and Retreat Before Deteriorating Conditions Can Harm You.

- To cause firefighters and company officers to be aware of fire conditions and cause an early exit to a safe area when they are exposed to deteriorating conditions, unacceptable risk and a life threatening situation.

Declare a May-Day As Soon As You THINK You Are in Danger - To ensure the firefighter is comfortable with, and there is no delay in, declaring a May Day when a firefighter is faced with a life threatening situation and the May Day is declared as soon as they THINK they are in trouble.

INCIDENT COMMANDER RULES FOR FIREFIGHTER SAFETY

Rapidly Conduct, or Obtain, a 360 Degree Situational Size Up of the Incident - To cause the incident commander to obtain an early 360 degree survey and risk assessment of the fireground in order to determine the safest approach to tactical operations as part the risk assessment and action plan development and before firefighters are placed at substantial risk.

Determine the Occupant Survival Profile - To cause the incident commander to consider fire conditions in relation to possible occupant survival of a rescue event before committing firefighters to high risk search and rescue operations as part of the initial and ongoing risk assessment and action plan development.

CONDUCT AN INITIAL RISK ASSESSMENT AND IMPLEMENT A SAFE ACTION PLAN - To cause the incident commander to develop a safe action plan by conducting a size-up, assess the occupant survival profile and completing a risk assessment before firefighters are placed in high risk positions on the fireground.

If You Do Not Have the Resources to Safely Support and Protect Firefighters, Seriously Consider a Defensive Strategy - To prevent the commitment of firefighters to high risk tactical objectives that cannot be accomplished safely due to inadequate resources on the scene.

DO NOT Risk Firefighter Lives for Lives or Property That Cannot Be Saved. Seriously Consider a Defensive Strategy.

Objective: To prevent the commitment of firefighters to high risk search and rescue and firefighting operations that may harm them when fire conditions prevent occupant survival and significant or total destruction of the building is inevitable.

Extend LIMITED Risk to Protect SAVABLE Property.

Objective: To cause the incident commander to limit risk exposure to a reasonable, cautious and conservative level when trying to save a building that is believed, following a thorough size up, to be savable.

Extend Vigilant and Measured Risk to Protect and Rescue SAVABLE Lives.

Objective: To cause the incident commander to manage search and rescue, and supporting firefighting operations, in a highly calculated, controlled, and cautious manner, while remaining alert to changing conditions, during high risk search and rescue operations where lives can be saved.

Act Upon Reported Unsafe Practices and Conditions That Can Harm Them. Stop, Evaluate and Decide.



SOUTH LYON FIRE DEPARTMENT

Manual of Procedures 404

Objective: To prevent firefighters and supervisors from engaging in unsafe practices or exposure to unsafe conditions that will harm them and allowing any member to raise an alert about a safety concern without penalty and mandating the incident commander and command organization officers promptly address the question to insure safe operations.

Maintain Frequent Two-Way Communications and Keep Interior Crews Informed of Changing Conditions

Objective: To ensure that the incident commander is obtaining frequent progress reports and all interior crews are kept informed of changing fire conditions observed from the exterior by the incident commander, or other command officers, that may affect crew safety.

Obtain Frequent Progress Reports and Revise the Action Plan

Objective: To cause the incident commander, as well as all command organization officers, to obtain frequent progress reports, to continually assess fire conditions and any risk to firefighters, and to regularly adjust and revise the action plan to maintain safe operations.

Ensure Accurate Accountability of Every Firefighter Location and Status

Objective: To cause the incident commander, and command organization officers, to maintain a constant and accurate accountability of the location and status of all firefighters within a small geographic area of accuracy within the hazard zone and aware of who is presently in or out of the building.

If After Completion of the Primary Search, Little or No Progress Towards Fire Control Has Been Achieved, Seriously Consider a Defensive Strategy.

Objective: To cause a benchmark decision point, following completion of the primary search, requiring the incident commander to consciously determine if it's safe to continue offensive interior operations where progress in controlling the fire is not being achieved and there are no lives to be saved.

Always Have a Rapid Intervention Team in Place at All Working Fires.

Objective: To cause the incident commander to have a rapid intervention team in place ready to rescue firefighters at all working fires.

Always Have Firefighter Rehab Services in Place at All Working Fires.

Objective: To ensure all firefighters who endured strenuous physical activity at a working fire are rehabilitated and medically evaluated for continued duty and before being released from the scene.

X. RESTORATION COMPANIES

SLFD employees shall not directly contact property restoration companies. SLFD employees shall not recommend or refer a restoration company to a building owner. If a property restoration company needs to be contacted, the building owner will be told to contact his/her insurance company. The building owner's insurance company should then contact the insurance company's preferred property restoration company. If circumstances dictate that the building owner and/or insurance company is unavailable or unknown, SLFD shall use the same rotating restoration company maintained by the Novi Regional 911 Center.

Approved by
/s/ Chief Mike Kennedy