



# **RISK MANAGEMENT**

SAN FRANCISCO FIRE DEPARTMENT

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**RISK MANAGEMENT**

April 2012

San Francisco Fire Department  
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## FOREWORD

The goal of this manual is to establish standard operating practices as authorized by the Chief of Department and implemented by the Division of Training.

The purpose of this manual is to provide all members with the essential information necessary to fulfill the duties of their positions, and to provide a standard text whereby company officers can:

- Enforce standard drill guidelines authorized as a basis of operation for all companies.
- Align company drills to standards as adopted by the Division of Training.
- Maintain a high degree of proficiency, both personally and among their subordinates.

All manuals shall be kept up to date so that all officers may use the material contained in the various manuals to meet the requirements of their responsibility.

Conditions will develop in fire fighting situations where standard methods of operation will not be applicable. Therefore, nothing contained in these manuals shall be interpreted as an obstacle to the experience, initiative, and ingenuity of officers in overcoming the complexities that exist under actual fire ground conditions.

To maintain the intent of standard guidelines and practices, no correction, modification, expansion, or other revision of this manual shall be made unless authorized by the Chief of Department. Suggestions for correction, modification or expansion of this manual shall be submitted to the Division of Training. Suggestions will be given due consideration, and if adopted, notice of their adoption and copies of the changes made will be made available to all members by the Division of Training.

Joanne Hayes-White  
Chief of Department

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# SECTION 1. RISK MANAGEMENT FOR STRUCTURAL FIREFIGHTING

The mission of the San Francisco Fire Department is to protect the lives and property of the people of San Francisco from fires, natural disasters and hazardous materials incidents. This mission does not mean that the safety of our members should be put at unnecessary risk. A basic level of risk is recognized and accepted, in a measured and controlled manner, in efforts that are routinely employed to save lives and property; however, no level of risk to responders is acceptable in situations where there is no potential to save lives or property. It is paramount that risk be managed with the goal to eliminate the potential for serious injury, duty related illness, or a line of duty death.

The objective of “Rules of Engagement” is to provide parameters for decision making and taking action at emergency incidents to minimize the potential for serious injury, duty-related illness or line-of-duty death of a Fire Department member.

The City of San Francisco is highly populated with high-density construction features that promote fire spread. The fire must be stopped quickly and aggressively to prevent devastating losses to life and property. The San Francisco Fire Department commits a large amount of resources to reports of fire in the building to accomplish our mission of protecting lives and property. A coordinated, properly executed, aggressive attack involving search and rescue, fire containment and extinguishment, water supply, ventilation, laddering, overhaul, and salvage operations is the basis of our strategy and tactics to best serve the public and to protect ourselves. **We must protect the public and ourselves by directing our resources effectively, efficiently, and safely.**

It is incumbent that the Incident Commander, Chief Officer, and Company Officer ensure the safety of all firefighters working at emergency incidents. The Chief Officer and the Company Officer are responsible for their own safety and the safety of all personnel working with them. All officers and members are responsible for continually identifying and reporting unsafe conditions or practices. The Rules of Engagement allows both the firefighter and the Incident Commander to apply and process these principles.

One principle identified in the Rules of Engagement is that firefighters and company officers are the members at most risk for injury or death. The “Rules” integrate the firefighter into the risk assessment decision making process. These members should be the ultimate decision makers as to whether it is safe to proceed with assigned objectives. The “Rules” allow a process for that decision to be made while still maintaining command unity and discipline.

It is well known that firefighting is hazardous, with varying levels of risk to the firefighter. A properly executed, aggressive interior attack coordinated with search and rescue and proper ventilation will normally save the most lives and property. However, due to today's increased fire load, more toxic fuels, changes in occupancy, illegal remodeling, and weather-tight, light-weight construction, firefighting has become increasingly risky to the firefighter. Tunnel vision and blind aggressiveness are not the answer but are the problem.

Everyone on the fireground shall evaluate safety conditions, continue to monitor the conditions, and include these observations in the strategic and tactical decision making at the incident. Risk management principles must be applied at all structure fires to ensure that the appropriate strategy and tactics are used based on the fireground conditions encountered.

The San Francisco Fire Department has a significant amount of resources to mount a heavily weighted attack on most fires in the City. Multiple, properly trained and equipped companies arriving on scene within minutes coupled with good water sources throughout the city, enable the Department to protect the lives and property of the people of San Francisco from the ravages of fire. With this in mind, we have to remember that any significant earthquake or other disaster will deplete our resources. We will not have the advantage of a heavily weighted attack and therefore we need to modify our operations accordingly. Some of the rules that are taken for granted must be reevaluated to minimize this increased risk.

**Keep all members safe so “Everyone Goes Home”!**

## SECTION 2. RISK MANAGEMENT DEFINED

The following are definitions and explanations about risk, risk management and other components as related to fire suppression.

### RISK

- The possibility of meeting danger, suffering harm or loss, or being exposed to harm or loss.
- Each risky situation carries with it the probability that severe harm might occur.
- With higher levels of risk come with higher probabilities of harm.

The acceptance of risk by firefighters is closely related to the reasons fire departments exist. Firefighters take essential actions too dangerous for ordinary citizens, who are neither properly trained nor adequately equipped, or who might not be physically able to engage in such actions. Risk is an inherent component of the work firefighters perform.

The ability to work in an elevated-risk environment sets firefighters apart from the general population. In order to survive, firefighters must effectively manage their exposure to risk by recognizing danger, considering and weighing alternatives, and balancing anticipated benefits with potential consequences. In some cases, the high level of risk associated with taking certain actions cannot be justified.

### DEGREES OF ACCEPTABLE RISK

- Actions that present a significant risk to the safety of members shall be limited to situations in which there is a potential to save endangered lives.
- Actions routinely employed to protect property shall be recognized as inherent risks to the safety of members, and actions shall be taken to reduce or avoid those risks.
- No risk to the safety of members shall be acceptable when there is no possibility to save lives or property.

The most important and difficult concept in the operational risk management process is the actual determination of the types and levels of risk that are present in each situation and the degree of risk that is acceptable for the personnel who are operating at that incident. There is always some degree of risk involved in conducting emergency operations. The Incident Commander, Division/Group Supervisor, and Company Officer have to determine the limits of risk that are

acceptable for each situation and then direct operations to ensure that those limits are not exceeded.

## **CONTROL MEASURES**

- Training, experience, personal protective equipment and suppression equipment
- Implementation of appropriate objectives, strategies and tactics
- Avoidance of unnecessary risks

High-risk situations still must be made as safe as possible. Training, experience, personal protective equipment, and suppression equipment are control measures that must be utilized to reduce the potential harm to crews as the emergency incident unfolds.

Appropriate objectives, strategies and tactics can be identified before the emergency incident takes place. They then need to be implemented at the emergency incident taking into consideration that adjustments will have to be made due to the unique dynamics of each incident.

Avoidance of unnecessary risks will require continuous identification, evaluation and control before, during, and after the emergency incident is mitigated.

### **Situational Awareness**

- Involves being aware of what is happening around you at the incident to understand how information, events, and your own actions will impact the incident objectives, both immediately and in the near future.
- The level of understanding and attentiveness the firefighter has regarding the reality of fire conditions and fireground operations.

The National Near Miss Reporting System lists “situational awareness” as the most common cause for a life-threatening, near miss event. When situational awareness is high, there are rarely surprises. When situational awareness is low or absent, preventable, undesirable events occur.

A Firefighter’s ability to perform safely and effectively in high-risk environments is highly dependent on their ability to recognize the specific dangers that apply to each situation and to work within the limitations of their protective clothing, equipment, training and standard operating procedures.

### **Aggressive Firefighting**

- Taking action in situations before additional support is available.

Three examples of aggressive firefighting are:

- 1) Leading a 1 $\frac{3}{4}$ " hoseline to the seat of the fire using only tank water from your engine.
- 2) Conducting primary search on the floor above the fire without a hoseline operating on that floor.
- 3) Operating on a roof where uncontrolled fire is burning below.

Clearly, the San Francisco Fire Department employs aggressive actions at fires. We routinely take these types of aggressive actions at fires because they are the basis of our objectives, strategies, and tactics to best serve the public and protect ourselves. However these aggressive actions are reinforced by the following control measures and supportive actions:

- The second-due engine secures a hydrant and supplies water
- An additional hoseline will be led to the floor above the fire
- Attic spaces will be exposed from below with a hoseline in place to extinguish

Three examples of actions that are unnecessarily risky and constitute a "no go":

- 1) Leading a 2 $\frac{1}{2}$ " hoseline to the seat of the fire using only tank water from your engine.
- 2) Conducting a primary search on the floor above the fire without a hoseline operating on the fire floor.
- 3) Operating on a roof where uncontrolled fire has burned through the roof and the roof is clearly spongy.

Arguably there is a fine line between aggressive actions and unnecessarily risky actions, but this is a line that can be recognized by well-trained, knowledgeable and experienced firefighters. Noticeably, the difference between aggressive actions and unnecessarily risky actions are that we have control over the decision on which action to take.

The reality is that we can never eliminate the **possibility** that something could go wrong and result in an injury or fatality, but the possibility of injury or death should never be allowed to become a **high probability**.

Some firefighters are more inclined to take quick action rather than to stop, assess the risk, and execute a safe alternative. Individuals who have to make risk-management decisions must be able to clearly gather and process information efficiently under stressful conditions. In some cases, they must slow down action-orientated individuals to provide time to assess the situation and to avoid misdirected aggressiveness.

### **Good Judgment**

- The ability to judge, make a correct decision, or form an opinion objectively, authoritatively and wisely, especially in matters affecting action.

The application of risk management policies relies heavily on the judgment of Chief Officers, Company Officers, and individual firefighters. Capable Chief Officers, Company Officers, and Firefighters must be able to predict what is likely to happen in a wide variety of situations and to weigh the risks against the potential benefits of different actions. Actual and potential dangers must be recognized, evaluated and placed in perspective in relation to the three guidelines that define acceptable risk.

There are times when critical risk-management decisions must be made under extremely stressful conditions, with incomplete information and with only seconds to evaluate the alternatives. The ability of trained, knowledgeable and experienced Chief Officers, Company Officers and Firefighters to make appropriate risk assessments and apply risk management principles requires good judgment.

## **RISK MANAGEMENT**

- The evaluation or comparison of risks and the development of control measures that change the degree of probability or the consequences of said risks
- Comprises the entire process of identification and evaluation of risks as well as the identification, selection and implementation of control measures that might alter the level of risk incurred.

This process of identifying, evaluating and, controlling risk at emergency incidents involves other components such as situational awareness, aggressiveness and good judgment. Risk management is not something that is done once but is a continuous process that always involves balancing probabilities and consequences. New information is constantly being obtained and therefore must be constantly assessed and verified.

However, this does not mean that we can wait for all of the information to be obtained and verified before we take action. Initial actions must be taken effectively, efficiently, and safely. Taking immediate action should not needlessly place firefighters' lives in danger, but you cannot be so overly cautious that nothing gets done and a room and contents fire turns into a conflagration. This is where knowledge, training, experience, and standard operating procedures must guide your decisions when confronted with incomplete information.

Risk management must occur at every level of an organization in an emergency operation. The Incident Commander must determine the appropriate objectives and strategy for the incident. The Division/Group Supervisors must ensure the objectives and strategy is carried out in a safe, effective, and efficient manner. The

Company Officer must evaluate conditions to determine risk exposure for their crew before they initiate and as they take actions for their assigned tasks. The Firefighter must still use the same type of judgment to decide on personal actions in many situations.

### **The Need for Rules of Engagement**

Firefighter safety must always be a priority for every fire chief and every member. Over the past three decades, the fire service has applied new technology, better protective clothing and equipment, implemented modern standard operating procedures, and improved training. According to National Fire Protection Association (NFPA) data during three decades, the fire service has experienced a 58% reduction in firefighter line-of-duty deaths. However, the country has also seen a paralleling 54% drop in the number of structural fires over the same period—thus, reducing firefighter's exposure to risk. With a continued annual average of more than 100 firefighter fatalities, the question remains: Have we really made a difference with all these technology improvements? Or, is there more that we can do to improve the safety culture of the American fire service?

The U.S. Firefighter Disorientation Study, conducted by Captain Willie Mora, San Antonio, Texas, Fire Department, conducted a review of 444 firefighter fireground deaths occurring over a recent 16-year period (1990-2006). The project identified traumatic firefighter fatalities occurring in “open structures” and “enclosed structures.” Open structures were defined as smaller structures with an adequate number of windows and doors (within a short distance) to allow for prompt ventilation and emergency evacuation. Enclosed structures were defined as large buildings with inadequate windows or doors to allow prompt ventilation and emergency evacuation. Research determined that 23% of deaths occurred when a fast and aggressive interior attack was made on an “opened structure”. When fast, aggressive interior attacks occurred in “enclosed structures,” the fatality rate rose to 77%. Many deaths occurred in “marginal” or rapidly changing conditions in which the firefighter should not have been in the building.

The fireground creates a significant risk to firefighters, and it is the responsibility of the Incident Commander, Chief Officer, and Company Officer to minimize firefighter exposure to unsafe conditions and stop unsafe practices. The fire service has always been a para-military organization when it comes to fireground operations. In most cases, the Incident Commander makes a decision, sends the order down through supervisors to the company officer and crew. Fire crews generally view these orders as top-down direction. There is often little two-way discussion about options. Where this culture exists, crews have been trained to accept the order and do it—generally without question. While these orders may be viewed as valid when issued, they may involve inadequate risk assessment.

There has been little national development of basic “rules” that the Incident Commander should use in defining risk assessment process and what is too high

risk that may result in a “no-go” decision. Furthermore, for the individual firefighter who is exposed to the greatest risk, we have not defined “rules” for them to follow in assessing their individual risk and when and how to say “no” to unsafe conditions or practices. The “Rules of Engagement” change that.

The “Rules of Engagement” have been developed to assist the Incident Commander, Chief Officer, Company Officer, and Firefighter in risk assessment and “Go” or “No-Go” decisions. Applying the rules will make the fireground safer for all and reduce injuries and fatalities.

The development of the rules integrated several nationally recognized programs and principles. They included risk assessment principles from NFPA Standards 1500 and 1561. Also included were concepts and principles from Crew Resource Management (available from [iafc.org](http://iafc.org)) and data and lessons from the National Near-Miss Reporting System ([firefighternearmiss.com](http://firefighternearmiss.com)). The development process also included review of lessons learned from numerous firefighter fatality investigations conducted by the National Institute of Occupational Safety and Health (NIOSH) Fire Fighter Fatality Investigation and Prevention Program.

The International Association of Fire Chiefs (IAFC) is committed to reducing firefighter fatalities and injuries. As part of that effort, the nearly 1,000-member Safety, Health and Survival Section of the IAFC has developed DRAFT “Rules of Engagement of Structural Firefighting” to provide guidance to individual firefighters, Company Officers, Chief Officers and Incident Commanders, regarding risk and safety issues when operating on the fireground. The intent is to provide a set of “model procedures” for Rules of Engagement for Structural Firefighting to be made available by the IAFC to fire departments as a guide for their own standard operating procedure development.

Early in development of the Rules of Engagement, it was recognized that two separate sets of rules were needed--one set for the Firefighter, who is at the greatest risk, and another set for the Incident Commander, who is responsible for keeping all members on the fireground safe. Accordingly, the two sets of the Rules of Engagement are described in this document. Each set has several commonly shared rules and objectives, and the explanations are described somewhat differently based on the level of responsibility (Firefighter vs. Incident Commander).



## SECTION 3. THE RULES OF ENGAGEMENT FOR FIREFIGHTER SURVIVAL

### RULES OF ENGAGEMENT FOR FIREFIGHTER SURVIVAL

The Following Rules of Engagement (ROE) were developed by the Health and Survival Section of the International Association of Fire Chiefs. They represent the best practice model that all firefighters should review and consider to enhance fire ground safety. The goals of the ROE are to improve fire ground risk assessment by both the firefighter and the Incident Commander

- Size up your tactical area of operation.
- Determine the occupant survival profile.
- **DO NOT** risk your life for lives or property that can not be saved.
- Extend **LIMITED** risk to protect **SAVABLE** property.
- Extend vigilant and measured risk to protect and rescue **SAVABLE** lives.
- Go in together, stay together, come out together.
- Maintain continuous awareness of your air supply, situation, location, and fire conditions.
- Constantly monitor fireground communications for critical radio reports.
- You are required to report unsafe practices or conditions that can harm you. Stop, evaluate and decide.
- You are required to abandon your position and retreat before deteriorating conditions can harm you.
- Declare a may day as soon as you **THINK** you are in danger.

#### Size Up Your Tactical Area of Operation

**Objective:** To cause the company officer and firefighters to pause for a moment and assess their area of operation, evaluate their individual risk exposure and determine a safe approach to completing their assigned tactical objectives.

**NO GO.** If your assigned objective cannot be achieved because existing conditions prevent success, stop and report the situation to the Incident Commander and/or Division/Group Supervisor and revise the objective.

All firefighters are responsible for their own safety and the safety of other firefighters working with them. The company officer and firefighter, by the nature of their work, are the persons at greatest risk during offensive firefighting operations. They are also the people “on location” that can best see what is happening on their side of the fireground and what the risk may be.

The company officer and firefighter must size up their side of the fireground, or operational area, to determine risk and select the safest approach to achieving objectives assigned by Command. When evaluating your area of operation, ensure that you have the made right hose and tool selection for the assigned tactical objective.

The Company Officer and Firefighters must not have tunnel vision with the task at hand. It is necessary to take the time to size up the total situation within line-of-sight viewing. There are factors that are both visually present and not observable. Evaluating these factors can allow the firefighter to forecast future conditions and risk.

Each operational area on the fireground has its own unique fire conditions and risk that must be assessed by all members from their assigned positions. The firefighter must consider all interior conditions as part of the size up. Firefighters must know what is burning, where it is, and where it is likely to progress.

Abandoned and dilapidated buildings are a special consideration for a no-go decision. Where an active and progressing fire is present, and the fire is not rapidly knocked down, a defensive strategy should be seriously considered from the outset.

Beware of lightweight construction and early collapse potential—for both the roof and floors, particularly over a basement fire or significant fire in the attic space. An Underwriters Laboratory test determined some lightweight unprotected truss systems can collapse as early as 6.5 minutes after flame impingement—and without warning.

If significant risks are identified or other important information is observed that will affect safety or the action plan, it must be reported to the Incident Commander, Division/Group Supervisor, or Company Officer.

### *Determine the Occupant Survival Profile.*

**Objective:** To cause the company officer and firefighter to consider fire conditions in relation to possible occupant survival during a successful rescue as part of their initial and ongoing individual risk assessment and action plan development.

**NO GO.** If the occupant(s) cannot survive the search and rescue, do not commit. Obtain fire containment before searching.

**Our goal is to save lives.** Firefighters are exposed to the greatest risk during primary search and rescue operations. Search efforts must be based on the potential to save lives. No action plan can be accurately developed until we first determine if the occupant can survive the fire conditions before rescuers reach them AND remove them. If survival is not possible, a more cautious approach to fire operations must be taken.

The prime factor in survival profiling is based on evaluating fire conditions in individual “compartments” and determining if the victim can survive existing and projected fire conditions for the entire rescue event.

An accurate determination of an occupant survival profile is a critical element of the incident size up.

The Firefighter, Company Officer, and the Incident Commander must factor growing fire conditions, resources on scene (the number of firefighters to complete a rescue), and the time to complete a rescue into the decision to conduct and support search and rescue.

Search and rescue and the related removal of any victims from the fire building takes time and occurs most often while conditions continue to deteriorate—sometimes rapidly—thus increasing risk. A search and rescue decision must be balanced against time and conditions. In some cases, the search and rescue effort must be abandoned because of deteriorating conditions.

Today’s fire environment is far more toxic and lethal than in the past. Victims die sooner than what occurred a few decades ago. The old primary killer of fire victims was carbon monoxide. Today, the new killer in smoke is cyanide which is 30 times deadlier than carbon monoxide.

Firefighters must be continually aware that search and rescue takes time to complete—the patient may not survive the rescue event in a toxic environment and in fire conditions which may not improve during the rescue effort. Be cautious.

- A fire in a home in the middle of the night, with fire showing out a rear window, and modest smoke throughout the rest of the building, may allow victim survival.
- A fire in the same home in the middle of the night, with significant fire showing from several windows, and dense smoke under pressure pushing out of openings, may not permit any

victims to survive the heat, toxic environment, and the time required to search and remove them. This is not to suggest that firefighters should not search, but rather that, under these conditions, fire containment and ventilation may be required first to support the search and rescue efforts.

- A well-involved structure will not allow for survival of any victims.
- A fire in an apartment building may not allow survival in a well involved apartment (compartment), but the survival profile may be good in the adjacent apartment(s). The action plan should extend search and rescue to the exposure apartments if safe to do so.
- Abandoned and dilapidated buildings are a particular risk to firefighters, and experience has shown there is little likelihood of containing any occupants.

### *DO NOT Risk Your Life for Lives or Property That Cannot Be Saved*

**Objective:** 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 when significant or total destruction of the building is inevitable.

**NO GO.** If fire conditions prevent occupant survivability for any rescue event, adjust the action plan to minimize risk.

**NO GO.** If the fire has, or will, destroy the building, adjust the action plan to minimize risk.

**All firefighters must recognize that we cannot always save a life.**

Where conditions indicate no chance for occupant survival, or the building is lost to a well-involved fire, firefighters should not extend risk. The action plan should be to protect firefighters while controlling the fire.

This Rule does not suggest that no action be taken (including search and rescue). Rather, a more cautious approach must be taken, including gaining containment of the fire before search and rescue operations are undertaken.

The risk to firefighters continues after fire control. All buildings will be structurally compromised by fire and a collapse potential may exist for crews conducting overhaul. The roof and floor trusses may be substantially weakened. The atmosphere will remain toxic for some time, requiring continued SCBA use.

Abandoned and dilapidated buildings are a particular risk to firefighters, and experience has shown there is little likelihood of containing any occupants. Where the fire cannot be quickly controlled, serious consideration should be given to a defensive strategy.

The firefighter should understand that fire eats away at the buildings structural integrity and interior operations can expose the firefighter to the risk of roof or floor collapse or other structural collapse.

*Extend Limited Risk to Protect Savable Property.*

**Objective:** To cause firefighters to limit risk exposure to a reasonable, cautious, and conservative level when trying to save a building.

**NO GO.** If the building cannot be saved, it is a no go. Consider an exterior defensive strategy or cautious operations.

**LIMITED.** Do not over extend yourself.

**The firefighter must recognize that we cannot always save a building.** No building is worth the life of a firefighter. Buildings that are deemed savable shall be saved in a measured and controlled manner to reduce risk to the firefighter.

Firefighting operations must be fully supported with adequate resources and risk must be closely and continually assessed. Fire conditions must be constantly monitored.

A fire that cannot be controlled quickly will continue to eat away at the building's structural integrity, weakening it and increasing risk.

If conditions deteriorate and become unsafe, crews must be rapidly withdrawn to a safe area and defensive operations implemented.

The risk to firefighters continues after fire control. All buildings will be structurally compromised by fire, and a collapse potential may exist for crews conducting overhaul. The roof and floor trusses may be substantially weakened. The atmosphere will remain toxic for some time, requiring continued SCBA use.

Beware of lightweight construction and early collapse potential—for both the roof and floors, particularly over a basement fire or significant fire in the attic space. Underwriters Laboratory test determined some lightweight unprotected truss system can collapse as early as 6.5 minutes after flame impingement—and without warning.

Abandoned and dilapidated buildings are a particular risk to firefighters and experience has shown there is little likelihood of containing any occupants. Where the fire cannot be quickly controlled, serious consideration should be given to a defensive strategy.

Large-caliber hose lines and monitors provide improved fire control and safety for firefighters. In some cases, it would be appropriate to use large caliber-hose lines to quickly knock down fire before crews enter a building.

### *Extend Vigilant and Measured Risk to Protect and Rescue Savable Lives*

**Objective:** 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.

**VIGILANT.** Be on the alert for changing fire conditions

**MEASURED.** Use calculated and deliberate actions.

**NO GO.** If the occupant cannot survive fire conditions and the time to rescue them.

**NO GO.** If you do not have the resources to conduct a safe search and rescue or firefighting operations.

**Our goal is to save lives.** Where the survival profile indicates lives may be saved, risk may be justified; **BUT** search and rescue operations should be applied in a very calculated manner while being alert and watchful for changing conditions that may put firefighters at undue risk.

Firefighters and company officers, by nature of their work, are exposed to the greatest risk during search and rescue operations. These operations often occur prior to fire control and frequently during deteriorating conditions.

Where it is believed that lives can be saved, firefighters may tend to push the safety envelop. The risk may be justified but must be closely monitored and controlled in a safe manner. If deteriorating conditions present too high a risk, search and rescue operations should be terminated and firefighters should be withdrawn.

All firefighters and company officers involved in search and rescue operations must remain alert for changing conditions and balance the risk

against fire conditions, the toxic environment, and the time to complete a rescue.

Rescue operations must be fully supported with adequate resources and risk must be closely and continually assessed. If resources are inadequate to maintain firefighter safety during search and firefighting operations, consider other safe approaches or implement defensive operations.

Search and rescue and the removal of the victim takes time. Fire conditions are almost always deteriorating in the early stages of the search. Firefighters must be constantly aware of changing conditions and balance the risks. Changing conditions may require that the search be abandoned in the middle of the search.

Beware of lightweight construction and early collapse potential—for both the roof and floors, particularly over a basement fire or significant fire in the attic space. Underwriters Laboratory test determined some lightweight unprotected truss system can collapse as early as 6.5 minutes after flame impingement—and without warning.

Abandoned and dilapidated buildings are a particular risk to firefighters and experience has shown there is little likelihood of containing any occupants. Where the fire cannot be quickly controlled, serious consideration should be given to a defensive strategy.

### *Go in Together, Stay Together, Come Out Together*

**Objective:** To ensure that firefighters always enter a burning building as a team of two or more members and that no firefighter is allowed to be alone at any time while entering, operating in or exiting a building.

**NO GO.** If you do not have a partner, never enter a burning building

Line of Duty Death (LODD) reports are riddled with firefighter fatalities due to a firefighter's separation from partners or crew members, by a single firefighter freelancing alone and by a single firefighter leaving his partner or crew to exit alone when he is low on SCBA air supply.

A critical element for firefighter survival is crew integrity. Crew integrity means firefighters go in together, stay together at all times on the interior, and all come out together. Period!

The ultimate responsibility for crew integrity and insuring no members get separated or lost rests with the company officer or lead team member. It is also the individual responsibility of every firefighter to stay connected with his/her partner or crew members at all times.

Freelancing by any member must be prohibited. Additionally, crews or buddy teams must never freelance. All firefighters must be operating under the direction of the Incident Commander, Division/Group Supervisor, or the Company Officer.

The company officer or team leader must maintain constant contact with assigned members by voice, by touch, or visually while in the hazard zone. If these elements are lost, so is crew integrity, and firefighters are placed at great risk.

If a firefighter becomes lost and cannot get re-connected quickly with their partner they must get on the radio and attempt to communicate with their company officer or partner. If reconnection is not accomplished within three radio attempts or no more than one minute, a May Day should be declared and the firefighter must activate the radio's emergency alert button, followed by manually turning on the PASS alarm. Do not delay a May Day—one minute with deteriorating conditions can be life threatening. If the firefighters get reconnected before a RIC arrives, the May Day can be cancelled.

The hoseline, or rope safety line, is the firefighter's life line to the exit. Members must be aware of its location at all times. Also, a secondary means of egress must be identified constantly.

### *Maintain Continuous Awareness of Your Air Supply, Situation, Location and Fire Conditions*

**Objective:** To cause all firefighters and company officers to maintain constant situational awareness of their SCBA air supply, where they are in the building and all that is happening in their area of operations including elsewhere on the fireground that may affect their risk and safety.

**NO GO.** If you do not have a full SCBA bottle or enough air to complete your task, do not go.

**NO GO.** If you do not know where you are at all times, do not continue. Stop, reorient or report.

**NO GO.** If you have reached your turnaround point on your SCBA air supply, do not continue, exit the building.



*Constantly Monitor Fireground Communications for Critical Radio Reports.*

**Objective:** 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 and 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.*

**Objective:** 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.

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

**Objective:** 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 unacceptable risk and a life threatening situation.

*Declare a May Day As Soon As You THINK You Are In Danger.*

**Objective:** To insure 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.



## SECTION 4. THE INCIDENT COMMANDER'S RULES OF ENGAGEMENT FOR FIREFIGHTER SAFETY

### THE INCIDENT COMMANDER'S RULES OF ENGAGEMENT FOR FIREFIGHTER SAFETY

The Following Rules of Engagement (ROE) were developed by the Health and Survival Section of the International Association of Fire Chiefs. They represent the best practice model that all Incident Commanders should review and consider to enhance fire ground safety. The goals of the ROE are to improve fire ground risk assessment by both the firefighter and the Incident Commander

- Rapidly conduct, or obtain, a 360-degree size up of the incident.
- Determine the occupant survival profile.
- Conduct an initial risk assessment and implement a **SAFE ACTION PLAN**.
- If you do not have the resources to safely support and protect firefighters, seriously consider a defensive strategy.
- **DO NOT** risk firefighter lives for lives or property that can not be saved, seriously consider a defensive strategy.
- Extend **LIMITED** risk to protect **SAVABLE** property.
- Extend vigilant and measured risk to protect and rescue **SAVABLE** lives.
- Act upon reported unsafe practices and conditions that can harm firefighters. Stop, evaluate, and decide.
- Maintain frequent two-way communications and keep interior crews informed of changing conditions.
- Obtain frequent progress reports and revise the action plan.
- Ensure accurate accountability of all firefighters' locations and status.
- If, after completing the primary search, little or no progress towards fire control has been achieved, seriously consider a defensive strategy.
- Always have a Rapid Intervention Crew in place at all working fires.
- Consider firefighter rehab services at working fires. ( see SFFD rehab policy)

## **Objectives**

### **Rapidly Conduct, or Obtain, a 360-Degree Situational Size Up of the Incident.**

The Incident Commander should obtain an early 360-degree survey and conduct a risk assessment of the fireground in order to determine the safest approach to tactical operations as part of the action plan development and before firefighters are placed at substantial risk.

### **Determine the Occupant Survival Profile.**

The Incident Commander should consider fire conditions in relation to possible occupant survival of a successful 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**

The Incident Commander should develop a safe action plan by conducting a thorough size up, assessing 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.**

The Incident Commander should not commit 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 Can Not Be Saved – Seriously Consider a Defensive Strategy.**

The Incident Commander should not commit 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.**

The Incident Commander should 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.

*Extended Vigilant and Measured Risk to Protect and Rescue SAVABLE Lives.*

The Incident Commander should 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.

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

The Incident Commander, and Division/Group Supervisors, should prevent firefighters and supervisors from engaging in unsafe practices or being exposed to unsafe conditions that can harm them, and should allow any member to raise an alert about a safety concern without penalty and promptly address the question and insure safe operations.

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

The Incident Commander, and Division/Group Supervisors should obtain frequent progress reports from Division/Group Supervisors and keep all interior crews informed of changing fire conditions observed from the exterior that may affect crew safety.

*Obtain Frequent Progress Reports and Revise the Action Plan.*

The Incident Commander, and Division/Group Supervisors, should 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 All Firefighter Location and Status.*

The Incident Commander, and Division/Group Supervisors, should 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 be 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.*

The Incident Commander, following completion of the primary search, should determine if it is 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 Crew in Place at All Working Fires.*

The Incident Commander should have a rapid intervention crew in place ready to rescue firefighters at all working fires.

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

The Incident Commander should insure that all firefighters who endured physically strenuous activities at a working fire have adequate rehabilitation services available to them prior to being released from scene