|  |  |
| --- | --- |
| **YCFCA%20emblem** | FLINT HILL FIRE DEPARTMENT  **STANDARD OPERATING GUIDELINE** |

**Guideline Number:**  410.04

**Guideline Title:** Structure Fire

**Adopted:** 8/8/2023

**Rescinds:** New

**Approved By: (Chief)**

1. **PURPOSE:**

To define consistent guidelines and responsibilities for firefighters to safely, efficiently and effectively mitigate all hazardous circumstances at a structure fire. This operating guideline will coordinate all essential fire ground functions in a standardized format to ensure consistent fire ground proficiency. These assignments are flexible and may be changed to address specific strategic and tactical needs, as well as staffing requirements.

1. **DISCUSSION:**

The strategic goal for all structure fires is life safety, incident stabilization, and property conservation. The need to save lives that are in danger should always be the first priority. The second priority should be to protect exposures, confine the fire, and then extinguish the fire. The third priority is to cause minimal damage by providing effective salvage and overhaul techniques.

Firefighting is a very dynamic endeavor with many small firefighting operations occurring simultaneously in an overall effort to achieve success for the larger operation: fire extinguishment. All firefighters on the fireground need to have a global awareness of all the activities occurring on the fireground and that each objective is achieved in a predictable manner.

1. **GUIDELINE:**

The following guideline is in the recommended order of implementation, reflecting the relative priorities on a structure fire scene.

1. The appropriate apparatus should respond to the location quickly with due regard for the safety of others. (SOG 400.04 APPARATUS RESPONSE).
2. Incident Command (IC) should be implemented following (SOG 402.01 INCIDENT COMMAND).
3. All personnel should don proper Personal Protective Equipment (SOG 203.03 PERSONAL PROTECTIVE EQUIPMENT).
4. Scene Safety is an important aspect of all fire ground operations. Accomplishing fire ground objectives in a safe manner helps reduce fire fighter injuries and deaths. The following pertaining to fire ground and scene safety should be followed:
   1. A scene safety officer should be assigned. If manpower is limited, then the incident commander (IC) will assume the role.
   2. There should be a minimum of 2 personnel on any interior attack hose. (SOG 403.01 FIRES STREAMS)
   3. There should be a minimum of 2 personnel on any search and rescue. (SOG 403.06 SEARCH AND RESCUE).
   4. RIT should be established as soon as possible for any interior operation or any situation where personnel are exposed or could be exposed to any immediately dangerous to life or health (IDLH) situation. (SOG 402.06 RAPID INTERVENTION TEAM)
   5. Accountability should take place to ensure everyone is accounted for. (SOG 402.02 ACCOUNTABILTY)
   6. All utilities should be secured as soon as possible to ensure that they will not contribute to the fire spread, overall damage, or create any type of safety hazard.

**Tactical Guidelines**

The tactical guidelines for operating at a structure fire should be in order of priority as follows:

1. Rescue
   1. As part of the initial size up, all fire fighters should look at the entire building and its surroundings as they approach. Careful observation will give some indication as to the fire, whether the building is occupied, the probable structural integrity of the building, and some idea of the amount of the time it will take to effectively search the structure. The following should also be considered:
      1. Rescue crews should identify escape route, such as windows, doors, balconies, etc.
      2. If possible, obtain information about those who still might be inside and where they might be found, as well as to obtain information about the location of fire.
      3. Information on the number and location of victims should be relayed to the IC and all incoming units.
   2. A primary and secondary search should be conducted at all structure fires. Firefighters should not assume that all occupants are out, until the building has been searched. (SOG 403.06 SEARCH AND RESCUE)
      1. IC should structure initial operations around the completion of a primary search.
      2. Primary search should be done quickly and thoroughly through all affected areas.
      3. Verification of the removal and or safety of all occupants and possible location of fire should be transmitted to the IC.
      4. When removing victims, normal means of egress should be utilized to remove victims whenever possible. Secondary means of rescue may be utilized in their order of effectiveness.
      5. Secondary search means that the teams did a thorough search of the fire area after initial fire control and ventilation have been completed. Different teams than those involved in the primary search should complete the secondary search. Thoroughness rather than speed is the critical factor in the secondary search.
2. Exposure Protection
   1. Exposures consist of interior and exterior sources.
   2. Interior exposures include:
      1. Victims - in these incidents it is preferred to remove them, from the exposure situation. In some cases, confining a fire to the involved area or extinguishment of the fire, serve as the most effective option in protecting a victim from harm.
      2. Include all interior structural areas which are not involved in fire but are adjacent to the fire area. These areas include attics, adjacent rooms, ventilation systems, stairwells, and upper or lower floors. These areas require protection through rapid fire control or timely placement of protective attack lines.
   3. Exterior Exposures
      1. People - firefighters and civilians working in or near any incident are considered exposures and must be protected. Citizens are best protected through complete removal from the hot and warm zones. They should not be permitted within these areas unless approved by the IC and supervised by FHFD personnel as they conduct the tasks in which they are involved. Examples of these persons include utility personnel, reporters, business/homeowners, and victims.
      2. Attached structures - structures of this type include areas similar to a garage, storage areas, and row houses or strip malls. Due to the potential for rapid fire spread through construction materials and direct flame contact, it is vital to quickly assess the potential for fire spread and the best means of exposure protection. Protection may be best served through rapid fire control or proper placement of exposure lines and/or ventilation techniques.
      3. Unattached structures: although structures are often the most considered exposure of this type, additional consideration must be placed on vehicles, utilities, and firefighting apparatus. As with protecting any potential exposure, rapid fire control serves as the best means of protection. It is important to quickly recognize the need for exposure protection and to call for additional support early to prevent fire spread
   4. Tactical consideration must be **considered** to prevent a fire from spreading to the uninvolved building(s) or uninvolved parts of the fire building.
   5. The IC should be responsible for ensuring the initial protection of exposures and assigning teams appropriately.
3. Confinement
   1. Preventing the fire from extending to uninvolved sections of the building. The most effective method of containing a fire is a direct fire attack on the fire. This can be done by the two following methods:
      1. Offensive approach – aggressive interior attack
      2. Defensive approach – attacking the fire from outside
   2. All avenues of fire spread must be considered. Examples include shafts, openings, utility raceways, ducts, type of construction, etc.
   3. Where fires are involved in concealed spaces, such as attics, voids, ceilings, it becomes especially important that ventilation be conducted, and hose lines be operated into such areas.
4. Extinguishment
   1. In most situations, a quick and aggressive fire attack on the fire will aid in the rescue operations, exposure protection, and confinement of the fire all at the same time. The size up will provide information as to techniques, equipment and manpower needs to overcome the fire.
   2. Adequate water supply during fire attack operations has a critical impact on the fire control out comes. Correct gallon per minute (GPM) flow can provide for a lower fire loss with a quick extinguishment. Decision factors on to make an offensive fire attack without a secure water supply can vary. Factors which may determine this are as follows: (SOG 403.02 WATER SUPPLY)
      1. A small fire able to be controlled by tank water
      2. Time factor to affect rescue of occupants
      3. Lack of manpower assigned to apparatus
      4. Fire hydrant location and availability.
   3. When in doubt, lay a 5” supply line. It should be the company officer’s decision as to whether a supply line should be laid. Remember, it is better to pick up a dry supply line that was not used than to need a 5” supply line and not lay it. (SOG 403.02 WATER SUPPLY)
   4. Attack hose line choice is to provide enough GPM flow to overcome the volume of fire being produced, or adequate flow to the effectively cool and protect exposures.
   5. No hose line smaller than 1.75” should be used for extinguishment of any type of structure fire.
   6. The 1.75” attack lines will normally be the primary attack line for most fires (i.e., one or two room fires in a residential fire). The 1.75” hose line is fast, mobile and is the first line off the engine at most structure fires.
   7. The 2.5” attack line will provide greater volume of water but is slow and difficult to move without sufficient manpower. The IC should consider a 2.5” attack line for the following situations:
      1. Advanced fire conditions
      2. Defensive operations
      3. Unable to determine the extent or location of the fire
      4. Large, compartmented area
      5. Tons of water is needed
      6. Standpipe operations
      7. Commercial structure fires
   8. When operating in the offensive attack mode, attack hose lines should be advanced inside the fire building to put out fire and control access to halls stairways, or other vertical and horizontal channels through which people and fire may travel. The IC should consider hose line placements for the following:
      1. First attack line should be placed between fire and victims.
      2. If there is no life hazard, the first attack line should be placed between the fire and most severe exposure.
      3. The second line backs up the first line and protects the secondary means of egress.
      4. Assist rescue.
      5. Protect exposures.
      6. Support confinement.
   9. Engine mounted master streams offer very large GPM flows (500-1000 GPM) for quick operation, reach and penetration. Operate master streams, if necessary, but caution must be used. (SOG 403.01 FIRE STREAMS)

i) Do *Not* flow when an interior attack is taking place.

ii) Do *Not* combine interior and exterior attacks.

iii) Do *Not* flow into ventilation holes.

iv) Do *Not* flow water to the roof and think you are extinguishing the fire.

1. Ventilation
   1. The type of ventilation needed will be determined once the fire department arrives on scene and an initial size up has been completed.
   2. Early ventilation of a building is important to the success of fire control operations and the safety of firefighters and victims.
   3. Proper ventilation facilitates fire control operations by increasing visibility, reducing excessive heat, and limiting fire spread.
   4. Ventilation and fire control operations should be closely coordinated for maximum efficiency and safety. (SOG 403.03 VENTILATION)
   5. Depending on the situation the following methods of ventilation may be used:
      1. Vertical ventilation
      2. Horizontal ventilation
      3. Mechanical ventilation (Positive or Negative pressure)
      4. Hydraulic ventilation
2. Salvage and Overhaul
   1. After rescue and fire control considerations, the IC should commit whatever fire ground resources required to reduce loss to an absolute minimum. The main objective of salvage is to protect building and contents; the main objective of overhaul is to make sure the fire is completely out. (SOG 403.05 SALVAGE AND OVERHAUL).
   2. Unsafe conditions should be identified early in the salvage and overhaul process and definite efforts made to avoid the possible problems associated with the same.
   3. Personnel shall not remove their breathing apparatus during salvage and overhaul until the area is completely cleared of toxic gases. (SOG 403.08 HYDROGEN CYANINDE MONITORING SOG 410.14 CARBON MONOXIDE INCIDENT)
   4. When available, fresh crews should perform salvage and overhaul.
3. When the incident is placed under control, a York County Fire Investigator should be notified.
4. When the incident is terminated, all apparatus and equipment should be returned to service. (Refer to SOG 403.07 RETURING APPARATUS TO SERVICE)

**Strategic Considerations**

1. Risk management plan:
   1. All firefighting and rescue operations involve an inherent amount of risk to firefighters.
   2. We may risk our lives a lot in a calculated manner to protect savable lives.
   3. We may risk our lives a little in a calculated manner to protect savable property.
   4. We will not risk our lives at all to save what is already lost.
2. All personnel on the fire ground should constantly be aware of both fire and structural conditions which may deteriorate at some point, which may put fire fighters in jeopardy.

1. Indications of the possibility of structural collapse and /or other life-threatening occurrences shall be communicated to all personnel on scene.

**Tactical Considerations**

1. Rehab procedures should be used on all structure fires. (Refer to SOG 402.03 REHABILITATION)
2. Splitting the crew is defined as accomplishing two different tasks in the IDLH at the same time. Although conditions may require splitting the crew, such as roof top ventilation while affecting an immediate need rescue, the tactic is not advisable when adequate resources are available, and conditions dictate.
   1. Advantages – multi tasking, quickly establish the scope of the incident
   2. Disadvantages – personnel accountability, lack of supervision by an officer
3. Communicate over the radio, benchmark priorities ASAP:
4. 360 is complete
5. Water on fire
6. Primary search complete
7. Secondary search complete
8. Incident under control
9. Post fire decontamination should be considered for everyone on the fire ground.