STRUCTURE FIRE – FIRE CONTROL

KEY CONSIDERATIONS:

- Consider Flow Path - Fresh air flowing into a building that is opened before the attack lines are positioned and ready to enter can cause the fire to grow rapidly. Rapid fire growth works against three of our biggest strategic priorities; rescue, confinement, and extinguishment (makes it much more difficult).

FIRE CONTROL CONSIDERATIONS:

The overall objective of the assigned company is to size up the fire behavior/conditions, locate the fire, isolate the Flow Path, cool from a safe distance, and extinguish. Rescue and salvage are added in as required by the incident. (SLICE-RS)

- A fire control crew must coordinate their entry with the forcible entry, ventilation, and other companies operating on the fire ground.
    - Have a plan for fire control and **communicate that plan; this is your Initial Incident Action Plan**. The IAP states what actions will be taken to mitigate the problem(s) and will utilize the Task, Location, Objective (TLO) format. It is critical all assigned companies know the task(s), the location of said task(s), and what objective(s) need to be accomplished. Specifically regarding fire control, the plan should include flow path considerations.

FIRE CONTROL GROUP PROTOCOLS (multiple companies):

- Additional companies assigned to the "FIRE CONTROL" group shall coordinate with the officer leading the group and determine where and what sized additional (2nd) line to stretch if not already done.
- The officer assigned to lead the group may choose to pass the management of the group to the second officer with IC coordination. This may be beneficial when the 1st officer is committed at the task level.
- Typical responsibilities of supporting companies:
    - Assist in any way the advancement of the 1st line to the seat of the fire.
    - Stretch the 2nd line into a position to intervene or assist the 1st line immediately. *This doesn't always have to be physically right behind the first line, but it also will rarely mean being outside the building.*
    - Support fire control with a 2nd line if the 1st is being overpowered.
    - Account for door control and manage the flow path.
    - Place a box light inside the entry point on strobe.
    - **Continually evaluate what is going on above, below, and behind the 1st crew. Ensure attic / basement conditions are being monitored.**

ATTIC FIRES

Attic Fire Control Considerations:

- As soon as staffing allows, perform recon of the interior to check involvement and to confirm that the attic fire is not the result of a contents fire that has extended into the attic.
- Control utilities early – a lot of the building's systems are in the attic.

Attic Fire Ventilation Considerations:

- **Vertical –** Attic fires are commonly ventilation-limited fires; closely time or limit vertical ventilation until water is in the attic. Keeping the lid intact improves the ability to extinguish an attic fire.
    - Can limit horizontal spread. Especially useful on occupancies with multiple occupancies and a common attic space (strip malls, apartments, VA DOM).
- **PPV/PPA:**
    - Treat the living area(s) as an exposure by pressurizing that area. Exhaust only when necessary to clear smoke from the living areas. **Use with caution.**

Attic Fire Control Techniques:

Interior:

- Small ceiling openings are generally all that are necessary to allow a hose stream to control the attic fire. Consider using a wide-angle nozzle pattern.
    - Consider a piercing nozzle (approx. 6"-12" penetration). The Impact piercing nozzle is particularly effective in homes with lath-and-plaster ceilings.
- This option is great for gas cooling, but cooling surfaces will be limited. You will have to move throughout the structure to ensure extinguishment.

Eave/Bird Blocks:

- Apply a straight stream through the eaves by using a hook to remove the eave soffits or the bird blocks. As a last resort direct your stream through the bird block screen.
- You will have to move laterally to achieve surface cooling between the rafter bays.

Attic Fire Control Techniques Continued:

Gable Ends:

- Fire control from both gable ends may be necessary to reach the entire attic. Rafters run perpendicular to your stream which can limit the reach for surface cooling.
    - Garage or carport access may provide access to the home's entire attic space.
- Gable end operations from ladders can be extremely dangerous.
    - Consider nozzle back-pressure, anchoring the nozzle pistol grip on a ladder rung and decreasing the psi at the pump panel to minimize the risk.
- Considerations for Gable Operations:
    - Place the ladder towards the bottom of the cutting area with a shallow angle (rescue angle) and make the cut above your head. Ensure the ladder is secure and all PPE is properly donned.
    - Place the ladder to the side of the cutting area and use either a square or triangle cut. Utilize the truck belt to allow better movement while working from the ladder. Use caution not to "bind" yourself when cutting towards you.
    - Utilize the sawzall rather than the chainsaw. This offers versatility, is lighter, could be safer, and may accomplish the objective as fast as a chainsaw.
- PPV/PPA is ABSOLUTLEY CONTRAINDICATED **while** a firefighter is **on** the ladder cutting the **Gable End!**
    - **OK after firefighters are out of the exhaust opening.**

BASEMENT FIRES – Ensure personnel are not operating in the flow path.

Basement Fire Control Considerations:

- Basements are considered a hazard and should be identified during the initial 360 and announced during the Follow Up Radio Report. The initial IC should take note of the:
    - Basement type
        - Walkout/Daylight – Exterior doorway access (most common in our area)
        - Lookout – Exterior windows are above grade
        - Window Wells – Exterior windows are below grade
    - Is it finished or unfinished?
    - What are the contents and does it have utilities?
    - What is the fire location?
    - Ventilation- Commonly ventilation limited, increased ventilation leads to quicker collapse. Consider the impact of basement openings to the flow path on the first floor.
- Assess and improve access /egress options. Clear window bars and restrictions like bushes and fences around window wells.

Basement Fire Control Techniques:

Exterior/Transitional Fire Control: (Should be considered the primary control option)

- **We will not operate over an involved unfinished basement until it has been extinguished and thoroughly inspected by crews below.** The exception to this is for a known/confirmed upper floor rescue in which an adequate size-up and risk factors were considered. Studies show regardless of the construction type, unfinished basements have collapse times less than or equal to fire department response times.
- If the interior is unknown (finished or unfinished) we should only be exterior until the fire is controlled.
- When possible, it is best to fight the fire on its own level.
- Consider the use of foam for additional extinguishment capabilities; consult with fire investigator(s) if needed.

Interior Fire Control: (Used only when the basement is finished and exterior/transitional fire control is not possible)

- Floor sag, sounding, and Thermal Imager readings are poor indicators of collapse. Inspection hole(s) may be the best option if the flooring system cannot be inspected from below.
- Piercing nozzles and combination nozzles operating in a fog pattern are the most effective topside options.
- Do not operate in the exhaust side of the flow path.
- Radio communications may be poor while operating within basements; consider using Medford Tac Direct.

GARAGE FIRES

These protocols are based on a fire that hasn't gained too significant of a hold of the living spaces. This is subjective, but if it has, it is more of a traditional structure fire that just happens to involve the garage too.

Example 1: Moderate to heavy volume of smoke out of the front man-door.

- **Interior line is stretched** to protect occupants, searching firefighters, and living spaces not yet involved in fire.
- Decide whether to simultaneously stretch a line to transitionally attack the garage or attack from the interior back to the garage.
- **(Optional) Transition line is stretched** to garage for a quick knock down. Select a hose line with enough GPM to ensure knockdown.
- If the garage door is still intact keep any openings small to avoid feeding the fire a large volume of fresh oxygen (control the flow path).
- **Aggressive venting:**
    1. Vertically ventilate to cut off attic extension over the home -**OR**-
    2. Utilize a fan to push the interior smoke back towards the garage or out of the back door -**OR**-
    3. Both.
- Cautiously deploy interior companies without reliable knockdown.
- If possible, deploy hose lines to the corners to allow adequate runoff of the driveway

Example 2: No or very light volume of smoke from the front man-door.

- **Transition line is stretched** to garage for a quick knockdown of the garage. Select a hose line with enough GPM to ensure knockdown.
    - If the garage door is still intact keep any openings small to avoid feeding the fire a large volume of fresh oxygen (control the flow path).
    - Stretch an additional 1 ¾" line to the interior to make sure the interior man door holds and to protect interior crews.

      First Officer: make your way to the interior man door and make sure it is closed and holding. Quickly search the interior portions of the home to ensure it is evacuated.
- **Aggressive venting:**
    1. Vertically ventilate to cut off attic extension over the home -**OR**-
    2. Place a fan to keep the smoke and/or fire out of the living areas; these areas are considered exposures -**OR**-
    3. Both.

WIND DRIVEN

- Personnel shall use exterior and interior indicators when determining if dangerous wind driven structure fire conditions exist. These include:
  - Pulsing fire/smoke from upwind windows
  - Slamming interior and exterior doors
  - Interior "*tea kettling*" seen on thermal imagers
  - "*Blowtorch*" type horizontal fire behavior
- Consider a **DEFENSIVE STRATEGY** in high winds if:
  - Several rooms are involved
  - Active fire throughout the attic
  - All occupants are out, or the rescue profile is low
  - Structural integrity is compromised
  - Flow paths cannot be quickly controlled
- Alternate fire ground tactics include:
  - Consider upwind entry
  - Transitional attack
  - **Control wind and flow path by closing doors and windows through any improvised means (salvage covers, plywood, plastic, etc.)**