



Street Smarts
by Michael Lee

Confinement tactics in a fire attack

When considering the best manner to confine a fire, there are a number of things you should be aware of

By Michael Lee

Editor's note: In this month's installment of the ongoing "Coordinated Fire Attack" series, Mike Lee focuses on the third step in the REC-REVOS acronym, Confinement.

To successfully confine an existing fire to the area of discovery, we need to anticipate the heat release of the fire versus the volume of water required in reducing and eliminating the fire.

To make this decision, some factors must be anticipated when deciding to bring the mobile, standard 1 ¾" preconnect attack line or the larger and bulkier 2 ½" line. This decision is made by initial size-up and conditions found.

One of the criteria for selection of larger hose lines used to be made based on the occupancy, and whether the fire was found in commercial or residential. While this worked well when houses were all less than 2,000 square feet, this does not apply to all residential structures today.

In some areas of the country, homes of 20,000 square feet are not unusual. Realistically, selection of water application should be made when anticipating numerous factors:

- Distance to advance hose line
- Closest ingress points
- Materials burning
- Where the first hose line is required
- Number of firefighters present to stretch those hose lines
- Materials burning (fuel load)
- Wind-driven fire
- Quantity and arrangement of fuel

It is known that the content and material in interior decorations of both residential and commercial structures have changed drastically from a natural-based fuel load (wood,

wool, cotton) to petroleum-based furnishings (plastics, resin-based glues), which has effectively doubled the BTUs generated from our "bread and butter" fires.

When considering the best manner to confine a fire, consider a couple of thoughts:

- What volume of fire do I have to confine now?
- Where is it going?
- What is in front of it to burn?
- How quickly can I put into service the extinguishment line I am selecting?
What amount of support (number of firefighters, forcible entry, ventilation, etc.) is going to be needed to stay ahead of the movement of the fire?

Based on those decisions and your projected timeline, you should ask is the attack line going to deliver the volume of water required to confine/extinguish the fire? Can my current water supply support that flow?

A water supply must be anticipated when projecting the anticipated time and volume of water carried on your apparatus. Will you, as the first due company, catch the plug or will others assume this role?

Will your tank water last until another company establishes your water support system? Have you projected how much time your tank water will last you when you use an 1 ¾" versus your 2 ½"?

In many systems, this decision is made based on standard operating procedures. While this is a comfort in standard responses, what about those times when your second due unit is out of position and you must mentally adjust for response times from other units?

Take all these items into consideration, and if you are not sure if the times will be close, I strongly suggest catching the hydrant. It is far better to have the water and increase your time for first line deployment, than to have an attack crew interior with an attack line and no water.

Once the company has made their water supply decision and has chosen their initial attack line, it is time to go to work. If initial rescue profiles lead the officer to move his crew to suppression, utilize the clues presented to anticipate the placement of the fire and, based on construction clues, what the quickest way to the fire will be.

Some departments are strong supporters of the positive pressure attack; if so, prepare your structure for the process. Another option available, but rarely used, is the transitional attack.

This allows crews to suppress fires found from the exterior to allow for interior crews to attack from the interior quickly for extinguishment.

Different arguments

Many people will argue that we should always attack from the unburned side, while others will say that we will push the fire onto the occupants of the building.

I make the position that reducing the total volume of heat and smoke within a structure will reduce the total hazard to any occupants that may be inside the structure. If there are victims in the room the fire is found in, it is unlikely that an interior attack will be as timely or successful as an exterior suppression of the thing that is killing them.

Once the hose line has been selected, and the crews are ready, the officer must ensure that he has sufficient personnel to advance the hose line selected. A crew of three can advance a 2 1/2" hose line, but a crew of four or more will obviously be faster.

Another question that begs to be asked is how far can we stretch a dry line before we have to charge it? Answers will vary, but I would say all the way to the front door of the unit involved.

This means a hose line stretched to a single-family residence would be charged at the front door. A hose line stretched into an apartment would allow for advancement to the front door of the unit involved as long as crews do not have to advance through an IDLH environment to get there.

Commercial occupancies such as hotels can utilize high-rise hose advancement tactics when possible.

At this point in the conversation, you may be screaming, "Get to the nozzle selection; I want to see what you choose!" I would make the argument that you should have already made that selection and it should already be on your preconnect attack line.

Some folks prefer one over another; I prefer both. Our department uses a break away fog tip on our attack lines so that a smooth bore is an option.

This ensures that the proper tool for the problem presented is available when needed. While this is compared to sitting on the fence at times, I always seem to see the problem better while up on the fence.

Use what you prefer — just be sure it is applicable to the problem at hand. A smooth bore nozzle will not help with hydraulic ventilation.

A special category to consider when selecting an attack strategy in basement fires is that any opening into a basement involved in fire is a good opening to be used as a point of water application.

Please be sure crews are not present in the basement when applying water from the exterior. The utilization of the positive pressure attack process can be especially helpful in this particular evolution.

Remember that while stairways are good paths to the seat of the fire, it is also the same avenue the fire is using to escape the area of origin.

A transitional attack can work as well on these. See my article on [basement fires](#) for a full take on this significantly different type of fire.

In summary, to effectively confine a fire, the fire crew must anticipate the volume of fire they will be confronting and choose a hose line that will deliver the volume of water required to confine and extinguish this fire.

In addition, the hose line they select should be supported with a sufficient volume of water, whether they catch the hydrant or another unit does so.

Projection of the movement of the fire should be taken into consideration when anticipating the time it will take to stretch and advance the hose they have selected as well as the other tactics could be used to confine the fire until that line can apply the final extinguishment to the fire.

Finally remember, research and learn about other non-standard attack strategies that will accomplish the goal of extinguishment without punishing your personnel.

About the author

Michael Lee has 25 years experience in pre-hospital paramedic experience and about 20 years experience in the fire service. He started as a FF/Paramedic and worked up through the ranks, including training officer, to his current position as battalion chief at Cunningham Fire Dept in Colorado. He is currently filling the role of safety officer for FEMA USAR Colorado Task Force One and has military service in the U.S. Navy. To contact Michael, email Michael.Lee@FireRescue1.com.