



Centers of Gravity: When garden apartment fires are too big for SOPs

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“One must keep the dominant characteristics of both belligerents in mind. Out of these characteristics a certain center of gravity develops, the hub of all power and movement, on which everything depends. That is the point against which all of our energies should be directed.” (Clausewitz)

Our SOPs are not strict rules of engagement (ROE) in the same sense of the ROE developed for armed conflict. Our SOPs are, in reality the short version of our doctrinal thoughts on how fires should be approached. They are not doctrine, though. SOPs do not dig deep enough into the “why” to be considered doctrine. This is precisely why the fire department does itself a great disservice by not developing and promulgating a doctrine statement. There are times when the SOPs do not apply; there are white spaces between the blocks on the command chart. The mark of the great fire department, the great incident commander, the great sector leader, and the great company, is how they behave when in the white space.

A garden apartment building with fire on multiple floors or with multiple civilian rescues is beyond the scope of the SOPs and that is why we continue to struggle with them. Our center of gravity, the strength of our organization is when we have a “room or two off.” We can attack this fire with overwhelming force. Typically we engage with three-pronged attack:

1. 150 gpm to the seat of the fire
2. backed-up with an additional 150gpm to cover the flank
3. followed with 150 gpm to cover extension, typically above.

Supporting this formation is the first truck with ventilation support, the rescue squad with the search and utilities and the RIT establishing a rescue capability. Remember though, we are talking about a “room or two” which means that if everything goes well the initial line will be able to control the fire in the first 20 seconds. In other words our SOPs are written for situations that stabilize after the first 20 seconds of operation. It is not surprising then that when we have two apartments off in the garden apartment or have multiple persons trapped with rapid extension, we tend to perform poorly.

The difference between the two situations should be clear. In the first scenario the fire department has the advantage of overwhelming force. We can muscle the situation, there is no need for finesse or thinking. It is sort of like the first Gulf War. Over many months an overwhelming force was assembled in the deserts of the Middle East. The opposition was bombed into oblivion, and the war moved with little delay. Stormin' Norman had a box alarm of troops and a room off. The current war situation is much different. We do not have the benefit of overwhelming force and the current gulf war is a battle of asymmetric threats and quick learning. It is hard to develop overwhelming force against ghosts.

When the fire department is faced with a well-advanced fire in a garden apartment we too are fighting ghosts. We don't know, we can assume, but we don't know where the fire is. About the only thing we know for certain is that we do not have the firepower initially to quickly bring the situation to a stable condition. However, we still attempt to apply the standard thought processes to the fire. It does not work because we are unable to quickly access and disrupt the fire's center of gravity and because the fire's center is more powerful than our own.

This leads me to believe that the standard SOP driven frontal attack in this situation is not the preferred approach. If I am sure that my enemy is dug in against the frontal attack and possesses power beyond my capability to overcome quickly, why attack him frontally?

When faced with a multiple family dwelling with fire in more than one or two rooms or multiple civilian rescues a quick call for reinforcements is critical, we should then be moving to create a quick action plan that realistically assesses our ability to accomplish our stated goals, life safety, property conservation, and incident stabilization.

Before I go on I think it is important to note the difference in building construction between the garden apartment fires that our parents and uncles fought, and the ones we are wrestling with today. They fought fire in sturdy buildings or more substantial dimensional lumber. Sure the fire stopping, the common attics, and the chases that encouraged vertical extension were still there, but the building in general was more sturdily constructed, and this matters. Our crews are not calling in reports of sagging and/or missing floors 10 minutes into each incident because they are afraid, they do it because the floor is missing or sagging and we cannot expect them to cross over weakened floors to accomplish anything more than life safety objectives.

What is my new plan?

If the fire is beyond the scope of the SOPs, that is it involves more than one or two rooms or has obviously spread beyond two floors or there are multiple civilian rescues before the arrival of the fire department I think that the following thought process should apply:

Strategy

The focus of the initial crews should be solely on protecting the search effort on each level, with first engine covering the interior stair and the second engine ensuring that the first engine is supported in this effort, the first truck creates egress, and limits ventilation to that level which best supports the rescue function. The rescue function will take some time to complete, but until it is done the fire is still a secondary concern. Units must work quickly to complete the search. The third and/or fourth engines then quickly cover the exposure buildings with attack lines, they will have no truck support with opening up and thusly must bring their own hooks. Command must call for second alarm support immediately and use that second alarm to first ensure the completion of the search effort, then to bolster the flank/exposure protection as needed and finally to reinforce attack positions.

After the search effort is complete and the fire is surrounded by this approach we then re-direct the first line to the lowest level and fill in floor by floor until each level is covered. This will typically take up all of the second alarm companies as well. However, I think it is better to wait for the second alarm companies to arrive and get in their attack positions and then deploy the lines to the appropriate places. If we do it that way we are dictating the pace of the engagement, and we are attacking when our center of gravity is capable of overwhelming that of the opposition.

We can use steam volume conversion to control fires in an enclosed attic space but when doing so must be sure to cover all compartments of the attic space.

Once the fire breaks out of the attic space, through the roof we are no longer able to control it from below. We must immediately withdraw from the interior and use heavy flows from above to darken down the fire. The key is to not put water on flames but direct streams in such a way as to cool the surfaces where the pyrolysis is occurring.

Withdrawing from the fire building does not mean to withdraw from the exposures, but rather these positions must continue to be supported. If units assigned to exposure operations do not encounter any evidence of extension they must still maintain their positions, they are not there for what is, they are there for what eventually will be. It is critical that units covering exposures, both vertical and lateral hold tight until the fire is under control and extension is confirmed negative from the original fire compartment outward.

Unit officers arriving on the scene of these incidents, especially when immediate command support is not available must paint an accurate picture of the situation and also must realize whether or not they are really going to be able to impact the fire. Line placement parameters for the initial engine do not change much, the line is still placed to cover the interior stair however, the secondary objective is not fire control but rather fire containment.

If the first line can accomplish this from a non-IDLH exterior position that is acceptable the conservation of energy and air accomplished here allows for a more rapid attack when containment is complete (in other words if the first engine has a terrace level fire and can break the front glass and cover the terrace overhead from right outside and not have to breathe air, this allows for completing the objective of protecting the interior stairs but the crew is not getting beat up so when the support companies arrive they can spearhead the actual attack on the fire. If they were engaged on the interior then they would be running low on air about the same time as the attack began.)

Tactics

Consider pre-connected unmanned monitors at the top of the stairs to prevent lateral extension across the top of the stairs. The heavy flow may not be in a position to extinguish the fire but may be a less manpower intensive solution to a “holding action.”

Given a typical staffing of three, augment the search group to allow for quicker searches. This can be accomplished by the larger group, (two companies, gives you a group of four searchers), using an oriented search technique.

Consider delaying egress provision/laddering in the rear, using the interior handlines to provide protection, and using what would have been that exterior crew to augment the search. The idea is to expedite the search so that large caliber lines can quickly control the fire and smaller lines then deployed to clean up.

Apparatus positioning is critical. Once placed it is near impossible to re-arrange units. Unit officers have to recognize when the situation might reasonably lead to the tactical deployment of large lines and position accordingly.

Engines crew should take hooks with them to exposures. Of course 4-person staffing would help, but until then one person holds the line while the other hooks in the exposure. This frees up truck companies to augment primary search completion.

If exposure team finds significant extension (defined as extension they cannot control in the first 20 seconds of hoseline operation) they notify command and then move back until they find a clear space and initiate a holding action there.

This is an asymmetric situation, meaning it is outside the scope of the SOPs, which then means that the tactics are command driven. Command must establish an early and solid presence. All units should be aware of the strategy being used and where they fit into the tactical scheme.

Given the large number of units operating on the incident, radio transmissions should be severely curtailed. There is no need to report fire showing in the rear, we all understand that is going to happen. There is no need to report that the fire is the attic space, we

guessed that too. In this situation command is guiding us through a different strategy than we are used to and we must be quiet while that happens.

Any stream leaving the fire compartment intact or mostly intact is not being effective. Every effort must be made to put water directly onto the surface of what is burning, especially in the attic space.

Consider breaking out the ole' Breslin nozzles and dropping them into the inevitable hole in the floor above, up into the attic, or down into the attic.

Consider treating heavy fire conditions in the terrace level like a basement fire. Which means consider a heavy caliber attack from the rear once the overhead space in the interior stairs is protected (by a hoseline or a closed interior door), and the primary search is complete. This attack method works best if quickly followed up by a smaller line.

Just like the Army cannot win a war by bombing alone, we cannot win a war by deck guns and ladder pipes alone...use the heavy caliber streams to darken fire down while forces are rearranged to take aggressive mop-up actions.

Discussion

It is not possible to consider all the variations of this scenario. I wrote this not as an end-all-be-all statement but rather as a tool to generate healthy discussion about non-standard approaches to fires. It may turn out that you only have one room off and 40 people hanging from balconies, it might make sense for the first engine to make a quick attack. Or you might have no one showing from the balconies (a bad situation as it means they might all be trapped inside) or you might have what happened on Pennsylvania Ave. a few years ago, an entire building exploded and there was not a single person inside.

This discussion is driven by the fact that we are still going to fires, they are still dangerous, and the public still expects us to rescue their family and friends and save their stuff. So what building construction changed, we should change with it, so what staffing is substandard, we must find ways to work around that too. People are counting on our ability to quickly find solutions to strange problems and to quickly learn and apply new lessons.

I conclude this discussion with the following quote replace armed forces with fire department and it makes sense.

I am tempted to say that whatever doctrine the armed forces are working on now, the have got it wrong. I am also tempted to declare that it does not matter...What does matter is their ability to get it right quickly, when the moment arrives...When everybody starts wrong, the advantage goes to the side which can most quickly adjust itself to the new and unfamiliar environment and learn from its mistakes. Sir Michael Howard.

