'1-5-12' TACTICAL FIRE COMMAND

A close analysis of a large number of NIOSH, NIST and Local Authority firefighter fatality reports from past years will present some common factors. Quite often the same strategic or tactical errors occur over and again, most often through complacency, poor leadership, poor communication and failure to follow standard operating procedure (SOP).

It may also be noted that inappropriate or uncontrolled primary deployments created what appeared to be 'points of no return' for the oncoming commanders, who failed to recognise or react to a dangerous situation occurring and in the process, missed any opportunity to evacuate and regroup firefighters for effective deployments. There is always the fear that in doing so will appear as 'weak', unprofessional, acting in haste or calling the regroup too soon. In many of these cases, the life losses were in multiples.

Hindsight is a wonderful thing and we can 'quarterback' fires from the comfort of the classroom, or even our armchairs, without knowing all the relevant facts. However, if we fail to analyse what we do know about each incident in an effort to take away key learning points from the official fire investigation reports, we do those who lost their lives a disservice. We should make every effort to try and protect ourselves and the firefighters of the future, from suffering such a tragedy. In some (few) cases, there were no 'errors' or abnormal risk profiles and it was down to pure chance that firefighters lost their lives.

Another common observation is the timing of the occurrences that led to life losses, so often during the first 12 minutes following arrival on-scene. It is here where the first arriving crew and station commanders, or second arriving senior commanders, can make critical decisions that will have major impact on firefighter safety and incident outcomes. Of course, firefighting can continue way beyond the 15-minute time-frame and errors may occur throughout causing firefighters to lose their lives at any stage. This guidance is based on statistical evidence and should only be taken as rule-of-thumb 'street' guidance and not as standard operating procedure.

'1-5-12' Fire Command

- Decisions and actions taken in the first minute can save occupants lives
- Decisions and actions taken in the first five minutes can save property from excessive fire damage
- Decisions and actions taken in the first 12-15 minutes can save firefighter lives

The First Sixty Seconds (1 minute) on Arrival

On the subject of decision-making processes, Dr Gary Klein has investigated the subject of recognition primed decisions (RPD). According to Klein, 'fire-ground commanders will make 80 per cent of their decisions in less than one minute'. It was discovered that emergency-scene decision-making relies heavily on experience, especially when the fire-ground commander is faced with a time-pressure situation. The RPD decision-making model combines two ways of developing a decision; the first is recognizing which course of action makes sense and the second is evaluating the course of action through imagination to evaluate if the actions of the decision make sense. The RPD paradigm of decision-making applies to fire-ground command because decisions on the fire-ground are under time pressure conditions and experience of the fire commander plays a large part in determining if the appropriate decision will be made. The '1-5-12' fire command principles begin in the first minute following arrival on-scene. As a first-arriving fire commander steps off the fire engine at a building fire there are so many key indicators that will determine 'where', 'how' and 'if' to deploy internally is the correct decision at this early stage.

The immediate and critical tactical considerations in that primary 60-second period are:

- Consider 'SLICERS' (below)
- Occupancy type and size?
- Extent of fire involvement
- Immediate exposures
- Firefighting resources and staffing available?
- Persons reported trapped or missing?
- Occupants located at windows requiring immediate rescue
- Fire location (undertake as near a 360-deg. exterior survey as possible)?
- Is building sprinklered?
- Wind direction and speed (and likely impact on fire)?
- Isolate the flow-path at the open front or rear door (if relevant).

Take time to discuss the above points several times with your firefighters and fellow commanders during a classroom session. What do they actually mean? What are the pros and cons? Where are the dangers? What if we miss just ONE of the above points in the list? How might that begin an error chain leading to loss of life? There may be other points you can add to the list. How can we do things better!

The First Five Minutes On-scene

The initial 'sixty second' primary survey should have dictated the tactical options for the next five minutes and beyond. At this point the 'SLICERS' options might be further considered.

SLICERS -

- S - Size-up
- L - Locate the fire
- I - Identify and control the flow-path
- C - Cool the fire from the most optimum location (fast water)
- E - Extinguish the fire (interior deployment)
- R - Rescue
- S - Salvage and overhaul

Note: Rescue and interior suppression (extinguishment) can take any position in the list after size-up.

- Exterior holding position?
- Consider water-fog injection into a confined fire compartment?
- Hi-flow exterior attack?
- Transitional attack?
- Protect surrounding exposures first?
- Deploy an interior attack?
- Undertake and support (hose-line to protect egress) interior search and rescue?
- Implement additional hose-line management, a safety hose-line or interior door control assignments?

During this initial phase of firefighting operations, it is important to determine and communicate with great clarity the tactical objectives to all firefighters on-scene.

Here are some key points for discussion with firefighters …. Another 60-minute classroom debate! It might, at first, appear simple and straightforward to request an exterior stream be applied into a window discharging fire and smoke. However, what is the strategy? This will determine how the water is to be used! Is it a 'holding' strategy whereby the water may be from a vehicle's water tank supply of around XXXX litres with the intention to slow or control fire spread whilst awaiting additional resources to arrive? Or, has a constant flow supply been sourced? Are we preparing to actually extinguish the fire and if so, is a high flow-rate required because of the potential/involved energy in the fire load? If we empty our water tank in a rapid hi-flow attack (not a holding attempt), do we have secondary water available within 60-120 seconds? Or, are we preparing for a transitional attack where following a 30-60 second exterior stream in through the window to reduce the fire's heat release (fire reset), we immediately follow-up with an interior deployment to extinguish the fire? If this is the case are we on tank water or constant augmented supply? Are we able to deploy the first (or a secondary laid) hose-line with breathing apparatus already started? The key to all this is that the secondary interior line must apply water within thirty seconds (or near) of the primary

exterior line shutting down. If they are using the same hose-line then this may be a real challenge, relevant to on-scene staffing. Clarification and communication in the brief is critical here and everyone needs to understand the tactical objective.

The First Twelve Minutes On-scene

This author undertook a review some years ago, of several major incidents where multiple firefighter life losses occurred. It was noted that the 12-minute period after arrival on-scene was commonly the most hazardous on a time-line where a chain of events had set in, leading to firefighter's lives being lost. A fire commander arriving on-scene within the first 12 minutes of a developing fire may have the advantage of coming in as a fresh pair of eyes. However, it takes courage and experience to be able to make that call to either continue with the current strategic deployment or change direction, particularly if that means withdrawing crews to the exterior and starting again. It has been the case that crews responded to alternative sides of a large structure and self-deployed, believing they were each solely in command. There may also be an element of freelancing that has seen an uncontrolled number of firefighters enter without any accountability or recording system in place. In other cases, the deployment may potentially be in towards a headwind, or with a strong wind into the entry door and towards the fire, but without an outlet to relieve internal pressures. In any such situation, it may be hard to determine how many firefighters are working in the risk zone and exactly what their locations and roles are. A quick determination of the building fire indicators coupled with what is a necessary and optimum deployment into the risk zone at the time of this secondary arrival should dictate if any evacuation of firefighters, either in part or as a whole, is required. If it's an unoccupied retail unit as opposed to a fully occupied hotel (for example), this will clearly also impact on any such decision in respect of firefighter safety and exposure to risk.

Take a look at some NIOSH and other fire reports and debate with colleagues where tactical decisions made at this early stage (12 minutes) to withdraw, regroup and re-deploy may have worsened firefighter safety or improved it.

Taking the '1-5-12' to the Fire-ground

As we arrive on-scene and even in the minute before we arrive, we should be taking in information. That is what the first sixty seconds is all about. What can you see from the angle you are facing the building? What is the smoke or fire saying to you? Are we going in through the front door or are there good reasons not to, such as wind velocity and direction, fire location or split-level grade buildings with basements being the ground floor to the rear?

On establishing the most appropriate deployment, strategy the Incident Commander should be able to determine a plan of action within that first sixty seconds as crews lay in and prepare equipment. On deployment, the first five minutes may well determine the course of the next five hours. If we have deployed with an under-flowed hose-line according to the level of fire involvement and the speed of fire spread then we are immediately in trouble, unless we have plenty of resources and staffing immediately available and in support. Our research has determined a clear link between the amount of fire damage suffered and the quantity of water deployed in the first five minutes following arrival on-scene. Under-flowing or taking too long to get water on the fire are tactical errors so avoid both situations and effectively pre-plan your tactical approach as such.

Second arriving commanders - take the time to double check if the primary deployment is appropriate and safe according to the situation presenting and the resources available both outside and in the risk zone. Don't hesitate to regroup and redeploy if that's what is needed.

Common Strategic and Tactical Errors as reported

- Complacency
- Situational awareness
- Communication
- Coordination of fire attack and venting
- Under-flowing the primary hose-line
- Delay in getting water on the fire
- Uncontrolled 'freelancing' deployments without accountability
- Venting behind advancing firefighters
- Venting without viable objectives
- Venting without directives (freelancing)
- Firefighters not working together, staying together, coming out together
- Poor command decisions
- Poor command communication between sectors
- Deploying from the 'wrong' sector, depending on wind and fire location
- Redeploying firefighters without checking their physical status
- Deploying firefighters for extended durations into excessively hot conditions (firefighter tenability)

Go in together - stay together - come out together - stay safe!

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