

# Fireground communications

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The word 'communication' is a seemingly simple term describing the interaction between two or more people; nowadays it could also mean that which happens between a human and a machine, computer for example. For any communication process to take place there must be a sender and a receiver. The sender could be communicating verbally, electronically, graphically or visually. The distance over which this communication can take place can be as close as directly (mouth to ear) or as far as earth to outer space. The main objective of communication by the sender is to provide information to the receiver or to give that person certain instructions. There are other reasons such as conflict, entertainment etc but let us not digress (or miscommunicate).

OK, so that is a fairly simple description of what communication is supposed to be. Why is it then that so many things go wrong and end disastrously

due to the lack of communication or through poor communication?

There are many sources of communications that can be used within emergency services and these sources are becoming more sophisticated with the rapid advances in electronic technology. We can have the best, most modern communications hardware (and software) available but if the message is not provided in a clear manner and understood correctly, we might as well send a messenger with a knot on a stick or fly a postal dove from the sender to the receiver.

### **Plan and prepare your communications methods**

It is no use to the attack teams at a structural fire if the incident commander instructs an 'aggressive, balanced interior attack' and they don't know what all the parts are that make up the whole of such a strategy. Similarly, a rescue squad also needs to know what all the tasks

will have to be performed when the incident commander (IC) calls for a 'rapid' or 'controlled' victim release.

The fast-moving and dynamic environment that exists on an active fire or rescue incident is not a place for long-winded, highly-detailed discussions. It's also not a 'paint-by-numbers' activity where responders can spend time reading volumes of information before going over to action. The main objective with communications should be that it is done in a clear, concise and complete manner. How do we then do this in a quick enough way to ensure that everyone is on the same page and that the desired result will be achieved?

It again comes down to training. All staff must not only be trained in fireground strategies and tactics and the various departmental standard operating procedures but must also learn how to communicate them. When an IC arrives on the scene of a structural fire and calls for the first arriving engine ▶



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► to commence an aggressive interior attack, the ladder truck to support the interior attack and for the second arriving engine to establish a sustained water supply he/she is, through those few words, instructing crews to perform a huge amount of tasks that should be well understood and carried out without hesitation. It is therefore important that everyone understands what sits within each strategy and what their role is. It should only be necessary for the IC to provide the plan in a concise manner that he/she is satisfied that it is clear enough to all.

As we know, the message of the first arriving unit sets the scene for all actions to follow and it is therefore necessary for this to be clear, concise and complete. For a message to be concise, he/she could make use of a series of pre-arranged terms, symbols and gestures that have been set up in the planning phase and is understandable by all. This condenses a whole range of instructions into a simple format. This saves time and also gives unquestionable direction to the person (or crew) being deployed. The need for clarity is also of vital importance and this is the reason that I have added the term 'complete'. When you are transmitting an instruction, make sure that you provide all the information that is required. Focus only on the transmission even though there are a hundred other things demanding your attention at that time. Also make sure that that the person receiving the instruction is clear on his/her side. It is advisable that the message is repeated

by the receiver to ensure this. It does not have to be repeated verbatim but rather have the key points repeated back to you. Sometimes a mere 'message received' or 'copy that' just won't do.

### Tools of the trade

Advances in fireground technology have fortunately not bypassed the communication space. Noise-reduction systems that detect background noises or audio feedback and then have the ability to remove them to create clearer communication or radios with multiple microphones, which allows the operator to talk from a fair distance or into either side of a radio without any reduction in audio quality, makes the job of sending and receiving messages during operations a lot simpler.

Most fire and rescue services, however, have to function in a financially constrained environment where trying to keep up with technological advances can be a huge challenge. It is therefore advisable to consider the purpose for which the radios will be used and the kind of environments that they will be most commonly used in. This will determine the specification you will require and the accessories that will be needed. A water rescue team will require a rugged, water-proof system while a hazmat team could require throat microphones and systems that can be accessed while wearing bulky Level A chemical protection.

A number of breathing apparatus manufacturers now also supply masks that interface with the portable radio either via a cable or wireless technology. This technology has the advantage of clear communication and eliminates the risk of equipment snagging associated with the wires and cable exposed on the exterior. Unfortunately, these systems don't come cheap and there will also be the added investment of training of staff to use the equipment properly.

### On-scene communications

Early on in this article I have stressed the importance of proper preparation of communication processes. The best starting point is to establish where any potential problems might be. Listen to units communicating on incidents, also speak to them. You will probably find that most of these problems can be related to too much talking, unreadable transmissions and too much radio interference from dispatch. This information will be valuable in determining an effective communications system for your department. Once the structure of your communications' process has been designed and completed, it must be drilled in to every potential user. How often do we carry out drills sharpening our skills with ground ladders, attack lines, breathing apparatus etc? Here's a thought: Why don't we add radio communications into these drills. It is at this point where you will be able to identify the problem areas. Once this goes well, expand the communications aspect into your larger combined drills. It then becomes second nature during the incidents.

Your first action after arriving on scene will be to announce your unit's arrival and do an initial size-up of the incident. It is at this point where the first arriving officers could get caught up in all they are seeing and where they could provide more information than required at this point. It is here where the 'clear and concise' method of communication is required. Your first report should only be enough to let everyone know what you could be dealing with. You will give a more complete report after having done a 360-walkaround and are able to identify more issues.



Once the walkabout is complete a more detailed situation report should follow. This should include the following:

- Confirmation of the 360-walkabout (including any changes from the initial arrival report)
- Any specific findings
- Any identified occupants, their status and possible location
- The incident action plan (IAP)
- Required positioning and initial tasks of units still on route

This will enable all responding units to gain a clearer picture of the situation and what will be required of them. I have earlier mentioned the various noise suppression systems currently available on later generation radios. Unfortunately, we don't all have the budgets to replace our entire radio inventory. When broadcasting a radio message, the officer must ensure that they are placed in a position where it will be as clear as possible and away from running fire pumps, ventilation saws and positive pressure ventilation engines.

It is initially the case that all responding units are making use of the general open channel whilst travelling to the incident. The arrival message and first situation report will generally also be on this channel. This channel should be kept as free as possible from general dispatch traffic while an emergency incident is in progress. When the first-in IC arrives, he/she should request that the particular incident has 'priority of communication'. This will result in all messages coming from this incident enjoying priority over anything else.

Ideally it should be standard procedure to dedicate a 'command channel' to a specific incident and ensure that all tactical communication happens on this channel. From this point onwards the only units using this channel will be the incident command post and companies assigned to the incident. A major wildland fire or structural collapse incident or any other large scale operation will see the implementation of a larger incident command structure and it will then be a requirement that all branches and sectors are able to communicate. This would almost always require additional channels for each branch. A well-defined escalation

of command process must include the communication component to support the system.

### Panic situations

Fire and rescue operations are dynamic and often fast moving incidents and there will always be a possibility that things can go wrong and ruin your day completely. Sector safety officers will continuously monitor prevailing conditions and keep IC informed of any changes that could have a profound impact on the incident and fire fighter safety. Safety officers can't be all over and the philosophy that everyone should be a safety officer is one I believe in utterly. A nozzle team conducting a fast moving fire attack inside a structure is exposed to various risks. They often also might have compromised peripheral vision, which could impact on their safety. Should any person (or unit) find themselves in any situation of imminent danger there must be a system in place for them to immediately broadcast their situation or at least raise an alarm to draw attention to their plight. Most radios are fitted with a panic buttons for this purpose. In most cases it is (a) not possible to activate this button accidentally and (b) takes a specific effort to cancel the alarm. A procedure should be in place to immediately initiate communications by either the team initiating the alarm and the commander of that sector. The nature of the situation will dictate the actions required to access and rescue the affected team. In a life threatening situation all efforts may have to be redirected to attend to the stricken person(s). It might be necessary (if possible) to dedicate a specific (Mayday) channel to this activity. Take care, however, to appreciate that the trapped or injured fire fighter might be disorientated and not be able to communicate adequately.

Some of you will remember the incident which took place on Friday, 1 July 1988, when five fire fighters from the Hackensack Fire Department in New Jersey, United States, died in a fire at the Hackensack Ford Dealership. The fire started just before 15h00 in the rear service section of the dealership. According to an NFPA Summary Investigation Report on the incident the first-arriving fire fighters

observed a heavy smoke condition at the roof area of the building. Engine company crews investigated the source of the smoke inside the building while the truck company crew assessed conditions on the roof. In the next 20 minutes, the focus of the suppression effort was concentrated on these initial tactics. Very little progress was, however, being made by the initial suppression efforts and the magnitude of the fire continued to increase. The battalion chief in command of the operation decided to adopt a more defensive strategy and gave the order to all teams to 'back your lines out.'

Suddenly, a section of the building's wood roof collapsed and an intense fire immediately engulfed the area. Three fire fighters were killed instantly while the surviving two fire fighters found refuge in a tool room where they spent the next 13 minutes calling for help. Approximately 90 minutes after the collapse, fire fighters located the bodies of their fallen comrades.

The NFPA investigation report, which was authored by David P Demers, former head of investigations for the NFPA, pointed to a "communications breakdown" as a major point of concern. The report contended that the battalion chief should have ordered nine fire fighters out of the garage within seven minutes of his arrival given the volume of fire on the rooftop, the order only given about 30 minutes after his arrival, the report said.

"This radio message was not acknowledged by any companies," the report said.

In one of the major communications flaws cited by Demers at the fire scene, all departmental communications were transmitted on a single channel or frequency. Consequently, the trapped fire fighter's appeals for help were intermingled with orders for deploying men and hoses and instructions to arriving companies. Granted, this incident happened 30 years ago but the real point I'm trying to make here is: Are our communications equipment, systems and procedures at such a level where such tragedies will not be repeated? That's the question we should be able to answer. ⚠