

"LCES"

Original Document

By

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LCES stands for lookout(s), communication(s), escape routes and safety zone(s). These are the same items stressed in the FIRE ORDERS and "Watchout" Situations. I prefer to look at them from a "systems" point of view, that is, as being interconnected and dependent on each other. It is not only important to evaluate each one of these items individually but also together they must be evaluated as a system. For example, the best safety zone is of no value if your escape route does not offer you timely access when needed.

A key concept - the LCES system is identified to each firefighter prior to when it must be used. **The nature of wildland fire suppression dictates continuously evaluating and, when necessary, re-establishing LCES as time and fire growth progress.** I want to take a minute and briefly review each component and its interconnection with the others.

Lookout(s) or scouts (roving lookouts) need to be in a position where both the objective hazard and the firefighter (s) can be seen. Lookouts must be trained to observe the wildland fire environment and to recognize and anticipate wildland fire behavior changes. Each situation determines the number of lookouts that are needed. Because of terrain, cover and fire size one lookout is normally not sufficient. The whole idea is when the objective hazard becomes a danger the lookout relays the information to the firefighter so they can reposition to the safety zone. **Actually, each firefighter has the authority to warn others when they notice an objective hazard which becomes a threat to safety.**

Communications(s) is the vehicle which delivers the message to the firefighters, alerting of the approaching hazard. As is stated in current training, communications must be prompt and clear. Radios are limited and at some point the warning is delivered by word of mouth. Although more difficult, it is important to maintain promptness and clearness when communication is by word of mouth.

Incident intelligence (regarding wildland fire environment, fire behavior and suppression operations) both to and from Incident Management (i.e. Command & General Staff) is of utmost importance. But I don't view this type of communication a normal component of the LCES system. Entrapment occurs on a fairly site-specific level. Incident intelligence is really used to alert of hazards (e.g.. "Watchout" situations) or to select strategical operations. LCES is primarily a Division function: responsibility should be here.

Escape Routes are the path the firefighter takes from their current locations, exposed to the danger, to an area free from danger. Notice that escape routes is used instead of escape route(s). Unlike the other components, there always must be more than one escape route available to the firefighter. Battlement Creek 1976 is a good example of why another route is needed between the firefighter's location and a safety zone.

Escape routes are probably the most elusive component of LCES. Their effectiveness changes continuously. As the firefighter works along the fire perimeter, fatigue and spatial separation increases the time required to reach the safety zone. The most common escape route (or part of an escape route) is the fireline. On indirect or parallel fireline, situations become compounded. Unless safety zones have been identified ahead, as well as behind, firefighters retreat may not be possible.

Safety Zone(s) are locations where the threatened firefighter may find refuge from the danger. Unfortunately shelter deployment sites have been incorrectly called safety zones. Safety zones should be conceptualized and planned as a location where no shelter is needed. This does not intend for the firefighter to hesitate to deploy their shelter if needed, just if a shelter is deployed the location is not a tree safety zone. **Fireline intensity and safety zone topographic location determine safety zone effectiveness.**

Again, a key concept - the LCES system is identified prior to when it must be used. That is lookouts must be posted with communications to each firefighter, and a minimum of two escape routes from the firefighter's work location to a safety zone (not a shelter deployment site) every time the firefighter is working around an objective hazard.

Safety and tactics should not be considered as separate entities. As with any task safety and technique necessarily should be integrated. The LCES system should be automatic in any tactical operation where an objective hazard is or could be present.

LCES is just a re-focusing on the essential elements of the FIRE ORDERS. The systems view stresses the importance of the components working together. The LCES system is a result of analyzing fatalities and near misses for over 20 years of active fireline suppression duties. I believe that all firefighters should be given an interconnecting view of Lookout(s), Communications(s), Escape routes and Safety zone(s).