

Safety Concerns Encountered During Review

1. **LCES CONSIDERATIONS:** Appropriate LCES mitigations must be established based on current and expected fire behavior. Assigned resources should be alert for changing conditions and adjust both tactics and LCES measures to meet new levels of risk.
 - a. **Lookouts:** Lookouts must be dedicated to this task as a singular duty and be thoroughly familiar with the responsibilities of the position.
 - b. **Communications:** All assigned resources must be familiar with the incident's communication plan and have radio capability for the listed frequencies. The com plan on 05/06/2009 was inadequate, lacking a sufficient number of tactical frequencies to match the scope of the incident and the number of resources assigned.
 - c. **Escape Routes:** Escape routes are easily compromised in structure defense by remaining at the structure beyond what would be considered safe in wildland fire operations. Escape routes on this incident were compromised by large numbers of Type I engines on a poor system of steep, narrow, winding roads funneling through a single outlet.
 - d. **Safety Zones:** Adequate safety zones were nearly non-existent in the areas of Mission Canyon, Lauro Canyon, and Spyglass Ridge. In nearly all cases, structures should not be relied on as safety zones. They are "survival zones" and should be used only as a last resort. If no adequate safety zones exist, decision points should be set for leaving the area using a designated escape route.
2. **USE OF BREATHING APPARATUS:** In a number of cases on this incident, crews felt it necessary to don breathing apparatus simply to remain in an area. This is a situation that shouts, "**Get Out!**" When conditions are degraded to this extent, a structure should be considered indefensible and resources move to a safe area. Personnel involved in structure protection must not use breathing apparatus to justify taking greater risks, but rather as a last-resort "survival tool" in case of entrapment.
3. **MOBILITY:** Mobility is one of the most important tactics employed in structure defense. Consider actions in the deployment of firefighting equipment that will allow for rapid response to the changing fire environment as well as maintaining the ability to escape to a safety zone. Avoid having engines anchored to hydrants.

4. SITUATION AWARENESS: Maintaining situation awareness is essential due to the numerous factors that can quickly compromise the safety of the resources assigned. Overhead at all levels should remain flexible and be prepared to modify tactics based on changes in the fire environment. Critical information concerning recognized hazards, unexpected weather changes, significant events, etc. needs to be communicated to all resources as well as the Planning Section.

5. Spot Fires: Spotting can create multiple fire fronts sometimes surrounding firefighters, engulfing them in an ember environment, and subjecting them to dense smoke which obscures visibility.

6. Briefings: All personnel must receive a quality briefing prior to starting their shift. This should include resources pulled from staging areas into active line assignments. Briefings should include pertinent local factors affecting fire behavior.