The following comments are offered as response to the article, “The 10 Standard Firefighting Orders and 18 Watch Out Situations: We Don’t Bend Them, We Don’t Break Them...We Don’t Know Them;” they are meant to continue the discussion on this important topic. My impression of some of the points the article makes might be summarized as follows:

1. If all firefighters memorized the “10 & 18,” we would have fewer fireline fatalities;
2. Historic investigation reports have reached the correct conclusion that firefighter mistakes cause firefighter fatalities, and the same reports accurately point out what those mistakes were;
3. The standard orders need not be measurable and quantifiable; and
4. Foundational doctrine for fire suppression somehow contradicts or confuses the intent or purpose of the “10 & 18.”

We all want firefighters to come home safely after every shift, on every fire. Yet we recognize that the environment in which we operate contains many hazards, some of which can be difficult to detect or predict until it’s too late. The problem with relying too much on memorization of rules to keep us safe is that we are presupposing that a firefighter’s mind will retrieve the appropriate piece of memorized information for any situation, even under stress, and make it available just when needed. Unfortunately, human minds under duress just don’t work that way. Even if they did, a firefighter would still have to consider multiple possible courses of action, decide, and then act under conditions involving time pressure, fatigue, and incomplete information. These “human factors” are extremely important to any complex human endeavor like wildland firefighting, which is why the approach of simple memorization of rules will ultimately be ineffective. It is easy to memorize words without understanding their implications.

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Furthermore, we have to look at what is being memorized. Standard order #3 is frequently mentioned: “Base all actions on current and expected behavior of the fire.” The problem with this order is that you can follow it and still be killed! All that is required is for the fire to do something unexpected. In fact, that is the true common denominator of fire behavior on tragedy fires: what the fire actually did wasn’t what firefighters thought it was going to do. An investigation report that says that specific fire behavior could have been or should have been predicted is itself an interpretation: investigators have the advantage of hindsight. What actually happened was that the fire moved faster, or went in a different direction, or burned with more intensity than firefighters thought it would. Is this a shortcoming on the part of the firefighters? Not necessarily. Unpredictability is not predictable: even the most sophisticated fire behavior prediction tools currently available cannot always replicate observed fire behavior.

Unfortunately, accident investigation reports have historically done a poor job of reconstructing the “whys” of an accident. Why did the firefighters’ decisions make sense to them at the time? Simplistic causal factors have been cited, such as the “violation” of a standard order requiring firefighters to have an escape route. Often, firefighters did have one or more escape routes, but they were inadequate when needed. We need to know why firefighters thought an escape route would be adequate when in fact...
it proved not to be. Most reports haven’t told us that, even when firefighters survived a burnover.

The standard firefighting orders and watch out situations focus on preventing burnovers, but they are no guarantee of safety from fire behavior-related hazards, and they do not address the other four-fifths of accidents that kill firefighters. Accident data show that burnovers account for approximately 21 percent of all wildland firefighter fatalities. The other 79 percent are from causes unrelated to fire behavior, including aviation (23 percent), driving (23 percent), heart attacks (22 percent), and hazard trees/rocks (4 percent) (see “Wildland Firefighter Fatalities in the United States, 1990–2006,” available at <http://www.nwcg.gov/pms/pubs/pms841/pms841_all-72dpi.pdf>).

For example: should you automatically disengage if you can’t maintain prompt communications with your supervisor? How are “prompt communications” defined? Is it really possible to know what your fire is doing at all times, when you are on one division of an 80,000 acre (30,000 ha) fire? It’s important to know what’s happening on your division and adjoining divisions for the safety of your crew, but it’s often a practical impossibility to know what’s happening with the whole fire unless you’re an operations section chief. Even then, you’d only have a general idea—you wouldn’t know about every spot fire on every division. The standard orders cannot be absolute rules. We must recognize them as best practices for safe firefighting and teach them that way.

The foundational doctrine for firefighting is based on the premise that the best tools we have are firefighters’ brains using all our best practices for safe firefighting, not a set of hard-and-fast rules to cover all situations. Simply put, the standard orders and watch outs alone aren’t enough to keep firefighters from harm. There is no silver bullet in managing the risks confronting wildland firefighters; there is just a large toolbox of principles and best practices for safe and effective firefighting, coupled with firefighters’ discretion.

Doctrine was never meant to replace the standard orders; lookouts, communications, escape routes, safety zones (LCES); or other published guidance. Doctrine is the leaders’ intent: a common set of values that can guide our actions in a variety of situations. It’s noteworthy that, while the idea for standard orders came from military organizations, so did the idea for operational and strategic doctrine, something that exists today in all branches of the U.S. military. Furthermore, the general orders in the military, upon which the standard orders were modeled, are just that: general orders, not specific ones. The general orders have to do mainly with soldiers’ conduct while on guard duty—they are not a set of prescriptive rules to be followed in any given tactical situation. The military places a high value on individual soldiers’ initiative and creativity in those situations, just as we do for our firefighters.

As for LCES, that too is dynamic guidance. Brad Mayhew, a former
hotshot, developed a variation on LCES that he calls “F LCES ∆.” The “F” stands for fire behavior, which urges you to consider the potential “worst case scenario.” LCES is looked at to determine if it’s adequate for that worst case. And the “∆” (delta) represents change—it is there to remind you to consider “what’s changing now” as well as “what might change later.” (For a more thorough discussion, see http://www.firerescuemagazine.com/pdfs/WUI_04.pdf.)

These topics will be discussed and debated by firefighters forever. It’s important for firefighters to learn and understand—not just memorize—the standard firefighting orders and watch out situations, LCES, and all the other tools of our trade. Well-educated firefighters and capable leaders who are able to maintain situation awareness and continuously make sense of their environment are safe firefighters. But we’re kidding ourselves if we think that any single rule set will serve to keep everyone safe on every fire. There is no such thing as a “safety guarantee” in the dynamic wildland fire environment.

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**Introducing the Virtual Incident Procurement (VIPR) System**

Beginning with the 2009 fire season, the Forest Service is using the Virtual Incident Procurement (VIPR) system to acquire certain types of contracted equipment for incident management. The VIPR system is a Web-based Forest Service application that awards and administers preseason Incident Blanket Purchase Agreements or I–BPAs (formerly called Emergency Equipment Rental Agreements or EERAs; EERAs are used for at-incident sign ups and are not part of VIPR).

Solicitations for wildland fire equipment are posted on the FedBizOpps Web site: <https://www.fbo.gov/>. Vendors may easily sort and find solicitations issued through VIPR, e.g., “VIPR I–BPA for Mobile Laundry in the Intermountain Region.” Computer-based forms submitted to VIPR are used to respond to solicitations. Vendors who wish to participate will need appropriate computer access and an eAuthentication account.

For more information about VIPR, including how to set up an eAuthentication account and what equipment categories are being solicited, visit <http://www.fs.fed.us/business/incident/vipr.php>.