

Hazard Abatement Plan - Thirtymile Fire

Enclosure # 10

**TAKING THE NEXT STEP...
A HIGHER LEVEL OF PROFESSIONALISM IN WILDLAND FIRE
MANAGEMENT**

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“...one of the biggest problems in facing danger is to figure out the biggest danger and not to have a change of mind too often or too late or too soon.”

-Norman Maclean

INTRODUCTION:

Wildland fire is a high-risk, high-consequence business. It is influenced by high social expectations and a low political tolerance for failure. Our environment is surrounded by uncertainty and danger. It is controlled more and more by our ability to measure, manage, and mitigate risk.

In our history, Stephen Pyne would tell us, every meaningful advance in wildland fire operations has been marked by some reduction in uncertainty....some constraint of risk....almost always following some accident or some tragedy. Our understanding of fire behavior, the technological advances in the tools we use, the protective qualities of the gear we wear, the training we employ, and even some of the early explorations of what we call “human factors” have all made this a safer kind of work.

Yet, the tragedies at Dude, South Canyon and 30-Mile and the accident at Cerro Grande remind us of the consequence that is always present in our world.

In this meeting, we are going to deal with a wide variety of pressing issues, including contracting, training, the initial abatement plan from 30-Mile, leadership, workforce diversity, the National Fire Plan...and we will not overlook preparedness discussions for the fire season that lies ahead. Each of these issues deserve our careful attention...we need to work on all of them. In this paper, however, I want to get us thinking about our vulnerabilities and make the point that operational professionalism needs to be measured on our ability to better manage the risks that surround us.

In today's press of managing a large, complex fire program we have a lot of "spots coming across our line." Before we get to digging line, though, I'm going to ask that we "get up on the ridge" and spend a few minutes reflecting on where this program is right now, what has changed around us, and where we need to direct – not only *management* energy - but *leadership* energy.

DISCUSSION:

Karl Weick and Kathleen Sutcliffe, in their work Managing the Unexpected, describe high reliability organizations (HRO's) as those "exotic" lines of work that, despite the trying conditions that surround them, have "less than their fair share of accidents." In their discussions, they include wildland firefighting among these organizations.

They attribute our overall success in managing the unexpected to our determined efforts to *notice the unexpected in the making* and stopping its development. They go on to say that, if we have difficulty halting the development of the unexpected, we focus on containing it. And, if containment is compromised, we focus on resilience and rapid restoration of function.

Weick and Sutcliffe also note that, when we're successful, we maintain a high state of situational awareness. Yet, when we fail, we make it our habit to bounce back from tragedy, knowing that tragedy – however unwanted or however hard we try to avoid - is an ever-present threat in wildland fire operations.

They say that we are “pre-occupied with failure.” Perhaps ironically, then, our growth and improvement is dependent on the very introspection that accompanies failure.

Operationally, I believe that we are absolutely tenacious when it comes to becoming sharper and safer. But, in the past few years, a recurring pattern, based on four events, suggest that we may need to go beyond the operational fixes that we are most accustomed:

- Dude and the loss of 6 firefighters (1990)
- South Canyon and the loss of 14 firefighters (1994)
- Cerro Grande and the loss of some 250 structures (2000)
- 30-Mile and the loss of 4 firefighters (2001)

Mistakenly, we may be focusing our fixes only on the margins.

Weick and Sutcliffe challenge us as managers to maintain an “awareness of discriminatory detail” and focus on our “ability to discover and correct errors that could escalate into a crisis.” At the operational-level, we have reacted to errors quickly. Over the past several years – in response to the four events described above - we have directed focus on policy and process. Our fire policy has changed. Our burn plans are more complete, our Fire Management Plans are more detailed, and our large fire situational assessments are more thorough.

My comments do not demean any of these improvements, but I am concerned that we need to go beyond the fixes that we have traditionally relied on. These “next steps” may not seem particularly obvious, but each will represent a profound change in how we plan and execute the high-risk, high-consequence fire program that we are charged with leading.

Several factors shape our decision space and our operating space. Today, the fuel complexes that we work in are more flammable than ever before over more extensive areas. Growth remains unconstrained at the interface. Ecological perspectives challenge us to conduct landscape-scale restoration and maintenance treatments. A large portion of our workforce is new and developing skills that are not acquired quickly.

These “next steps” respond to the fuels, demographic, ecological, and workforce factors that shape our environment. They will enable us to better

measure, manage, and mitigate risk. There are four of them. They extend from the fireline to the plans that guide us. They are tied to our Brookings Strategic Agenda (Denver, CO Fire Director's Meeting, 3/27-29/01) and consistent with our Fire & Aviation Management Program Emphasis (Portland, OR Fire Director's Meeting, 12/4-6/01).

Next Step: Firm Rules of Engagement...

The 10-Standard Firefighting Orders must be firm rules of engagement. They cannot be simple guides, nor can they be "bargained." They are the result of hard-learned lessons. Compromise among one or more of them is *always* the common denominator of tragedy. On Dude, South Canyon and 30-Mile these orders were ignored or overlooked or somehow compromised.

The 10-Orders mean little once we are in trouble and it is because of that that we must routinely observe them and rely on them before trouble confronts us. We know that no fire shelter can ensure survival all of the time under all circumstances. It is for that reason that *entrapment avoidance must be our first emphasis* and become our measure of professional operations.

"...people who refuse to speak up out of fear enact a system that knows less than it must to remain effective."

-Weick and Sutcliffe

Following an accident, a "stand-down" should be an accepted practice for those involved, until the facts can be sorted out. However, it is a shame that our focus on accountability too often occurs *after* an accident. Culturally, we must shift the weight of accountability *before* an accident takes shape and embrace rules of engagement as a way of doing business, professionally. Violation of any one or more of the 10-Standard Firefighting Orders must prompt management or supervisory intervention and, unless rapidly corrected, be unarguable grounds for release from the line, release from the incident, or – if egregious – more serious adverse personnel action.

We don't adhere to these orders for fear of punishment, though. We embrace the 10-Standard Orders because *we owe it to one another*. In that sense, they become a shared responsibility; no...an obligation...where a leader's role relies on the crew's participation and the firefighter's assertiveness is tempered with respect. Borrowing from the aviation

community and the Cockpit/Crew Resource Management model, we ought to focus fireline operations more on *what is right* than *who is right*.

Next Step: Extended Attack Operations...

Roughly 90% of the wildfires that we deal with are suppressed with little notice...little effort...and little cost. On the other end of the spectrum, about 5% of the fires that come our way are destined to become large, costly events virtually from the get-go. It's the fires in-between that challenge us now. These fires that are transitioning from somewhat benign initial attack operations to rapidly developing, large fires are among the most dangerous that we confront.

Dude, South Canyon, and 30-Mile are our most recent examples of the tragedy that can result from extended attack operations. Some 70% of all our fatalities are associated with these transition fires. Extended Attack Operations typically occur at high fire danger levels, when fatigue and drawdown at crew levels is exacerbated by slim management oversight and over-extended supervisory controls. Danger is further increased because time is almost always compressed.

It is remarkable to acknowledge that we have strategies in place on both ends of the wildfire spectrum, but lack of a coherent approach to the fires in between. With few exceptions...especially on the lower fire frequency units where "practice" is sporadic...we deal with transition fires as best we can with what we have and hope it somehow comes out ok. Taking the "next step" will put in place risk thresholds that indicate the presence of impending danger and prompt our positioning for management oversight, supervisory control, and crew capabilities to more safely and more effectively deal with the potential for extended attack operations. The National Wildfire Coordinating Group (NWCG) has sanctioned this effort and we are working with Research and the Predictive Services Branch at NIFC to have preliminary support in place by this summer.

These extended attack fires are few, but they are inarguably our most important fires. The danger that surrounds them and the consequences (cost, loss, and damage) that result when we fail with them are enormous. They deserve a more deliberate, more disciplined strategy.

*“High reliability organizations differentiate between normal times, high-tempo times, and emergencies and clearly signal which mode they are operating in.”
-Weick and Sutcliff*

Next Step: Positioning for Long-duration, Landscape-scale Fire Use Projects...

Cerro Grande may have taught us that landscape-scale fire use projects in the vicinity of high-hazard fuel types may require something more than a better burn plan. At these scales, coordinated fire planning across jurisdictional interests and sequenced treatments will be more effective risk mitigation measures.

This year marks the 30th anniversary of the wilderness fire management program. These wilderness fires were our first experience with landscape-scale, long-duration fire use projects. Overall, these wilderness fire experiences have been very positive, but their use has been confined to very large areas where boundaries were generally considered safe.

The uncertainty surrounding landscape scale fire use projects is often enormous, owing to the long durations (and long exposures) that usually define these projects. Risk mitigation with these projects usually last occurs most effectively at the go/no-go gate. But, unless the project area enjoys defensible boundaries where managers can intervene when the expected collapses, our decisions are generally irretrievable. These “galloping pony” kinds of fires....where we know all we can do is hold on...don’t give us much “cushion” where the margins of risk are already very narrow.

The Federal Wildland Fire Management Policy provides the framework for much expanded fire use events. However, the condition of many forest types preclude the use of landscape-scale prescribed fire treatments within reasonable limits of risk, unless risk mitigation measures – well beyond simple burn plan requirements - are adopted. Rather than working in isolation, the “next step” will require us to develop *zone* fire management plans, where treatments can be planned and sequentially executed across jurisdictional boundaries....starting with protective treatments next to the highest values at risk and working out.

Next Step: Forest Plan Revisions/Amendments...

Over the last two years, a great deal of attention has been directed toward the viability of our Fire Management Plans. Clearly, they need to be updated and complete, but – as the interagency fire directors pointed out recently with the National Academy of Public Administration as NAPA initiated their examination of large fire costs - these fire plans are only as good as the land/resource plans that they are based on.

The Line Officer Team, in their annual letter (2/15/02) are encouraging Regional Foresters to give special attention to fire-related issues as Forest Plans are revised. Their letter reminds us that it is in the land management plans (not the fire management plans) where resource objectives are established and, consequently, acceptable limits of social, economic, and ecological risk are set. Fire management decision space, for safety, cost, and risk are largely predestined in forest plans that rarely get the “after action” scrutiny that a destructive, multi-million dollar wildfire should probably prompt.

Weick and Sutcliffe note that high reliability organizations are “reluctant to simplify the complexities that define their environment.” For most of us, Forest Plans are cumbersome, complex documents that seem only indirectly related to safety, cost, and risk. For many of us, these plans seem a little abstract or obtuse as they might relate to the operational dimensions of fire management.

Although we will typically spend some \$600 million each year fielding a fire suppression force and another \$500 million each year suppressing unwanted fires, there is not much organizational enthusiasm for large-scale forest plan revisions nor much local appetite for the plan amendments that might more effectively reduce the potential for destructive, high-intensity fire events.

In drier forest types, where poorly thought out resource objectives or the default “no action” will inadvertently favor dense, multi-storied stand conditions, the resultant fuel loads...especially during drought years...contribute significantly to fire intensity potentials. Forest Plan objectives, however distant their effects may seem, have a direct bearing on firefighter safety, suppression costs, and protection opportunities for communities at risk.

Until these forest plan-level issues are reconciled, improvements in the fire management plans will only realize marginal benefits, as fuels continue to accumulate. Taking the “next step” will challenge us to look beyond fire management plans and reconcile some of the risk/consequence decisions that may be more deeply imbedded in land management plans.

SUMMARY:

This meeting’s theme centers on our workforce. In this uncertain, high-risk, high-consequence environment, the measure of professionalism is a recognition of our vulnerabilities and an uncompromising respect for our limits. A developing workforce must rely on leadership to learn these lessons. As leaders, then, “safety” becomes more than a platitude...it becomes a responsibility.

When I talk of “taking the next step,” I mean that it is time we aspire to a higher level of professionalism in wildland fire operations. As leaders, we *each* occupy a position of influence. We can influence policies and procedures, but, most effectively perhaps, we can influence our people with our values and our beliefs. These values should be reflected in our standards and manifest in our actions if they are going to mean something to our people.

Code of Conduct for Fire Suppression:

- Firefighter safety comes first on every fire every time.
- The 10 Standard Firefighting Orders are firm...we don’t break them; we don’t bend them.
- Every firefighter has the right to know that his or her assignments are safe.
- Every fireline supervisor, every fire manager, and every administrator has the responsibility to confirm that safe practices are known and observed.

