



# Dolan Fire Learning Review

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*Organizational Learning Report*

## Focus Group Summary

The Dolan Fire Learning Review (LR) team convened a focus group from Region 5 (R5), since the unique culture of R5 needs to be used as a filter in understanding this event. We asked for R5 leadership's help in selecting the focus group consisting of a Forest Supervisor, District Ranger, Fire Staff, District FMO, Engine Captain (preferably ones who are stationed at, or familiar with, remote guard stations), Forest Safety Officer, Line Safety Officer, and Type 1 Safety Officer. The team believed a focus group comprised of employees from a single unit (national forest level) would work best; believing that a group already familiar with each other would do best in the virtual focus group environment. The intent of this focus group was to make sense of the LR narrative and propose and validate potential recommendations.

## Summary of Interviews

The Learning Review team conducted interviews with members of both entrapped engines, the dozer operators, members of two hotshot crews, incident management team (IMT) overhead, and Los Padres National Forest fire and line officers. Most of these interviews were conducted in-person with a handful that had to be done by phone. Due to Sam's injuries and ongoing complications, we have not been able to interview him.

## Learning Review Team Deliberations

Deliberations were completed as an entire team while on-site to produce a draft narrative and to formulate an initial list of conditions, key decisions, and key actions. We continued refining the narrative, completed readbacks with all key interviewees, and finalized the narrative based on their feedback. We then formed a focus group consisting of R5 fire, line, and safety, and captured what they saw as conditions, etc.

The themes that follow are the result of our team's sensemaking deliberations of all information gathered, advice from our Innovation and Organizational Learning (IOL) coach, and from an academic advisor.

# Dolan Fire Themes

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## Introduction

This Learning Review is the vehicle through which the wildland fire community and the Agency hold ourselves accountable to learn from this event. We do so through an attempt to understand the decisions and actions in context through a look at the conditions influential to the event, after the completion of the narrative, the convening of a focus group, and further sensemaking from the Learning Review team. From this process the decision to stay and defend the guard station emerged as both the most consequential *and* provides the greatest opportunity for learning.

This decision is such a valuable learning opportunity because it exists simultaneously in multiple embedded systems present at many spatial and temporal "places." Certainly, the decision exists with individuals in the moments leading up to the entrapment, but it also exists with the Incident Management Team in the days leading up to the entrapment, and with the district, the forest and the Agency in the years and months prior to the event. Making sense of the existence and interaction of the decision across place and time acknowledges the complexity of the wildland fire system and highlights that while the

outcome was abnormal, the situation was not unique—in fact it is very normal. Understanding this as a normal situation forces us to confront the reality that the conditions influencing this decision (in all its places) are at play right now as we engage in our work in multiple venues.

The following themes are used to highlight the conditions that influenced the decision to stay and defend and to note that these conditions remain present in our decision-making systems. As a learning organization we pursue the implications of these latent conditions to offer all who are involved an opportunity to improve our systems of work.

## **Theme 1: Bandwidth**

As focus groups read and absorbed the Dolan Fire Learning Review narrative, much of the discussion focused on what came to be called “bandwidth”. For the purpose of this sensemaking effort, bandwidth is understood to mean “the amount of information and decisions that an individual, unit, and the entire IMT could effectively manage at any given point.”

The 2020 fire year was an exceptional year, one that was unprecedentedly busy. The first million-acre fire on record occurred in 2020 (and was actively burning in other areas of California at the same time as the Dolan Fire). Issues affecting bandwidth on this fire included:

- Approximately 250 new fire starts occurring in California all at once.
- Three other Geographic Area Coordination Centers (GACCs) were also calling for resources and in Preparedness Level 5 (PL5) (and thus unable to send their resources to California).
- Unprecedented fire activity and fire behavior was occurring on the Los Padres National Forest.
- Complexities arising as a result of the COVID-19 pandemic and wildland fire responses.
- A wildland fire system unable to recruit and fill a vast array of vacant positions.
- Multiple and rapidly changing objectives, priorities, and increasing values at risk on the Dolan Fire.

The above list captures a few of the strains on the bandwidth of those assigned to the Dolan Fire and other fires around the country. The impact of what was occurring within the overall wildland fire response system on the Dolan Fire cannot be overstated. Resources were scarce, supervision was stretched beyond anything experienced in past seasons, and the most experienced wildland firefighters in the nation had never beheld what occurred on the Dolan Fire with respect to fire intensity and rate of spread. These stressors exposed underlying problematic conditions such as systems of interpersonal, bilateral, organizational, and cultural “norms” of communication that are not effective in these conditions. The Dolan Fire is just one example of how the 2020 fire season pushed the wildland fire community to its breaking point. The following testimony to congress gets at the matter of where bandwidth currently is:

[The 2020 Wildfire Year: Response and Recovery Efforts](#)

## **Theme 2: Unresolved Differences Resulting in Decisions Left Unmade**

The scenario wildland firefighters found themselves negotiating on the Dolan Fire resulted in local Forest resources being assigned to the Incident Management Team (IMT) while operating out of their regularly assigned station. The confusion of whether they were working for the forest or the IMT was ultimately solved by officially assigning them to the IMT. This was not only their home turf being threatened, the Nacimiento guard station was their place of residence. It was their actual home. The local resources had strong opinions about what happened or was going to happen to their home. Some members of the IMT did not believe the guard station was savable. The local Forest resources were determined to save it. This

led to a critical conflict that remained explicitly unresolved so tacitly was left as status quo. An unprecedented 30,000-acre fire run dramatically compressed the clock in ways no one was expecting. It is likely that everyone involved thought they had more time to tackle this challenging decision.

As you read through this document and the narrative pay particular attention to places where there were unresolved differences that resulted in decisions being made by being left unmade.

Wildland fire operations do not allow every challenging issue to be resolved, but how can we help our people be aware of and prioritize the issues which are significant and need to be resolved first?

### **Theme 3: Forest Service Structures Lack FireWise Status**

The Forest Service has preached FireWise concepts for decades. There is an entire program dedicated to helping homeowners understand how and where to create defensible space before smoke is in the air so that their homes are better positioned to be saved when fires are actively burning. We have sponsored ad campaign after ad campaign practically begging people to do their part so that firefighters can do their job more safely. The idea is to accomplish the work upstream, before fires are burning, so that more options are available, and less risky tactics can be employed to save people's homes.

If we preach it, we should do it. Many people on the IMT seemed to agree the guard station was not defensible in its current state. The people living there were actively preparing during the fire to help make it defensible. A hotshot crew was employed to help make it defensible. Even with all that work done, many on the IMT determined that the guard station was not a safe place to be when the fire came through. This evaluation was made long before the fire came through. This lack of preparation forced people to design, construct, and implement an ad-hoc scheme at a time when they were overloaded.

Why are we as an agency waiting for an active fire to burn through before we take on the task of making Forest Service structures defensible?

### **Theme 4: Attachment to Guard Station**

As stated earlier, this was home for seven seasonal Los Padres firefighters, as well as a temporary residence for a few of the permanent staff stationed at the Nacimiento guard station. The Engine Captains had spent nearly a decade making memories, protecting, and going there every day for work. The station had been threatened by multiple fires in the past and had come through unscathed. The sentimental attachment to the historically significant station and past experiences of the station surviving previous fires seemed to be a heavy influence on the current behavior of the local firefighters. All firefighters rely on slides and experience to evaluate the probability of being successful again, in this case, it appears the focus was on the past successful outcomes in which the station survived fires in the area. These mental models were not considering the differences in inputs (the differing approach of fire direction, winds, and actual spread distance and rates of this spread.)

The area was under an evacuation order, but the firefighters were allowed to remain at the guard station as a residence while assigned to the fire.

The IMT members did not seem nearly as confident in the probability of the station surviving nor nearly as comfortable with the idea of staying to defend the station if the fire impacted it. However, a frank conversation was never held where the two viewpoints could be evaluated and discussed by the key players. A formal plan was never created and agreed upon.

The Coordinated Response Protocol and Learning Review processes are purposefully geared to system-level improvements. From a systems perspective, when is the best time to come up with a plan in a similar scenario? Does it make sense to allow the pressure to build on front end firefighters to organize themselves and come up with a plan in the heat of the moment? Our workforce is chronically understaffed and fire behavior is becoming increasingly intense. How can we support our folks better upstream in the decision chain, so they are better positioned to be successful in these kinds of situations?

### **Theme 5: Implicit Acceptance Translates to Blanket Approval.**

In one of Gene's interviews, he stated "If anyone had ever told us to leave, we would have left." This is one of many factors that could have supported an "implicit acceptance" to stay and defend the station, versus a plan to turn on sprinklers and leave.

Also, from interviews, we know that several people did have concerns with firefighters staying to defend the station and raised them in various ways. Importantly, none of the people who raised concerns were above the Captains in the chain of command, and none were people they knew well or held in high regard.

- The day before the entrapment, the IMT Safety Officer challenged Sam twice – "You're not going to stay here when the fire comes through, right?", and Sam did not reply (Safety not in the Ops chain of command).
- When the Line Safety Officer woke people up at the guard station and told Marty (AFEO) "It's not a good idea to hang out here; the fire's moving too fast, and you don't want to get cut off." Marty responded, "We're going to defend the structures." Chris replied, "Do what you need to do but you should get ready to leave. The fire's below you guys in the draw." The tone of Chris's warning seemed to subtly shift from a 'not a good idea to be here' to a 'do what you need to do but be ready to leave' after Marty responded "We're going to defend the structure." (Safety not in the Ops chain of command)
- Kris raised concern immediately upon arrival at the guard station ("We only have a few minutes to make a decision to get outta here!"), and the only reply from supervisors was Gene who said, "Oh really, you think?" This was Kris's first year on Engine 17 (E17), so even though he had solid experience and qualifications, it could make sense that he was not yet respected as such.
- Pully pulled into the guard station to tell them it's time to leave. Pully recalled Gene saying, "We're not going to lose my station." Pully didn't force the issue; Pully is a very experienced fireman, but this is the engine's home turf. (Also, not really in chain of command as Pully is night shift and the engines are day shift.)

Implicit support to stay and defend could be interpreted from multiple people who were directly in their chain of command and/or who they knew well and held in high regard. Their home unit Battalion Chief, Division Chief, and District Ranger never told them what to do/not do with the station, which makes sense from the standpoint that the engines were assigned to the fire under the IMT. Various 'over the hood' meetings of IMT overhead including Ops occurred at the Nacimiento Guard station, and they would have seen the protection measures being installed, and nobody ever questioned if folks were going to stay and defend. A hotshot crew and E17 were assigned to help finish the structure defense preparations. The morning of the entrapment, their day division supervisor trainee (DIVS(T)) told E17 to "Engage the fire, protect values where you can, and help Gene." These could all be interpreted as "false positives" of approval/agreement to stay and defend.

Another component of implicit acceptance involves how the ‘work as performed’ has evolved as threats to structures and human life have increasingly become normal in the wildland fire environment. The Forest Service does not teach the practice of using structures as a “Temporary Refuge Area” (TRA), but firefighters’ real-life experience is that use of TRAs is acceptable and sometimes even part of the plan. Some refer to it as “CalFire tactics” for short, but it is interagency in practice and not solely CalFire. There was no indication from interviews that the plan to stay and defend included using the structures as TRAs, but it was ‘normal’ for them to transition to it as the fire front hit them.

In what ways might we be able to build awareness into our systems to notice implicit approval so we can be more deliberate on important decisions? How should we talk and train around use of TRAs, knowing that this is already a feature of the interagency fire world? Do we need to develop a Trade-Off Analysis for TRAs between Risk, Safety, and Operations as we continue with both strategic and tactical decisions? As an Agency, do we have unresolved issues regarding response, priorities, and objectives? These issues were not just present on the Dolan Fire but may be intertwined in how we operate day to day. What does agency leadership see as fire’s ‘identity’ within the interagency fire community?

### **Theme 6: Safety Officer’s Warnings Not Heeded**

From the interviews, focus group sessions, and the personal experiences of Learning Review team members, it was well understood and recognized that Operations personnel’s opinions and perspectives carry more weight and are more highly regarded than Safety personnel by the wildland fire community as a whole. What can we do as a wildland fire community to increase the level of respect for Safety Officers? How can we align position power with respect power so that safety truly is treated as a core value? How can we change the incentive structure such that those who are highly respected and regarded in the wildland fire community are enticed by the prospect of becoming a Safety Officer?

It is arguably easier for a Safety Officer to point to a plan that was made upstream before the smoke is in the air and cooler heads are involved with plan creation. We put our Safety Officers in a much tougher position when there is no upstream plan to point to when the smoke is in the air. Upstream planning allows a Safety Officer to say, “This was the plan everyone agreed on before the fire started burning, you need to convince me why this is all of a sudden not a good plan now that the fire is here.” Having no upstream plan in place and then expecting the Safety Officer’s voice to prevail over Operations personnel is not a winning strategy under the current wildland fire culture. The wildland fire community would benefit from taking conscious steps to elevate the standing of Safety personnel within the community as well as doing a better job of doing as much work as possible upstream that a Safety Officer can draw from when tensions and emotions are high, and Operators are more likely to be swept up by the inertia of the current moment. The decision to stay and defend or evacuate the guard station on the Dolan Fire landed wholly on the shoulders of the boots on the ground personnel. How do we take some of the load off our ground folks upstream?

## **Theme 7: Limitations of Recognition-Primed Decision Making in the Context of the Current Fire Environment**

Over the past two decades firefighters have been taught, trained, and mentored to build slide shows in their mind Recognition-Primed Decision Making (RPD). These slide shows or recognition models are developed through past experiences and leaned on and used during the decision-making process. There is evidence of these ‘slides’ assisting in making good decisions when the variables are generally consistent; in other words, all conditions surrounding the need for a decision are relatively unchanged over and over giving the decision maker a large degree of accuracy in the outcome of a decision. Think of a professional athlete who does a drill so repetitively that the athlete is virtually certain of what the outcome is going to be. In the wildland fire environment, the inputs or variables change so drastically and rapidly that relying on expert knowledge with slides can create flaws in the predictions of outcomes. A 1986 study<sup>1</sup> of Fire Commanders found that when making decisions solely using RPD the commanders rarely evaluated more than one alternative. These commanders followed their slides using their experience with similar inputs to get a prediction of outcome.

During the Nacimiento incident several of the module leaders during interviews stated that they had been a part of fires burning in the drainage before. The prep was completed at a higher degree than before, history of previous fires showed that the largest growth day in the general area was the Soberanes Fire which burned approximately 4,500 acres in a 24-hour period, leaving little evidence that this fire in the same drainage as the Kirk, Cone, and Soberanes fires had burned would be much different than previously experienced.

The Dolan Fire had some differences, though, from those other fires which were not as apparent as one would think; differences that using RPD may not pick up either. The other fires approached the Nacimiento Station from the northwest or west. Which the night before was a legitimate approach for Dolan as well. There was also a weather phenomenon that produced strong north winds across the Coastal and intermountain regions in six states producing some of the largest fire growth in history, this wind event surfaced in the Dolan area after firefighters went to sleep for the night. This wind event in the dark created a large run north to south that half mooned its way around the Station, unknown to those sleeping and to overhead scouting in the area. As the day started and the sun got on the eastern-facing aspect below the guard station, thermal heating and daytime winds created a fire run upslope towards the guard station. Up to this point the idea was to stay and defend like in previously successful fires protecting this guard station. However, the Dolan Fire was now out of the norm that the slides said would work for the local firefighters.

It is becoming common place that firefighters on fires say, “We have never seen this before”, or “Fires have never burned those slopes, this shouldn’t be happening.” Statements like that beg the question: “Is relying on intuitive decision making (system 1) in the moment as reliable as we need with high stakes, or do we need something different?” Also, are we bouncing rapidly between analytical (system 2) thinking and intuitive decisions faster than we can process the differences? Do we need training in both to really learn how both processes work and to undo biases we may have created in ourselves to not just rely on one but rely on both? And as fires continue to outpace our mental models, how can we build more margin

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<sup>1</sup> Klein, G., Calderwood, R., Clinton-Cirocco, A. (1986). Rapid decision making on the fire ground. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 30:576. <http://pro.sagepub.com/content/30/6/576>

for error into our strategies and tactics? Have we updated our problem framing around our approach to wildfires enough to ‘be where the puck is going’?

## **Theme 8: Supervision Requirements and Needs**

The current system makes it difficult to correct for leadership errors both in the moment as a subordinate leader or preemptively by higher management when they have performance or safety concerns.

The current landscape of performance review standards in the Forest Service has a GS-8 Engine Captain and a GS-7 Trails Crew Supervisor or Range Conservation Supervisor required to meet the same standard. Supplemental standards can be added but there is no consistent guidance for leaders on how to do so. The question we ask – “Is that adequate?” When a bad decision occurs on a trails crew or in range work, the consequences are not good and can be significant. Wouldn’t we all agree that bad decisions or suboptimal performance in fire are much more likely to result in significantly negative outcomes including death? Despite clear differences in risk and consequences, our system does not acknowledge this and does not factor it into performance standards, nor does it give supervisors different tools to hold fire supervisors to the existing position standard expectations let alone higher expectations.

Are we preparing our middle leaders with the best available tools to manage these front-line supervisors managing crews in high-risk work environments where mistakes can have dire consequences? Should we be using the same standards across the board? Are there specific supplemental standards that could or should be recommended?

## **CONCLUSION:**

One can draw several conclusions from the information above, as in most incidents there is a tremendous amount of friction in the overall system that reverberates throughout the systems within. The Learning Review team chose to focus on one large question to make sense out of.

### ***Why choose to stay and defend a structure?***

In fact, this seems simple to answer; Don’t. However, when the team dissected all the conditions around the incident, the themes, the pressures, and the emotions, we discovered that several of these themes or conditions exist at multiple levels of the fire culture, environment, and all levels of the Agency. We wanted to highlight these conditions to provide an opportunity to begin to educate ourselves in the context of our greater system. The Dolan Fire Learning Review team would submit that passive approvals, unresolved disagreements in perspective, and overloaded employee bandwidth thresholds are common occurrences. We ask the question: “Is it enough to just merely know something exists or should we strive to learn, educate, and talk through this stuff?” Simply talking about these items isn't enough. We must work to communicate more, about uncomfortable things and become more in sync in our operations to try and avoid these tragedies and near tragedies in the future.

## Quotable Quotes from Interviews:

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“That space is indefensible. There’s no way I’d stay to man that hose lay.”

*-Fireline Supervisor*

“Do what you need to do but you should get ready to leave. The fire’s below you guys in the draw.”

*-Safety Officer*

“I felt like people knew where we were. Someone would tell us to leave.”

*-Crew member*

“Come on guys, let’s not drive to our deaths.”

*-Crew member*

“When you go into a shelter, there is no guarantee you are coming out.”

*-AFEO Engine 17*

“I could feel the skin tightening on my face. Mucous was coming out of my nose and eyes, hanging off my chin. I felt like all the fluid was being roasted out of me.”

*-Firefighter Engine 16*

“You could sense there was a sentimental value to the station for the two captains and that’s why we stayed there.”

“They were so tunnel vision on saving the station.”

*-Crew member*