

Almost Home

A Fatigued Driving FLA



1 Forest Service vehicle damage from fatigued driving accident

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On July 16, 2017, while driving to his duty station in the early morning hours after returning from a nearby initial attack wildfire, a Forest Service employee fell asleep at the wheel and was involved in a motor vehicle accident. The driver was uninjured but significant damage occurred to government and public property. Seeking to understand the decision-making process and cultivate a learning environment, the forest supervisor requested a Facilitated Learning Analysis (FLA) team to review the accident.

The FLA team interviewed nine individuals involved in the incident to better understand the decision making and risk management processes, human factors, and sociopolitical environment that may have contributed to the accident. All names have been changed in this FLA to protect the privacy of the individuals involved.

Background

Tony is a zoned¹ timber sale administrator who frequently drives long distances by himself while performing his regular duties overseeing logging operations on two ranger districts. Tony also serves as fire "militia"² as a heavy equipment boss (HEQB)³. During one of his regularly scheduled days off, he was notified that a rapidly-growing wildfire had started near his duty station. This area is known for extreme fire behavior with multiple sociopolitical concerns and initial attack fires that emerge rapidly into large fire incidents. There are public expectations for the wildfire response to be rapid and aggressive and the area has experienced multiple fatality wildfires in the last two decades. The Forest Service works well with many cooperators in the area to co-manage these fires through unified command or shared delegations of authority.

Tony was approximately two hours away from his duty station when he received notification of the wildfire and a request to report to the fire from District Duty Officer Vince. He arrived at the district office around 1900 to pick up his fire gear and government vehicle and reported to the incident 17 miles south of his duty station around 1930. Tony is one of the most competent heavy equipment bosses on the district and is highly respected for his work ethic and abilities. He has ample experience with heavy equipment

¹ A Forest Service employee who works and travels throughout multiple units (typically ranger districts or national forests) to perform their duties.

² Non- primary fire Forest Service supporters of the firefighting effort who work in other departments such as timber or recreation.

³ An incident qualification and certification system single resource position that directly supervises heavy equipment such as bulldozers and excavators in wildland fire operations.

through his regular duties as timber sale administrator and his expertise is greatly valued in local fire response.

Tony's supervisor reports he is a safety-conscious and high-performing employee who regularly uses risk management in his decision making while performing his daily duties as a timber sale administrator. Tony feels he has a good work-life balance and, outside of fire assignments, works four 10-hour days.

Accident Narrative

The human-caused wildfire started adjacent to a heavily-used state highway and rapidly emerged into a Type 3 incident that closed the highway and threatened close to 40 structures. During the initial attack (IA), the fire was under state jurisdiction with a Washington Department of Natural Resources Incident Commander (IC) and local Forest Service overhead (operations chief and division supervisors).

"The first day [of the fire] is when the action happened, all the running and gunning, by the second day we had everything pretty much tied in." (local District Ranger Joey)

Multiple air and ground resources were ordered and assigned to the fire.

Upon arriving on the fire, Tony was briefed by Division Supervisor (DIVS) Pat and began scouting and constructing dozer line with another HEQB, Simon. Their assignment was to work in tandem with their individual dozer operators to contain as much of the fire as possible with dozer line. Tony was also assigned a HEQB trainee that worked under his oversight. The expectation was the HEQBs would work throughout the night to

accomplish this mission. Tony continued directing dozer operations until approximately 0030 when the two qualified HEQBs

"It was arduous but it wasn't hellacious." (HEQB Tony referring to site conditions)

determined the dozers could no longer continue due to safety concerns associated with steep, rocky terrain that had not been scouted in the daytime. Tony worked hard on this shift, but did not feel that the smoke exposure, slope steepness, or stress and adrenaline were above normal.



2. Aerial view of the wildfire showing terrain used in dozer line construction and state highway. Credit: King5 News website.

After a one-hour tactical pause⁴, Tony was released around 0130 with the expectation he would get some rest and return for the morning briefing at 0600, and then pick up working the dozer line where he stopped for the night.

After being released from the incident, Tony weighed his options to get rest before returning to work at 0600. He recognized there were firefighters sleeping close to the fireline in their engines.

"My mind said you are going to get a better night's sleep if you go home." (HEQB Tony)

Tony had expected to work through the night so he didn't have a tent and sleeping bag. Because his house was only about 17 miles away he decided to drive home. Tony felt he would get higher quality rest

⁴ A common term in firefighting when the firefighter stops for a moment to listen, feel and think when they are unsure of what's ahead.

and be more alert to start the next shift at his residence than he would if he slept in his truck without a sleeping bag.

The other HEQB Simon and the HEQB trainee left in a separate vehicles to return to their homes at the same time Tony departed. No discussion with fire

"Does militia come 24 hour ready? Do they have the gear to bed down in place (food, sleeping bag)?" (DIVS Pat)

leadership or other resources occurred about whether or not it was safe for the single resources to drive home.

With the smell of smoke lingering in the air, Tony clicked his seatbelt and departed the fire for home at 0130 in his government vehicle on a familiar section of the two-lane state highway. Once in his vehicle, he attempted to mitigate his fatigue by rolling his windows down and turning up the radio. He remembers crossing the large bridge leading into the town where his duty station and residence were located and was just 0.7 miles from the district office when he fell asleep. WHAM! He was violently awakened when he was struck

"An airbag is a horrible alarm clock! I don't recommend it... I woke up to this snow globe of [airbag] propellant." (HEQB Tony)

by his deployed airbag after a collision. Travelling at an estimated speed of 25 mph, he had veered off the state highway and struck three parked vehicles in front of a

busy hotel. The lack of skid marks suggested he made no attempt to brake and was stopped when he collided with the parked vehicles. The government vehicle damage is being assessed and is likely to be a total loss.

Tony quickly assessed himself for injuries and found none. HEQB Simon arrived after several minutes and stopped to check on Tony. Tony notified DIVS Pat and called 9-1-1 for local emergency response. He then started taking notes and pictures of the incident while he was waiting for the state police to arrive. District Duty Officer Vince, who was asleep at the ranger station, was notified by DIVS Pat. Vince went to the accident scene, assessed the situation and Tony's physical condition. Tony stated he was fine and suggested Vince and Simon

"There is a need [for single resources] to have an honest self-assessment about resting and driving solo." (District Duty Officer Vince)

go home while Tony continued to wait for the state police to arrive. Vince stayed for about 20 minutes

before returning to the ranger station to rest as he was the only duty officer available for the next shift.



3. Airbag deployment likely prevented substantial injury to the driver.

At about 0300 the Washington State trooper arrived at the accident scene and stayed for about 45 minutes performing the accident investigation. During this time, Tony swept the accident debris from the road. He was reflecting on the accident and felt a mixture of emotions; happiness that no one was injured and guilt that he had wrecked a new government vehicle. At 0430 the government vehicle was towed to the district compound. Tony slept at the ranger station for about an hour and reported to the 0600 briefing and worked the entire next day on the fire.

"I wanted to go back [to the fireline after the vehicle accident], I thought I could make a contribution to the effort". (HEQB Tony)



4. Accident site looking northwest. The collision with private vehicles occurred near where the maroon sedan is located on the highway shoulder (red circle).

Lessons learned from FLA participants

- Treat every local initial attack like an off-forest fire assignment. Militia and primary fire resources should be prepared to overnight on the fire line. All militia and primary firefighters should travel with their overnight gear during the fire season.
- When it comes to assessing fatigue, listen to your body and what it is telling you, not your mind. It may be necessary to accept low-quality rest in order to eliminate driving exposure when your body is tired. The lack of sleep adversely affects sound decision making.
- Consider ordering local resources to serve as drivers to pick up firefighters at the end of long shifts so they don't have to drive. Consider having single resources carpool together or having personnel from other resources ride with single resources so they are not driving alone.
- Consider fatigue management training for militia resources and ensure militia resources are aware of safety expectations related to driving. Stress and fatigue

management training may be useful in describing predicted impacts to human performance from changing circadian rhythms⁵ and night work.

- Occasionally, line leadership may need to get involved with fire operations to ensure personnel involved in accidents do not report to work the next day, and are rested until they can manage their fatigue. Frequent conversations between line and fire managers can assist in risk management decisions.
- More discussion on the fire should occur between fire overhead and fire personnel regarding when it is safe to drive and who is responsible for that decision. Group dialogues may be useful when decision-making abilities are compromised by a lack of sleep and fatigue. Duty officers can also assist with these decisions by preplanning for night shifts and fatigue and ordering drivers.

FLA Team Lessons Learned and Observations

- Consider training and reinforce the importance of following the protocols for handling an incident within an incident. After a vehicle accident, consider supporting the accident victim with a supervisor until the scene is secured and law enforcement arrives on scene. Also consider arranging transport for the victim if their vehicle is inoperable.
- A different culture in relation to overnight preparedness may exist when responding to local IA assignments and off-forest assignments. Militia may want to be included in local preparedness reviews.
- There is a sociopolitical and strong interagency environment in the area that puts a high priority on initial attack and keeping fires small. Relations between Forest Service and cooperating fire management agencies have greatly improved over recent years, partially due to co-managing several large, complex fires in this area. These sociopolitical factors and pressure to keep improving these positive cooperator relations may create a sense of urgency to work long shifts during wildfire response.
- Militia resources remain highly valuable to line and fire managers in responding to local wildfires and supplementing primary firefighters. There may be ways to coordinate resource ordering between agencies to better manage fatigue in *"I definitely feel having a militia is very important to the fire response." (District Ranger Joey)*

⁵ Circadian Rhythm: A daily cycle of biological activity based on a 24-hour period influenced by regular variations in the environment such as the alternation of day and night.

employees. If HEQBs are scarce positions, consider additional training and development in employees.

- Consider having a check and balance for single resources when it comes to managing fatigue and driving from a fire. Group dialogues between fire leadership and single resources can help explore options and weigh trade-offs to assist in risk management-based decision making. There may be times when fire leadership needs to make the decision how resources will manage their own fatigue. Given recent FLAs regarding accidents with single resources on wildfires, a heightened

"Tony is a key militia guy for us; very salty and in very good shape." (DIVS Pat)

awareness and recognition of single resource locations and status may be warranted.

What went well?

- High level of personal and professional accountability observed in the FLA participants
- Active participation in the FLA process from the individuals involved in the incident and their desire to learn and share. *"I'm treating it as a preventable accident that I need to learn from". (HEQB Tony)*
- Other solid risk management decisions were observed on the fire, e.g., discontinuing dozer operations when un-scouted terrain became steep and rocky. Ironically, this safety practice led to a decision point regarding driving. In the wildland fire environment, one risk-based/informed decision can impact another decision or risk. Seemingly independent decisions affect other decisions, and sometimes an unintended outcome occurs as a result.
- An internal and personal risk management process was used in deciding whether to drive or not. In the driver's risk assessment lens, a 17-mile drive on a familiar state highway was an acceptable risk in relation to the hundreds of miles he drives daily when performing his sale administrator duties. It is possible to have a good decision with a bad outcome.
- District fire does a good job of including, training, supporting, and actively using fire militia resources.
- Post-accident recognition led to using rested drivers to transport resources from the incident the next day.

- A high level of trust and empowerment exists between local line officer and district fire managers.

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