

Panther Fire Dozer Accident and Motor Grader Rollover

Lessons Shared



“I don’t think I’ve ever told anyone that many times, “Be safe.”... I had a good sense it was time to go well before 2040.”

-Incident Commander

<i>Date:</i>	9/12/2017	<i>Temperature:</i>	94°
<i>Location:</i>	King County, Texas	<i>RH:</i>	24%
<i>Fuel Type:</i>	Grass/Brush	<i>Wind:</i>	NE 6 mph, G 12 mph
<i>Topography:</i>	Steep, Broken Terrain	<i>Fire Behavior:</i>	Moderate
<i>Soil Type:</i>	Deep Sand	<i>Complexity:</i>	Type 4

Narrative

On September 12, 2017, state resources were requested to assist with the Panther Fire in King County. Resources were dispatched from Taylor County at 1500 and included an Incident Commander (IC) and two Type II dozers, each having an operator and swamper. Local county



Looking up-drainage toward motor grader line

resources, consisting of three Type I motor graders, were also dispatched from Kent County. A private motor grader was already on scene. En route to the fire, the Dozer 2 transport had a flat tire, and was delayed.

A local Volunteer Fire Department (VFD) was already on scene and helped guide the other resources to the fire. The deep, sandy soil and winding ranch roads made access difficult, so the dozers had to unload on the closest gravel road and track in several miles to the fire. State resources arrived on the scene of the fire at 1800. They were brought in to the active right flank of the fire. Kent County resources had already begun improving existing ranch roads to contain the fire. Dozer 1 and Swamper 1 began widening the motor grader line along the right flank (west side). Dozer 2 and Swamper 2 arrived on scene at 1914 and were instructed to construct a safety zone at the point where they initially met the fire’s edge.

Dozer 1 and Swamper 1 worked on improving approximately ¾ mile of motor grader line. Visibility was minimal due to very dusty conditions and nightfall. Dozer 1 and Swamper 1 decided that it was not safe to continue improving line. At that time, the IC contacted them on the radio and instructed them to come back to the safety zone to reassess fire operations and strategies moving forward. Dozer 1 and Swamper 1 turned around and began tracking down the motor grader line that they had been improving.

At 2040, Dozer 1 lost sight of Swamper 1 in the heavy dust and stopped the dozer. During that time, Swamper 1 followed the motor grader line around a slight curve that went around a ravine on the green side of the line. Tall grass and lack of visibility concealed the ravine, so it was not noticed by Swamper 1 or Dozer 1. Swamper 1 was wearing a flashing, red safety light on the back of his pack, which helped Dozer 1 see him through the thick dust. When Dozer 1 regained visibility, Swamper 1 was walking on the motor grader line directly in front of the dozer, but on the other side of the ravine. Dozer 1 then continued forward, following Swamper 1. The dozer tracked directly into the ravine and slid down, coming to a stop in the head of the ravine.



Looking down motor grader line, showing bend in the line around ravine (post dozer removal)



Looking down grader line with dozer in ravine

Dozer 1 contacted Swamper 1 on the radio and asked Swamper 1 to provide an assessment of the situation. Swamper 1 verified that Dozer 1 was not injured and confirmed that the dozer appeared stable. Dozer 1 then exited the dozer safely through the left door. The IC was immediately notified, and the IC contacted dispatch and the Agency Administrator (AA) to notify them of the accident.

As soon as Dozer 1 was safely out of the ravine, VFD resources pulled up to the scene. Approximately 2 minutes later, the VFD resources received radio communication that a county motor grader had also fallen into a ravine. Approximately ½ mile north of the dozer accident scene, Motor Grader 1 was working along the same line. Again, tall grass and lack of visibility, due to thick dust and darkness,

concealed a deep ravine next to the line. The motor grader was unknowingly driving along the edge of the ravine when the rear tires slipped, dragging the entire machine down and flipping it upside down as it fell to bottom of the ravine.

Nearby county and VFD resources witnessed the motor grader headlights shine into the air then disappear and immediately went to the scene of the accident. Motor Grader 1 used a knife to break a hole in the windshield of the motor grader and crawled out. The ravine was approximately 30 feet deep with steep banks, so the county and VFD resources improvised a method to extract the operator using hoses from an oxygen/acetylene rig, and Motor Grader 1 was hoisted from the ravine to safety.

The IC halted all operations following the accidents. After the AA was notified, he planned to respond to the scene the following operational period, due to being assigned to another incident. Neither operator was wearing a seatbelt at the time of the accidents, but both only suffered bumps and bruises. During the next operational period, both pieces of equipment were successfully removed from both ravines using one Type I and two Type II dozers.



Motor grader in ravine, looking up-drainage

Lessons Learned – Agency Administrator

“Bad things can happen, even when you make the right decisions.”

Even though you can try to mitigate working in unsafe environments, there is still a chance things can go wrong. Such was the case with this fire. The decision not to engage the fire due to complex night operations in dangerous terrain led to a dozer falling into a ravine while tracking to the safety zone. All personnel interviewed confirmed safety was a concern for everyone, and the IC cautioned them numerous times throughout the evening about the terrain.

Lessons Learned – Fire Line Personnel

“I had the gut feeling that I didn’t like the situation” –Incident Commander

Throughout the early parts of operations on the Panther Fire, many of the firefighters reported having a general uneasiness, or “gut feeling”, that they did not need to engage. Many of these

concerns were due to poor visibility from equipment operations at night in dusty conditions. Topography was also characterized as dangerous due to drainages and possible undercuts. Firefighters made sound decisions not to engage the fire at that time. Firefighters are encouraged to never discount basic intuition or “gut feelings” while making decisions. The decision making process is based on situational awareness, experience, and basic intuition to make sound, logical decisions in a timely manner. *“It wasn’t so much outside of comfort, it was outside of logic to engage this fire.” –Dozer 1*



Motor grader in ravine, looking down from grader line

“That’s an incident within an incident, maybe call a higher IC” –Incident Commander

Following the dozer and motor grader accidents, the Incident Commander continued to manage the Panther Fire through a coordinated decision with the AA. This decision was based on the following:

- The decision to suspend all night operations following the incidents
- The ability to quickly treat both operators on site for minimal injuries (bumps and bruises)
- The decision to transition into extended attack operations
- Forecasted weather and fire behavior for the next operational period
- Resources on scene
- Resources ordered for the following operational period
- Additional fire line leadership ordered to manage the recovery of equipment.

Following the completion of fire operations, the IC recognized there was a need to transition to a Type 3 IC due to added complexities from the incident within an incident. Incident Commanders are encouraged to utilize Incident Complexity Indicators (IRPG pg. 10) as incidents progress and major events occur.

“Nothing was threatened. Only grass. Only trees. No houses. No people. Nothing was threatened.” –Incident Commander

Upon arrival at the Panther Fire, the IC coordinated with local resources to receive an initial briefing and set priorities. It was immediately recognized that there were no immediate threats due to the remote location of the fire. The IC stressed the importance of safety on the fire grounds due to poor terrain. The IC made the decision to limit engagement of the fire due to limited size up opportunity, lack of threats, and hazards of working on night operations in an area that was not previously scouted. The AA trusted the IC to make a sound decision on the

perceived hazards on the fire ground. Ultimately, it was decided that the perceived risk was greater than the benefits of conducting night operations.

“I had it in my mind that the unexpected would never happen that way.” –Dozer 1

Following the accidents, both operators admitted to not wearing a seat belt that night. Both operators also stressed that in the future they will always wear a seatbelt while operating any equipment. *“If it had kept going (rolled) not having my seat belt on, I would have been dead”*

“We just walked down this line. We were just walking back” –Swamper 1

Prior to the Panther Fire, Swamper 1 had limited experience with swamping for a dozer and had not performed swamper duties at night. During operations on the Panther Fire, Swamper 1 had walked ahead of Dozer 1, who was improving motor grader line. During line improvement, the swamper passed the drainage where the dozer incident occurred. Following the incident, Swamper 1 recognized that his situational awareness was focused on the main fire and the line they were traveling. Multiple personnel stressed the importance of good communication and clear expectations between the swamper and operator following the incident. Firefighters are encouraged to continue to develop their situational awareness as the fire environment changes throughout operations.

Lessons Learned – FLA Team

Communication

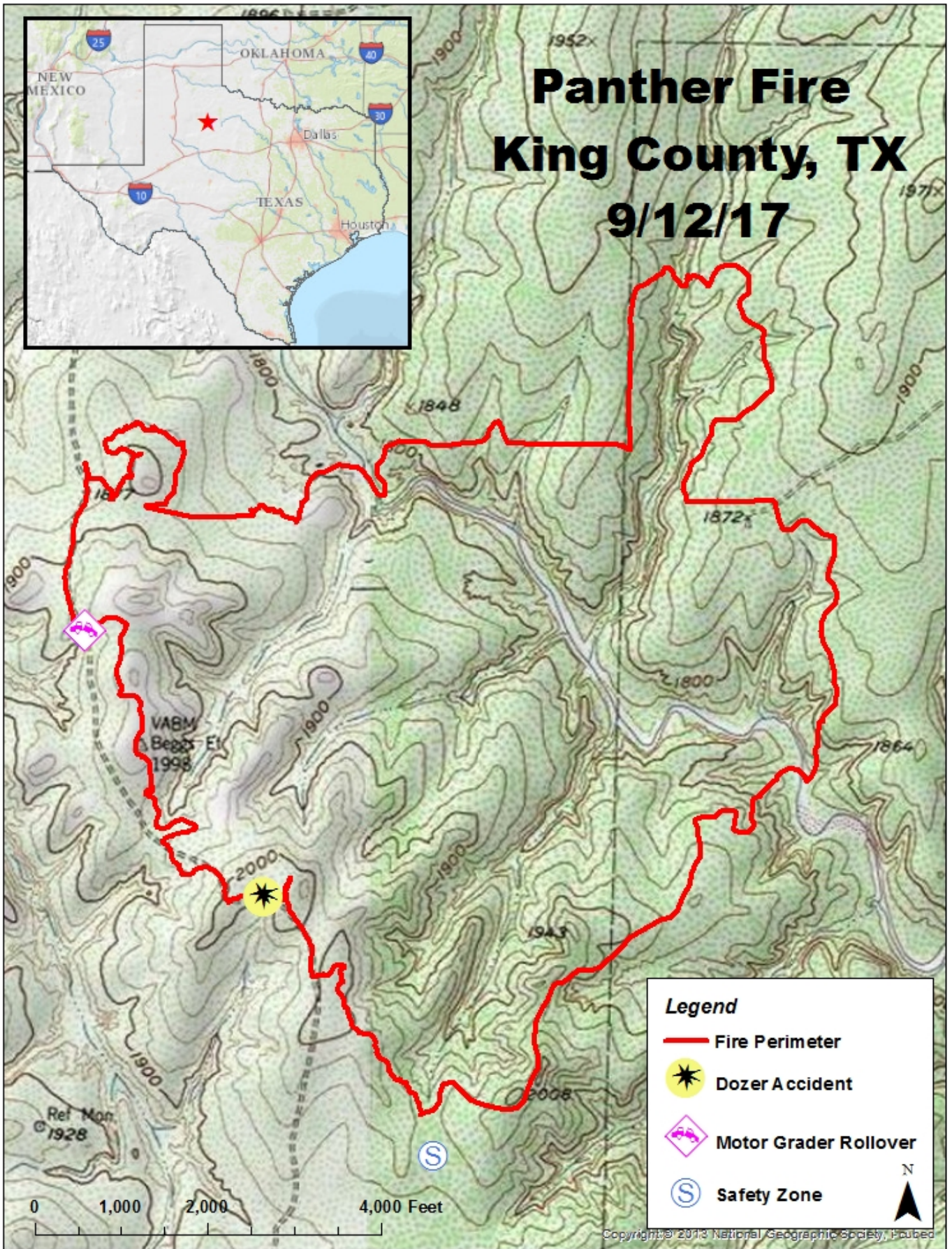
Often, with an incident within an incident, communication breakdowns are a factor that can potentially affect the outcome. In this case, communication was not a factor. From the initial dispatch, through the completion of the incident, there were no communication failures within the organization.

Cumulative Fatigue

Many agency personnel were involved with extended response to Hurricane Harvey, including most resources that responded the Panther Fire. State resources were limited within the branch for wildfire response, due to continued commitment to hurricane relief efforts. All personnel previously assigned to hurricane response had mandatory R&R days. When dispatched, there was the feeling of, “Here we go again”. Once on scene, they felt good and had a positive attitude. Fireline supervisors and firefighters need to be aware of the potential of cumulative fatigue due to back-to-back assignments.

The FLA team would like to thank all of the participants for their openness and willingness to share.

Panther Fire King County, TX 9/12/17



Legend

- Fire Perimeter
- ★ Dozer Accident
- ◆ Motor Grader Rollover
- Ⓢ Safety Zone

