

# ***Motorcycle Accident With Agency Medevac H-520***

## **Facilitated Learning Analysis**



**Subject: Fire Prevention Technician (CA-SNF) was injured during a motorcycle accident.**

Note: This incident was reviewed using the June 2009 Facilitated Learning Analysis Implementation Guide.

**Accident Date: 08/15/2010 at 1235. A Fire Prevention Technician (FPT) rode his motorcycle over an embankment and came to rest approximately 60 feet from the roads edge in a rock pile. He suffered a crushed L-5 vertebrae and a realignment of his L-4 and L-3.**

**Summary:** A Fire Prevention Technician was patrolling his unit with a Law Enforcement Officer (LEO) and both individuals were riding dual sport motorcycles. Fire Prevention Units typically need alternative modes of transportation to access areas within their patrol unit(s), that can be readily accessed by the public, and that are inaccessible in their patrol vehicles. The FPT had the qualifications and training to operate a motorcycle in these areas. The initial assignment had been planned up to a month in advance as a joint effort between Law Enforcement and Fire Prevention. The mission objective was to recon 2 Fire Patrol Units

(The FPT was covering an adjacent unit that day) and to provide a “Buddy” system for safety. The unit was experiencing an increase in statistical Fires, law enforcement activity and seasonal Fire Restrictions were approaching.

After about 8 miles of riding on a paved road the pair transitioned to a level III dirt road. Shortly after this transition the lead rider (FPT) was observed drifting to the outside of an uphill turn where he continued to ride over the embankment. By his own account he began moving to the right so he could get a better view around the corner. As he was doing this he applied the front and rear brake and pulled the clutch in as the turn was sharper than anticipated, the front wheel then started to wobble in the soft dirt so he let go of the brakes and clutch. While breaking, he thought the bike was going to pull out from under him and he wanted to save the new LEO motorcycle. By this time it was too late and he realized that he had already left the road and was going over the side.

The first airship ordered for the extraction (California Highway Patrol, CHP Helicopter H-40) was on another mission and the decision was made to launch a Forest Service Exclusive use helicopter, H-520. The airship was based about 4 air miles away from the incident. The helitack crew reconfigured for the mission, responded to the scene with an EMT and Medical First Responder on board, and transported the patient directly to Regional Community Medical Center (RCMC) in Fresno.

#### **Time Table**

09:30 Shift begins, LEO & FPT meet at district office and travel to work center.  
11:50 Depart work center on motorcycles.  
12:35 LEO reports accident to dispatch.  
12:37 LEO requests CHP H-40 for hoist operations, patient over the side.  
H-40 monitoring frequency, responds they are returning to Fresno from another mission and will probably need to refuel, depending on location.  
12:41 **Duty officer asks dispatch to declare a medical emergency.**  
12:42 Duty officer requests agency airship H-520 to respond.  
12:45 Duty officer requests CHP H-40 to respond after refueling  
12:49 ECC clears Channel 2 for emergency traffic only.  
12:56 H-520 off the ground, in route to incident.  
13:00 H-520 on the ground at incident.  
13:09 **Duty officer request dispatch to declare LEO as Incident Commander. No incident commander is declared.**  
13:19 Dispatch landlines CRMC of incoming trauma patient.  
13:23 H-520 loading patient.  
13:27 H-520 off the ground, in route to hospital.  
13:44 On the ground at CRMC.

**One hour and nine minutes from report of injury to trauma center.**

#### **Conditions**

The FPT had a valid California driver’s license with M1 motorcycle endorsement as required by FSH 7109.19-61.1. He was also carrying an OF-346, U.S. Government Motor Vehicle Operator’s Identification Card, with motorcycle qualifications issued by Eldorado National Forest (he currently assigned to the SNF). There was no evidence provided for completion of a Motorcycle Safety Foundation (MSF) course within 3 years as required by an internal fleet memo for the Sierra National Forest Fleet Management. His record, maintained by his supervisor, contained all other forms required for government vehicle operation by FSH

7109.19-61.21. A Job Hazard Analysis for motorcycle operations was not completed by the FPT or the LEO. They had ridden 8 miles on pavement and only 4 miles on dirt roads before the accident occurred. Witness account and crash trajectory show that he was travelling approximately 30 miles per hour at the time of the crash.

The 2008 KTM 450 EXC that was being used weighs 251 lbs and was chosen over other 400cc class models that averaged 315 lbs, for ease of operation on the trails. The sprockets were changed from the stock configuration that allows for highway operation to a set up designed for a wider gear selection at low speeds. Maintenance records show annual inspections by the dealership on 5 June 2010 and pre-ride inspection was performed. The FPT currently commutes to work on a dual sport motorcycle.



Actual motorcycle used in incident



PPE Used

Damage to Helmet From Accident

### Lessons Learned from the Participants

I was really glad that we were riding in pairs and that I saw him as he went over. He would not have been found for some time as his radio was damaged, thrown and he was in no condition to get up the hill.

A new repeater was placed about a month ago and it was the only communication link we had from that location.

The agency helicopter does not have radio communications with the hospital. This was mitigated with land line from ECC and H-40 capabilities.

We train for medevac with our aircraft just like we do with any cargo but we do not address medevac specifically in our base plan or on a JHA. We are not sure where this is addressed or even if it is our mission to do medevac. We carry a backboard on our tender but maybe we should drill with the local hospitals.

The family was very relieved to see us at the hospital, they said it was really good to see us there when they arrived.

## Lessons Learned from the Facilitators

The FPT had several years of motorcycle riding experience but not with this model. His unfamiliarity with the different characteristics (stopping power, lighter in weight, higher center of gravity) could have contributed to the incident.

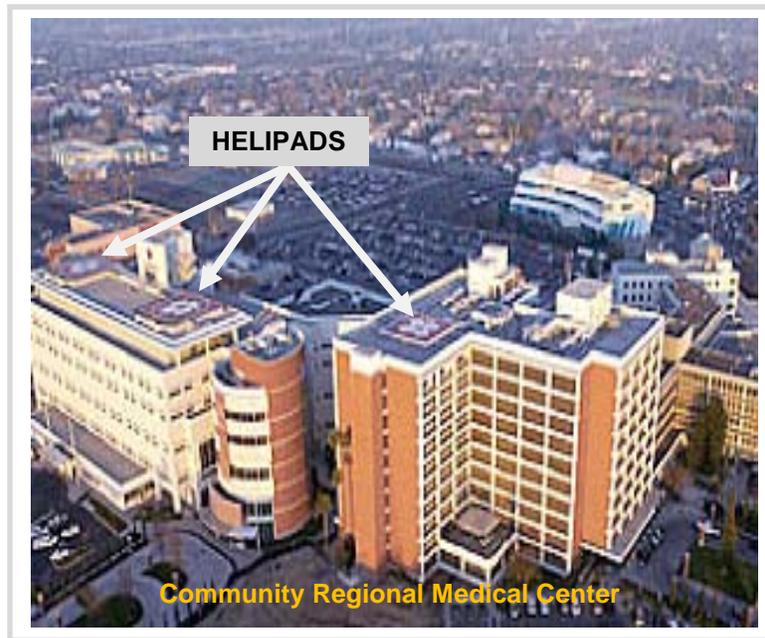
The agency requires an ATV Safety Institute course for riding ATV's but does not require a Motor Cycle Safety Foundation course for government license. Units may consider offering this course to increase safety.

Agency personnel and dispatch offices have become very proficient in declaring an Incident Commander for fire emergencies but the practice has not followed for medical emergencies. Dispatch offices may consider adopting operating procedures that prompt them to declare an incident commander at the same time they "clear the channel". If the incident has escalated to the point of frequency management, then it is ready to implement the Incident Command System.

The term "Golden Hour" has generated lengthy discussions in the medical emergency arena and Incident Commanders (IC) are examining all tools available for a speedy extraction. Agency contracted aircraft have been used on a very limited basis for extraction of agency personnel and the public when all other methods have been exhausted. The SNF addressed the issue in their Forest Aviation Plan, "...Forest Helicopter H-520 is available during the fire season if other rescue aircraft are not available or a Forest Service employee is involved." Leaders need to use the best and most appropriate tool available to complete the mission. Consideration should be given to safety, efficiency and the landing limitations and capabilities of standard air medical service helicopters.

*"There is nothing in our policy or the contract that would inhibit us from using our aircraft to perform this mission for our personnel. If we were tasked by the local jurisdiction, an agreement would need to be in place that addresses operational control and cost reimbursement."*  
**Regional Aviation Officer, Region 5 (California) 2010.**

The pilot of H-520 had the forethought to ask H-40 on the VHF radio for the hospital approach protocol. The CRMC in Fresno, CA is located in Class "C" airspace due the Fresno Yosemite International Airport. The approach must include contact with the airport tower for direction and the pilot must choose the correct helipad out of three. The North Pad is correct for trauma. Agency aircraft should be proficient in these types of industry protocols as these missions become more common.



Hospital liaison and administrative support worked very well during this incident as family liaison duties became more important in later days of care.

At the time of this review very few after action reviews had occurred. Leaders should pay close attention to employee's mental state after traumatic incidents. If employees choose not to participate in critical incident stress debriefing they at least need some form of closure discussion.

*The FPT has undergone surgery and is progressing extremely well through his rehabilitation program. He said recently that, "He is in quarters but **not** out of service".*

### **FLA Team Members**

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