

11/30/2010

**VIEW LAKE COMPLEX**

**Pyramid Butte Fire**

**Firefighter Injury – September 4, 2010**

***FACILITATED LEARNING ANALYSIS***



***“Five percent of all air medical evacuations actually have injuries requiring helicopter transport. This situation was one of them.”***

***Attending Hospital Physician  
Emanuel Hospital***

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## I. Summary

The View Lake Complex was ignited by lightning in rugged terrain on the Mt Hood National Forest, located in northern Oregon August 17, 2010. The Warm Springs Interagency Hotshot Crew (IHC) was one of several crews assigned to “continue mop-up and provide IA coverage” on Division Delta (D) in Branch III of the View Lake Complex.

At approximately 1800 September 4 2010, a Warm Springs IHC crewmember was struck by a large rock that caused considerable personal injury. After being stabilized, the crewmember was transported to a Portland, Oregon hospital. The crewmember was released from the hospital Intensive Care Unit after being treated for a skull fracture and internal bleeding, and returned home September 10.

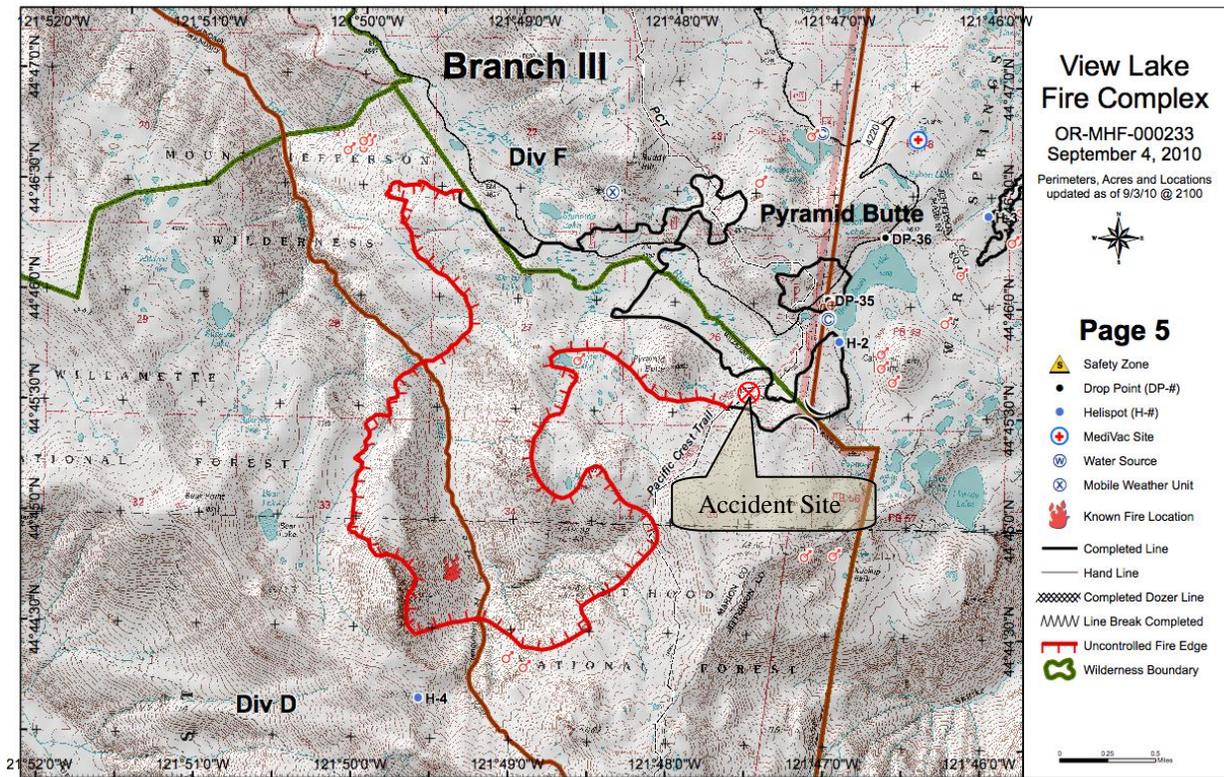
Due to the complexity and critical nature of the evacuation, the Mt. Hood National Forest requested a Facilitated Learning Analysis team to address the following objectives:

1. *Analyze the [NWCG#025-201](#) extraction and medical evacuation processed on the View Lake Complex on the Mt. Hood National Forest, including the actions of the Prineville IHC in assisting with the extraction.*
2. *Assist the Mt Hood National Forest in improving its performance in responding to emergency situations.*

The FLA Team interviewed the key players involved in the incident and asked if they would share their stories to help facilitate learning to benefit future efforts in dealing with injuries and extractions associated with wildland fire suppression. These shared stories and their associated lessons learned were used to address the three objectives for the FLA Assessment:

- There is no substitute for leadership, clear communications, and practice when managing emergency situations;
- Incident Management Teams and host units should practice the NWCG extraction protocols and integrate them into their ‘incident within an incident’ emergency procedures;
- There is a lack of agency funding and management support for emergency medically trained fire personnel and medical equipment.





Map 2 - Incident Action Plan Map for Branch III for September 4 with accident site location.

The Warm Springs IHC was working in close proximity to two members of the Prineville IHC on Division D of the Pyramid Butte Fire. At approximately 1815 hours, close to the end of their shift, some of the Warm Springs crewmembers took a break in a narrow, rocky ravine that provided shelter from the cold and wind. One of the crewmembers sat with his back to the ravine wall when suddenly a large rock (approximately 2'x3', 400 lbs.) dislodged and rolled down on top of him. The crewmember was struck from behind as the rock rolled over him.

Two Prineville crewmembers, a Wilderness EMT and Wilderness First Responder (WFR), were approximately 30 feet from the site where the accident occurred. They immediately went to the site of the accident and performed the initial medical assessment on the injured Warm Springs crewmember. The injured crewmember's symptoms included back pain, headache, trouble seeing, bloody nose, and minor lacerations. Due to the mechanism of injury, as well as signs and symptoms, a backboard, cervical collar, and jump kit were retrieved from Prineville's crew carrier located ¾ mile away at the Pacific Crest Trail trailhead. The WFR relayed the injured crewmember's vital signs to a paramedic (Medic 1) on TAC 3 who was in route to the accident site. Medic 1 was also called by DIVS D on the Command channel to report to the accident site.

The injured crewmember was immobilized using cervical spine precautions, placed on the backboard, and transported the ¾ mile by both IHC crews down the Pacific Crest Trail to the trailhead and then to the nearby helicopter evacuation site (H2). Total time from initiation of transport to H2 took approximately

40 minutes. At the same time the patient was being transported to H2, the paramedic and ambulance arrived at the trailhead and the paramedic hiked in meeting the IHCs and patient halfway along the trail.

When the paramedic and EMT met on the trail, they conferred on the patient's condition and assessed transportation options to the hospital. Due to the lateness of the day, severity of injury, and length of time that would be required for ground transport on poor road conditions, the recommendation was made to transport the patient by an incident helicopter instead of an air ambulance. The helicopter was waiting at H2 when the patient arrived. At 1930, the helicopter lifted off and the patient and the two paramedics were transported to Emanuel Hospital in Portland, Oregon, landing at 2000 hours.

### III. Chronology

The following is based on actual radio logs from ICP Communications, Helibase, and notes from line resources at the evacuation scene.

#### September 4, 2010: from 1810 to 2026 hours

1815- Prineville IHC EMT and Wilderness First Responder (WFR) are working near Warm Springs IHC when they become aware that an injury has occurred to one of the crewmembers. The WFR notifies his Assistant Superintendent of the injury and that he and the EMT will be responding. EMT and WFR request backboard and medical equipment on the IHC crew channel.

1819- Emergency call to Communications from Division D "Solo male struck by falling rock, 22 years old."

1820- Type 1 IC notifies Agency Representative in ICP of medical emergency on Division Delta.

1822- Prineville IHC crewmember retrieves their backboard and medical equipment from crew carrier.

1825- Prineville on-site EMT reports that patient "is alert and oriented x 4, has normal pulse and respiration, but based on mechanism of injury, we are taking C-spine precautions" (Appears that this complete assessment was not relayed to Communications in ICP).



Photo 1 (from L to R) Displaced rock; Ravine where injury occurred; PCT evacuation route.

1822- Prineville IHC backboard and medical equipment arrives at accident site. Medic 1 responds to request from Warm Springs IHC/DIVS D to respond from Drop Point 31; ETA - ½ hour. (Poor radio communication).

1830- DIVS D and DIVS (T) D arrive at accident site.

1835- Remainder of Prineville IHC now at accident site.

1838- Prineville IHC tries to provide update to Medic 1 on patient status twice on both Command and Tactical channels. No contact.

1844- Helibase alerted by DIVS (T) D and helicopter availability is confirmed and placed on standby.

1845- TFLD D meets Medic 1 on road to direct him to trailhead.

1847- DIVS (T) D Branch III “Moving patient on backboard down trail to Breitenbush trailhead.”

1849- Operations personnel provide update “patient experiencing head and neck pain” to ICP.

1850- Medic 1 asks if a helicopter is available and an ETA. DIVS D relays the question to DIVS (T) who requests helicopter be placed on stand-by.

1855- Branch III to Communications “has MEDL arrived in Communications?” (Branch III asked previously for MEDL to report to Communications). This time it is confirmed that MEDL is present in Communications at ICP.

1858- Branch III to DIVS (T) D “How far is patient to trailhead?” Response: “20 minutes or sooner.”

1903- DIVS (T) D to Communications “Send Type 2 Helicopter to H2 (evacuation site) and confirm that H-2 is at campground”. Medic 1 arrives on scene and receives information from Prineville EMT. Medic 1 asks if IMT paramedic will be on ship.

1904- DIVS (T) D to Branch III “Medic at scene”; Helibase to DIVS (T) “Type 2 helicopter is 58HJ.”

1907- Helicopter lifts off from helibase to H2 (evacuation helispot).

1909- ETA to H2 “12-15 minutes.”

1920- Helicopter arrives at H2 (evacuation helispot).

1925- Patient arrives at H2.

1930- Patient is loaded onto helicopter. Medic 1 relays to DIVS D that patient has visible bruising behind ears, is bleeding from the nose, has a headache, and is nauseous. (Note: Prineville Supt. believes this information had been relayed and that Medic 1 had this information much earlier.)

1932- Helicopter lifts off with injured crewmember and two paramedics, in route to hospital.

1933- DIVS (T) D to Communications “Patient loaded and enroute to Emanuel Hospital.”

2005- Helicopter lands at Emanuel Hospital. (Not noted in radio logs.)

2015- Helicopter departs Emanuel Hospital for Molina Airport.

2026- Operations to Communications “Helicopter has landed safely at Molina Airport, notify MEDL and IC.”

## IV. Participant Stories and Insights

### *Extraction - Incident Management Team*

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#### Positions Interviewed

- MEDL
- SOF1
- Branch III Director (Division where incident occurred)

#### What went well

The Prineville IHC had their emergency medical equipment readily available and it was evident to all that they were well practiced in emergency extractions on the fireline. Significant time and effort were invested in developing the emergency evacuation information by the IMT. It was discussed extensively at briefings, and was well presented in the IAP. The locations of evacuation sites and estimated flight time to local hospitals were also identified in the IAP Medical Plan, although the estimated flight time for Emanuel Hospital was missing. Ground resources and the IAP 206B identified H2 as the evacuation site. H2 was deemed the best medivac site as it was close to Division D resources and it served the Spike Camp located at the adjacent meadow. This type of information displayed in the IAP Medical Plan and Incident Map facilitates informed decision-making among incident personnel in an emergency response.



Photo 2 Prineville EMT at accident site. Rock that injured IHC crew member is in foreground.

#### What could have been done differently

Knowing whether or not the injury to a firefighter is life threatening is critical information that needs to be relayed to decision makers early in emergency response scenarios. Pre-planned decisions as to whether to use air or ground transport, or to mobilize an incident helicopter instead of an air ambulance, depend on having a good patient assessment. When this information is not clearly communicated by on-scene EMTs on scene attending to the medical emergency, the managing organization needs to take the necessary actions to obtain it. This real-time information and the Situational Awareness it provides can mean the difference between a successful outcome and one that is not. Timeliness of information is a significant factor in keeping options open and in making informed decisions.

## Learning

The protocols associated with the T1 IMT's *Emergency Response* and the [NWCG Dutch Creek Extraction Report](#) provide needed organizational structure to unplanned events. Both the managing organization and the individuals implementing these procedures also need to be flexible enough to adapt to changing conditions associated with the emergency. Protocols and checklists help to organize the important elements that lead to informed decision-making. Practicing these protocols and checklists prior to implementing them is critical. Practice, using simulations in a sand-table exercise format, has value to overhead teams and crews that do not work together on a daily basis. Practicing extraction drill scenarios leads to trained behaviors such as those exhibited by the Prineville IHC and Rappel crew resources on Division Delta.

## ***Extraction - on-site IHC support***

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### Positions Interviewed

- EMT- Prineville IHC
- (WFR) Wilderness First Responder - Prineville IHC
- Superintendent - Prineville IHC
- Assistant Superintendent - Prineville IHC
- IMS EMT - T1 IMT
- Superintendent – Warm Springs IHC
- Squad Leader – Warm Springs IHC
- Senior Firefighter - Warm Springs IHC
- Crew Foreman – Warm Springs IHC
- Helicopter Manager – Type 2 Helicopter and Malheur Rappel Crew
- DIVS - (Division Delta)
- DIVS(T) - (Division Delta)

### What went well

The EMT and Wilderness First Responder (WFR) from the Prineville IHC were only 30 feet away when the accident occurred. Both responders remarked how closely this situation resembled scenarios they had practiced during medical training with the IHC crew. The Prineville IHC has six EMTs and two WFRs. Members of the two IHC crews interviewed remarked how calm things were during the extraction and gave credit for this to Prineville's previous training and practice, and the skills of their EMT and WFR.

Prineville crewmembers interviewed emphasized that the seamless response by their crew was due to the numerous practice drills the crew engages in throughout fire season dealing with medivac scenarios such as this. Prineville carries backboards and other medical equipment in each their crew carriers and stages this emergency medical equipment as close as possible to

where the crew is working. For this response, a backboard and cervical collar were available within one mile of the injured crewmember.



Photo 3 Evacuation route.

The accident occurred adjacent to the Pacific Crest Trail and the transport was less than  $\frac{3}{4}$  miles to the helispot. These were significant factors in getting the injured crewmember from the accident site so quickly.

After the accident, Prineville's EMT took charge of the patient until the paramedic staged with the ambulance (25 minutes out) could arrive. The EMT provided frequent

updates on the patient's condition to the on-site DIVS (T) D who relayed this information back to Communications at ICP.

Another factor contributing to the success of the extraction was the request for an incident helicopter to fly the injured crewmember from the helispot (H2), even though there were questions regarding the amount of day light left in the day. The September 4, 2010 IAP Aviation Summary did not designate a medivac helicopter although it was made clear during morning briefings that the T3 helicopter would be used for non-severe injuries, and the T2 helicopter for serious accidents. The Helicopter Manager and Rappel crew of the T2 helicopter knew that they were designated for any potentially severe accidents.

When the accident occurred, the T2 Helicopter Manager was monitoring radio traffic so he had information in advance that a possible medivac would be needed. The helicopter was re-configured within 10 minutes for the loading and securing of patients for medivac, and the Malheur Rappel crew (Helicopter Manager and crew) initiated their emergency medivac protocols. Based on DIVS D ICS 214 Form, the helicopter was ordered through the DIVS (T) D at 1850 over the Command channel. The Incident Communication Logs do not reflect this, but the request was heard by the Helicopter Manager over the Command channel. The Safety Officer and Medical Unit Leader also ordered the helicopter after learning of the discussion on the line between the attending EMT and Medic 1 regarding the injured firefighters condition.

The IMT's paramedic was directed by the MEDL to go to the helibase and fly with the medivac helicopter to the hospital so a higher level of care could be provided to the injured crewmember during transport. The paramedic, with the helicopter flight crew, made the decision to fly to Legacy Emanuel Hospital, which is a trauma center in Portland, Oregon. Although the flight time for this hospital was not specifically identified in the IAP, the hospital coordinates were very accurate. The flight time was estimated using the GPS in the helicopter.

During transport to the hospital, the Helicopter Manager attempted to contact the hospital on the HEAR frequency. Although radio traffic from other hospitals could be heard, the Manager could not contact Legacy Emanuel hospital and relied on the pilot to contact the Portland Airport Approach Tower to notify the hospital of the inbound helicopter. Ripplebrook Helibase also notified the hospital by landline.

### **What could have been done differently**

Initially, the injured crewmember's symptoms were not fully communicated from the accident scene to Incident Communications or to Branch Director III. There was confusion among many participants as to the nature and extent of the injuries. Several heard that the firefighter had sustained leg injuries instead of injuries to the head. As a result, it was unclear to IMT members, staffing the radio in Communications at the ICP that the condition of the injured crewmember was serious. The calm demeanor of Prineville's EMT and WFR and the rest of the Prineville crewmembers during the medical assessment and extraction of the injured crewmember to the helispot may have also contributed to a perceived lack of urgency on the part of IMT personnel in ICP.

A more complete description of the actual incident, (i.e., that the rock that hit the crewmember was approximately 2' by 3') to ICP would also have contributed to the MEDL and SOF1's clearer understanding of the severity of the injured crewmember's condition. Relaying complete and timely information by the responding EMT and DIVS regarding the severity of the injury to those in ICP could have ensured better awareness earlier in the evacuation.



Photo 4 Location of H2.

Conversely, the MEDL stated he could have asked the on-site EMT the emergency assessment questions found in the [NWCG Emergency Extraction Protocols](#) (also listed in the IMT's Medical Plan) regarding the crewmember's symptoms earlier in the extraction process. One interviewee stated that more targeted questioning directed to Prineville's medical personnel by the IMT would have facilitated a better understanding of the situation.

### **Learning**

The majority of EMTs on T1 shared resources and aerially delivered firefighter (ADFF) crews are self-motivated. These individuals recognize the need for emergency medical skills and invest their own time and money (more than \$1500 per person) into EMT training. There is limited

funding available to support EMT training by host agencies. EMTs must also attend additional training by an Incident Medical Specialists (IMS) Board Physician to be a certified, practicing EMT covered under a physician's authority on wildland fire incidents. This scenario creates a shortage of IMS certified EMTs on T1 shared resource and ADFP crews within the Region. There may be other EMTs on crews, but they may lack certification by the IMS Board Physician. EMTs identified in an IAP that are not covered by the IMS Board Physician may be considered outside of their scope of practice and could face potential litigation. (*See Appendix A for Region 6 IMS EMT Training process.*)

The Prineville IHC uses complex field scenarios for training in medical emergencies and patient extractions. In addition, Prineville also performs an in-depth review of the IMT's Medical Plan at their daily briefings on the fireline. Their motto is "Learn from history, don't re-create it". Patient extrication practice by Rappel and IHC crews is not mandated by agency policy or direction, although crews having both training and experience are critical factors in achieving successful outcomes with accidents of this type. Conducting drills under various scenarios also builds confidence within a crew and allows for an efficient extraction response.



Photo 5 PCT Jct w/ Breitenbush Pond Trail.



Photo 6 4220 Road between DP 31 and Trailhead.

Based on this extraction experience, the Prineville IHC recommends that a Standard Operating Procedure (SOP) be established for aerial transport when the medical emergency involves use of a backboard and cervical collar for head and neck injuries.

Not all IHCs have EMTs. At least two of the IHCs assigned to The Pyramid Butte Fire, including the Warm Springs IHC, did not have EMTs on their crew. They also did not have the medical equipment to implement an extraction from the fireline by air or ground transport.

With respect to the T2 helicopter used in this medivac, the Helicopter Manager emphasized during his interview that he and his crew review medical protocols and practice extraction procedures both pre-season and throughout the fire season. His quote "Never make things up on the fly...we must be trained and prepared" demonstrates their commitment to continuous practice and preparedness. They also recognize that protocols alone, without experience in implementing them, do not automatically ensure a successful outcome.

Response time is critical in getting the right type of medical care to an injured firefighter. The Helicopter Manger noted that when there is even a remote possibility that a medivac will be

needed, one of the designated medivac helicopters on the incident should be pre-positioned to an extraction site as close as possible to the accident. The Helicopter Manager also suggested that including an extra flight helmet for the paramedic on the helicopter would have enhanced communications and should be considered as standard equipment under all medivac scenarios. Headlamps should also be provided in the helicopter medical kit when paramedics require more light during transport to the hospital.

## ***Mt. Hood National Forest performance***

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### **Positions Interviewed**

- Deputy Forest Supervisor
- Agency Representative to the IMT (District Ranger)
- Family Liaison (Planning, Recreation and Public Affairs Staff Officer)
- Fire Staff Officer

### **What went well**

The initial notification that an incident had occurred on the View Lake Complex to pre-identified forest line officers was timely and effective. The Type 1 IC immediately notified the Agency Representative who then called the Deputy Forest Supervisor. This was an example of good communication that spanned both forest and overhead.

Assigning the Planning/Recreation/Public Affairs Staff officer as the Family Liaison was an important decision made by the forest shortly after the accident when the injured crewmember was taken to the hospital. The Family Liaison arrived at the hospital at approximately 2200 hours on Saturday, and stayed until 0300 Sunday morning. She remained in contact with the family and the injured crewmember through Thursday and provided updates on his condition. The injured crewmember granted permission to the hospital on the date of his injury to share medical information about his condition with the liaison. This helped the Forest and IMT meet crewmember and family needs.

Another important action taken by the Forest's Agency Representative was notifying the hospital's Nursing Supervisor that a Family Liaison would be arriving shortly to assist him and his family. This notification allowed sufficient time for the hospital to assign a caseworker to work with the family and agency officials.

The IMT's Compensation and Claims specialist notified the *Wildland Firefighter Foundation*. The Foundation provided needed assistance to the family to help cover their costs associated with meals, lodging, and travel. The injured crewmember's family was greatly appreciative of this assistance.

### **What could have been done differently**

Several key Forest employees were initially unavailable including the Forest Safety Officer and no Acting Forest Safety Officer had been identified. In addition, the Forest was unsuccessful in contacting the Safety Officer at his work cell phone number and no other number was available. The absence of key Forest emergency response staff was somewhat mitigated by the Forest and IMT. The Forest now recognizes that complete contact information for key employees should be available and that a more formal Acting process will be necessary. An emergency incident of this nature could occur on both fire and non-fire incidents, making the availability of critical forest expertise important.

The Warm Springs Tribe felt they would have benefited from having more contact with the Forest regarding the injured Warm Springs crewmember. The Warm Springs FMO and AFMO were notified of the injury by the Warm Springs Hotshot Superintendent. The Tribe's Natural Resource Director did receive initial notification about the accident from the IMT, but the Tribe's FMO stated he would have appreciated more follow-up information and contact with the Forest.

### **Learning**

It was unclear who has the responsibility to write and distribute the initial 24-hour accident and 72 hour reports. The 24-hour report was written by the IMT Safety Officer and sent directly to the Acting Regional Fire Safety Officer at his request. After some confusion, the 24 hour report was sent out by the Type 1 IC, although it is not the responsibility of the IC or IMT to complete or distribute the report. Two of the interviewees remarked on the need for clarity about this process. More formal and updated direction is needed outlining roles and responsibilities for the timely preparation and distribution of these reports.

The Agency Representative stated in his interview that a checklist outlining roles and responsibilities for the {Agency Representative} position would be helpful. Due to the potential for varying levels of experience in individuals selected for this position, a checklist would provide valuable information and 'standardize' approaches during an incident when events are moving rapidly (refer to PMS 926, *Agency Administrator's Guide to Critical Incident Management*, July 2008).

To mitigate the inability of the IMT and forest line officers to contact key forest staff with responsibilities for this type of incident, another interviewee suggested writing a forest protocol. The protocol would outline roles and responsibilities of all key forest staff needed in managing an incident of this type, as well as a process for designating Actings, and how this information would be communicated within the existing organization.

## “A Fragile Success”

– Branch Director III

### V. FLA Team Summary

In summary, the incident had a successful outcome, primarily due to the specialized training, leadership, and practiced response of by the Prineville IHC, and the Helicopter Manager and Malheur Rappel Crew, and to the extensive development and sharing of NWCG medical extraction protocol information by the IMT. Both the IHC and the Rappel crew had the necessary medical equipment close by or available, as well as trained EMTs, and were well practiced in evacuation procedures. Other factors contributing to this successful outcome included the training and leadership of the Division Supervisors and T1 IMT Branch Director during the evacuation. Using an available incident helicopter expedited the response time, ensuring sufficient daylight to fly the patient to the hospital, and the identification of ground and air evacuation sites early in the incident contributed to a successful extraction.

There was a general realization among the Medical Unit Leader, Safety Officer, and Prineville IHC crewmembers that the emergency patient assessment questions identified in the NWCG extraction protocols and listed in the IAP were not implemented in a timely manner. This oversight led to some initial confusion regarding the severity of the injury. However, it was clear from the interviews that nearly everyone took ownership for their own learning and they have thought through how to improve their response in future emergency medical extractions.

A change in any one of the direct factors that contributed to this successful outcome could have resulted in a very different scenario. Interviewees identified the contributing factors below as being critical to the successful outcome. With daylight fading, a change in any of these factors resulting in a delayed response would have added risk to the overall operation by requiring the extraction to be done in darkness.

<b>Existing Factors Contributing to Success</b>
Prineville EMT near accident scene.
IHC Backboard and medical gear in crew carrier at trailhead.
IHC and Rappel crew well practiced in medical extraction during crew training.
Well developed NWCG protocols in IAP and in briefings.
IHC and Rappel crew familiar with Dutch Creek Protocols.
¾ mile extraction from accident scene to H2 on level, well-maintained trail.
Patient weighed less than 130 pounds.
Medivac Helicopter available.
Paramedic was close to Helibase and was available to fly to H2 with helicopter.
No complex tactical work was happening on the fire or that division.

## FLA Team Recommendations

- All incident management teams should practice medical emergency response scenarios to fully implement the NWCG extraction protocols successfully and to provide important leadership during emergency medical extractions;
- National shared resources (IHC, Smokejumpers, and Helitack/Rappel) should be fully supported and funded by their respective agencies to develop and retain emergency medical responders on their crews to ensure their readiness in responding to medical emergencies. Agencies must also facilitate the required physician's coverage for firefighter EMTs to ensure they have full authority to respond;
- Emergency medical incidents usually affect local host units as well as the IMT. For this reason local host forests should engage in practice drills with IMTs for emergency response. This will provide forest employees a better understanding of their responsibilities;
- Wildland agencies should continue their investment in Leadership Training. This training enhances the leadership behavior and skills of all firefighters, which is key to successful outcomes such as this.
- Forests, IMTs, and firefighters should continue to engage in Strategic, Deliberate, and Time Sensitive Risk Assessments to ensure that tactical and strategic assignments and objectives merit the level of firefighter exposure to risk;
- Policy should be updated and clarified regarding the dissemination of the 24-hour and 72-hour accident reports, specifically when a Facilitated Learning Analysis is assigned to the accident. *The Interagency Standards for Fire and Fire Aviation Operations* 2010 (the Red Book), Chapter 18 "Reviews, Investigations, and Analyses" should reflect procedures for Facilitated Learning Analysis and Accident Prevention Analysis, teams regarding 24 and 72-hour accident reporting.

## Appendix A

### Explanation of IHC EMTs and IMS EMTs (Prineville IHC Assistant Superintendent)

IHC EMTs are fire fighters first, and secondarily assist with injuries within their respective crews. Historically, IHC EMTs have not been covered by a doctor with medical direction. Despite this lack of medical oversight, IHC EMTs are generally willing to aid in medical situations outside of their crews.

- Incident EMTs work under the Incident Medical Specialists (IMS). These EMTs remain current with their qualifications through continuing education received at IMS meetings every spring. IMS in Region 6 is under medical direction from an Oregon Health Sciences University Hospital (OHSU) Doctor that has established protocols and standing orders for IMS incident EMTs to follow. As long as IMS incident EMTs work within their scope of practice, observe established protocols and standing orders, they are covered by the IMS Doctor. IMS incident EMTs solely perform as EMTs to serve incident personnel on an incident.
- Smokejumpers in Region 6 are and have been covered by the IMS Doctor.
- As of Spring 2010, Region 6 IHCs have been invited to participate as IMS EMTs. A number of the Region 6 IHC EMTs attended the annual IMS meeting in April. The need for continuing education and medical direction was recognized to cover IHC EMTs from liability, should a medical incident arise that they respond or are asked to respond to. This new partnership is in the beginning stages, but affords IHC EMTs a great opportunity to remain current as EMTs with the continuing education received at the IMS annual meetings. The partnership also bridges a gap between IMS EMTs and IHC EMTs as both work under the same protocols and standing orders of the IMS Doctor.
- R6 rappellers also sent a representative to the 2010 annual IMS meeting to explore a broader Region 6 relationship in the future with their EMTs.

Any current federal agency EMTs serving in the capacity as such need to be recognized and treated as EMS professionals for the Federal Government. Funding, training, continued education, medical equipment, and medical direction from a Doctor will help to decrease liability, standardize care for patients, and aid Federal Agencies in retaining trained medical personnel. These actions will ensure success in better serving each other in the wildland fire community and the community at large.

## **Appendix B**

FLA/AAR

IMT/PNW Team 2

### **Summary**

Pacific Northwest Team 2 managed the View Lake Complex from August 25 to September 4, 2010. The IMT had worked over the off season on refining their Incident Emergency Plan for consistency with the Standardized Medical Emergency Procedures and Protocols from the Dutch Creek Serious Accident Investigation Report. Upon arrival to the assignment, the team began the implementation of these procedures and protocols. This proved to be challenging due to a lack of specific implementation guidance within the directive. The IMT soon discovered that the new procedures require significant time in ground-truthing and verifying both ground and helicopter evacuation sites. The IMT also had to determine the best and most efficient way to inform ground personnel of these processes. This new procedure was put to the test when an IHC crew member was seriously injured on the fireline.

### **What went well**

The IMT included the Standardized Medical Emergencies protocols in block 8 of the ICS form 206 with the IAP each day. A two-page narrative with detailed information on primary and secondary medical evacuation sites was attached to the ICS 206 in each IAP. Firefighters were briefed as to where in the IAP they could find this information. Later in the fire, they also included a map to accompany the ICS 206 that displayed emergency rendezvous points containing the following information: latitude and longitude, time to primary evacuation, road surface, and type of helicopter that is appropriate for identifying a helicopter evacuation site. The map is a quick and easy to use reference guide, which is important in an emergency situation. The ICS 204 also displayed ambulance locations, drop points for ground transport, and helispots for air transport in the special instructions section. This information was important in providing a timely and rapid response to the injured firefighter. The closest ambulance was known and responded immediately to the rendezvous site on the fireline. The helispot (H2) was established exclusively for medical extraction and known to all the crews working in that Division. If this helispot had not been established, the outcome of the serious injury could have been very different.

All line EMTs are required to check-in with the Medical Unit prior to working to assure that medical procedures are clearly understood. Medical procedures are reviewed each morning in the Operations Briefing to assure line overhead clearly understand process and chain of command. Medical emergency process is also reviewed each morning in the IMT briefing. This contributed to the successful extraction of the injured firefighter as the Incident Emergency Plan was followed with clear chain of command.

### **What could have been done differently**

The MEDL and SOF were in the Communications Unit within minutes of the injury report. The MEDL chose to check on the patient's condition by relaying through the RADO. Initial reports indicated that the injuries were not life threatening. This prompted the MEDL to order the fireline Medic to proceed to the rendezvous point to meet the patient by ground. The Medic hiked in on the Pacific Crest Trail and met the patient when the Prineville IHC was bringing him out from the fireline. Once the Medic assessed the patient, it was determined that the injuries were serious. It was at this time that a determination was made for air transportation. The helicopter, which already had been alerted as to this possibility was launched

and was waiting for the patient when he arrived at H2. There seemed to be communication issues with individuals having to relay information several times over the radio through the DIVS, etc. There was also a lack of knowledge by ground personnel that the MEDL and SOF were in communication with the helibase, medic, and hospital to gather information and preplan possible extraction needs. This may have lead to confusion and/or frustration of line personnel. It may be more appropriate for the MEDL to talk directly to line personnel and give updates of preplanning that is occurring. It was understood by communications, the MEDL, and the SOF that Prineville IHC was functioning as the on-scene medical lead for this incident within an incident. It may have helped provide clarity to the communications for all if this role had been broadcast clearly over the radio so all listening understood this important role that Prineville IHC was serving.

Notes taken by the RADO during this time of the injury report and extraction were taken on a spiral notebook and were more hit and miss than a systematic record. This resulted in gaps in the communications logs during the injury response and extraction. It would be better to have formal radio log forms printed and available in communications so that radio traffic during an event like this can be recorded systematically and with good detail. During a medical emergency, it may be appropriate to staff communications with an extra RADO so that one can record the conversations on a log while the other is talking on the radio.

While extensive discussions occurred within the IMT on how best to implement the Dutch Creek protocols, there were not discussions with the RADOs in communications about the Dutch Creek requirements and how they would affect the role of a RADO during a medical emergency. It would have been good to brief all communications personnel at the beginning of the assignment so roles and responsibilities with regard to Dutch Creek protocols were better understood by all.

The medical emergency occurred during a transition with another IMT. PNW Team 2 was in command of the extraction and followed it to its completion. Even though released from the fire, members of the team followed up with the patient at the hospital the next day and assured that the IHC crew received the proper Critical Stress Management needs. Due to this transition and release, the IMT was unable to conduct an AAR with the involved line personnel. It would have benefitted all parties to conduct an AAR prior to departure.

### **Learning**

It is clear that the new Medical Emergency Procedures and Protocols aided in the successful extraction of the injured firefighter. Procedures were clear to line personnel and the IMT and those processes were implemented successfully. It took the IMT several days to get these procedures in place. If accidents occur the first several days on a fire, it is difficult for an IMT to meet all the stated requirements. With practice, these time frames will be speeded up. This will continue to be an issue for IMTs who haven't been afforded the opportunity to put these into place. It is recommended that the NWCG clarify implementation protocols and provide examples from other IMTs who been successful with this new process. Home units should also identify high quality extraction points that IMTs can use when implementing the protocols.

## Appendix C

### **Mt Hood Response to FLA What We've Learned and Action Items**

We learned that we need to improve our readiness at the management level to respond to incidents, especially serious injuries or accidents.

Action Item: We plan to follow the format set forth in the Agency Administrators Guide to Critical Incidents and use that to develop our protocols and a Forest response guide.

We learned that we need to know who is available during a fire as well as during day-to-day work to be the Agency Representative in the event of hospitalization or fatality.

Action Item: Continue identifying duty officers and actings each week and make sure the Agency Representative role is understood.

We learned that we need to develop and review protocols for extraction in order to be fully prepared for such an event during the normal program of work deployment.

Action Item: Have a sand table exercise on Forest to review the response protocols and extraction process and roles for Agency Administrators and Agency Representatives

We learned that we want to specify expectations around emergency medical response in our leader's intent for incident commanders regarding extraction protocols and managing an incident within an incident.

Action Item: Add expectations to our leader's intent document.

We learned we need to clarify the role of the Forest Safety Officer in helping the forest respond to near misses, serious accidents, etc.

Action Item: Incorporate this role during the sand table exercise

We learned we need to become familiar with the process for 24 and 72 hour reports.

Action Item: Understand the process and appropriate roles. Incorporate the process into the sand table exercise.

We learned we need to understand the level of support required locally for training and equipment for our national shared resources (IHC).

Action Item: Work with the Zigzag IHC on their preparedness for emergency medical response during an incident.



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