November 2, 2009

Questions and Answers for the Dutch Creek Fatality Accident Investigation

Preface: Discussion within is based on all evidence available to the Serious Accident Investigation Team (SAIT). From the time of the accident, until the preparation of the final report, no individual member of the engine module (minus the captain) could be positively identified, nor excluded from being the sawyer at the time of the accident. The SAIT collected 54 manual and electronic time-stamped documents from multiple entities in three different counties. ***However***, it is noted upfront individuals on-site at the accident chose not to be interviewed by the SAIT. Their decision was/is a personal one.

The questions and answers are organized into the following categories:

- **Cause of Death / Medical Treatment**
- **Incident and Task Assigned**
- **Training, Qualifications and Safety**
- **Investigation Process**
- **General Questions**

Cause of Death / Medical Treatment:

Q--1. What was the cause of death of Andrew "Andy" Palmer?
The Executive Summary within the Accident Investigation -- Factual Report states the coroner determined the cause of death to be blood loss due to blunt force trauma to the left leg.

Q--2. What happened to cause the blunt force trauma?
Finding 03, Fact #84-86, within the report states "*At the time of the accident EM-CAPT (Engine Module minus the captain) was felling a Class C ponderosa pine tree, 36.7 inches in diameter at the point of the cut, and approximately 125 feet tall. When the ponderosa pine was cut, the tree fell down slope and contacted the sugar pine. The resulting contact, or vibration from the ponderosa hitting the ground, cause a portion of the sugar pine, approximately 120 feet long, to break off and fall upslope. [Andy] was hit by a piece of sugar pine tree that was 8 feet long and approximately 20 inches in diameter, resulting in multiple severe injuries.*"

Q--3. What have the National Park Service and the U.S. Forest Service done to prevent this kind of an accident from happening again?
The NPS Board of Review and the U.S. Forest Service Accident Review Board developed a Safety Action Plan that contains eight recommendations to strengthen emergency response planning, training, and execution. The Safety Action Plan was presented to, and approved by, the Acting Director of the National Park Service and the Chief of the U.S. Forest Service and will subsequently be disseminated.
The Safety Action Plan assigns responsibility for implementing the recommendations to specific organizations.

Q--4. What are the first aid procedures for line firefighters?
The Incident Response Pocket Guide (IRPG, issued January 2006, PMS 461 – NFES1077) is issued to all firefighters. On page 37 it lists First Aid Guidelines which address: Blood borne pathogens, Treatment Principles, and Medical Emergency Procedures. The Medical Emergency Procedures follow:

Medical Emergency Procedures
• Stabilize patient, contact medical assistance, make transport decision.
• ALL injuries must be reported to direct supervisor.

- In case of medical emergency, contact incident supervisor or communications dispatcher.
- Identify: Nature of incident, # injured, patient assessment(s) and location (Geographic & GPS coordinates).
- DO NOT USE THE PATIENT'S NAME ON THE RADIO.
- Limited visibility may delay or negate air transport

(IRPG, available at: **http://www.nwcg.gov/pms/pubs/nfes1077/nfes1077.pdf**.)

Q--5. Was there any delay in medical care provided to Andy Palmer?
Response was immediately provided by crew members, as well as other fire personnel in the area. A Contributing Factor per the Factual Report states: *There was a delay in delivering FC1 to definitive medical care because personnel involved in the incident focused on the use of air resources, most of which were unavailable due to the smoky conditions.*

Similarly, Finding 04 from the investigation indicates: *There was insufficient pre-planning to integrate incident personnel and resources into the local emergency management system, taking into account local factors, including environmental conditions, to effectively manage a serious injury and the subsequent medical evacuation.*

Incident and Task Assigned

Q--6. What was the crew's assignment?
The assignment was to mitigate hazard trees along the dozer line in the direction of Dutch Creek Road

Training, Qualifications and Safety

Q--7. What is the basic level of training and experience required to be a firefighter? Entry--level firefighters are required to complete the basic wildland firefighting training, which constitutes 32 hours of classroom instruction and 8 hours of field training. In addition to the basic 32 all returning NPS firefighters are required to complete an eight--hour annual wildland fire safety refresher training.

Applicants hired for primary firefighter positions are required to pass the work capacity test (WCT) as condition of employment. The WCT is a test administered to measure the fitness level for duties associated with firefighting positions. The "arduous" level requires a firefighter to be able to carry a 45 pound pack for three miles in 45 minutes or less.

Q-8. What is the level of training and experience required to be a sawyer? The National Park Service has established a minimum qualification and certification process for wildland fire chainsaw operators and fallers. Chainsaw operators must complete the Work Capacity Test at the arduous level. They must also complete S-212, Wildland Fire Chain Saws. National Park Service wildland fire chainsaw operators and fallers must also complete a position task book at the appropriate level of complexity, Faller A, Faller B, or Faller C, under the supervision of a qualified chainsaw operator serving as an evaluator. An Agency Administrator, or delegate, then certifies qualification.

Q--9. Did crewmembers meet the training requirements for their positions and were they properly documented? Andy was dispatched from Olympic National Park as a member of an Engine Module. He was qualified for the position he held within the engine module. Qualifications for members of the engine module are listed below:

- Engine Boss (ENGB), Faller "C" (FALC) and Helicopter Manager Single Resource (HMGB)
- Firefighter 2 (FFT2) and Faller "B" (FALB)

- Engine Boss Trainee (ENGB-T), Faller "B" (FALB), and Crewboss Trainee (CRWB-T)
- Firefighter 2 (FFT2)

Q--10. What are the standard rules, regulations and/or safety standards for Saw operations and activities?
The Incident Response Pocket Guide (IRPG, issued January 2006, PMS 461 – NFES1077) on page 81 indicates the following:

Procedural Chain Saw Operations
Procedural approach to cutting operations begins with assessing the situation, completing a hazard analysis, and establishing cutting area control.

Situational Assessment
• Observe tree characteristics
• Determine soundness or defects
• Analyze the tree base
• Check surrounding terrain
• Examine work area

Hazard Analysis
• Overhead hazards
• Ground hazards
• Environmental hazards
• Mental and physical hazards

Felling Operation Controls
• Establish a lookout to observe the tree at all times.
• Check for nearby hazard trees
• Assess lean(s) & lay
• Swamp out base
• Brief swamper
• Face tree with adequate stump shot
• Give warning yell
• Look up while cutting
• Complete back cut
• Use wedging procedure
• Use escape route and safe zones
• Analyze stump

(IRPG, available at: **http://www.nwcg.gov/pms/pubs/nfes1077/nfes1077.pdf**.)

Q--11. Were the rules, regulations and safety standards followed?
For a full chain saw technical report, reference Appendix C of the Accident Investigation – Factual Report.

Investigation Process

Q--12. What are the investigative and reporting procedures for this type of incident?
On July 25, 2008 a Serious Accident Investigation Team (SAIT) was ordered. On July 28, 2008, a joint Delegation of Authority was issued by Tom Nichols, Chief, Division of Fire and Aviation, National Park Service, and Hank Kashdan, Deputy Chief for Business Operations, U.S. Forest Service. The Serious Accident Investigation was completed in the late spring of 2009 and the joint NPS Board of Review and the U.S. Forest Service Accident Review Board convened July 1 and 2, 2009. Note: there was a delay in the completion of the Serious Accident Investigation due to initial law enforcement investigations.

The co-team leaders for the SAIT were Scott Wanek, Chief Ranger, Pacific West Region, National Park Service, and Tina Terrell, Forest Supervisor, Sequoia National Forest. A full list of the team members is attached. As team leaders, they were responsible for the development of the formal briefings and reports according to the Memorandum of Understanding between the U.S. Department of the Interior and the U.S. Department of Agriculture (hereafter referred to MOU) and the Department of the Interior's Departmental Manual 485, Chapter 7 (DM-485, Ch.7), reference Appendix H and E respectively. The team itself was an interagency team which consisted of fire management safety, behavioral, and technical specialists.

The team's role was to conduct the investigation in an objective manner in order to gather the facts and evidence, including causal and contributing factors related to the fatality. Reports produced included the Preliminary Brief and Expanded Brief (respectively the 24 and 72 hour reports),, and an Accident Investigation Report that included their findings and casual factors for this incident.

In order to meet the requirements of the MOU and the Departmental Manual (DM-485, Ch.7), NPS Director's Order/Reference Manual 18: Wildland Fire Management and NPS Director's Order/Reference Manual 50B: Occupational Safety and Health, the DASHO approved and followed the process outlined below:

1. The SAIT presented the Final Draft Investigation Report to the Chief, Division of Fire and Aviation on June 16, 2009.

2. The Chief, Division of Fire and Aviation convened a joint Board of Review (BOR) with a U.S. Forest Service Accident Review Board (ARB) to evaluate the *draft* Accident Investigation: Factual Report, Dutch Creek Incident. The purpose of the BOR/ARB was to evaluate and accept, reject, or request additional information for this report, and to create and implement a Safety Action Plan. The Board met in Washington, D.C. on July 1 and 2, 2009. Subsequent actions are noted below.

3. The Co--chair, Accident Review Board and Associate Director, Visitor and Resource Protection, presented the full text of the SAIT report and the Board of Review Management Report and Safety Action Plan to the NPS Acting Director and nominated Director, on July 21, 2009. The Acting and nominated Director and the Acting Deputy Director, reviewed and discussed the content of the SAIT report and the Board of Review Management Evaluation Report and Safety Action Plan. The Co--chair, Accident Review Board and Associate Director, Visitor and Resource Protection, also presented the findings and recommendations to the Fire Executive Council on July 24, 2009.

Q-13. The accident happened in late July, 2008, why did it take so long to produce and release the results of the investigation and the subsequent follow-up actions? There was an initial law enforcement investigation which delayed the Serious Accident Investigation. On January 23, 2009, the Assistant U.S. Attorney declined to pursue criminal charges. Subsequently, the accident investigation was reinstituted.

Q--14. Were the individuals directly involved interviewed for this investigation? The engine module (minus the captain) chose **not** to be interviewed by the SAIT. Their decision was/is a personal one.

Q--15. Who were the members of the Serious Accident Investigation Team, the Accident Review Board / Board of Review? What credentials do these members have that qualify them to be on the team?
The investigation team for the Dutch Creek Fatality Investigation consisted of individuals highly experienced in public land management with expertise in the fields of suppression tactics, fire operations, safety, fire-crew skills, training and equipment. A complete list of the Investigation Team members along with members of the ARB/BOR is attached.

Q-16. What are the follow-up actions to the investigation and other reports? Are any individuals being held accountable?
Serious Accident Investigations are by design not fault finding investigations. The purpose of a Serious Accident Investigation is to prevent the same or similar incidents from happening again.

Q--17. Was the U.S. Department of Labor, Occupation Safety and Health Administration (OSHA) involved in the overall accident review?
OSHA reviews wildland firefighting incidents involving serious accidents and/or fatalities, based upon the Occupational Safety and Health Act of 1970, the Executive Order 12196, and 29 CFR 1960, Basic Program Element for Federal Employee Occupational Safety and Health Programs and Related Matters.

On June 22, 2009, OSHA issued a "Notice of Unsafe or Unhealthful Working Conditions (Notice)" to the U.S. Forest Service Shasta-Trinity National Forest (Inspection Number 312422207). The Notice consists of two citations that include a total of five items. The Shasta-Trinity National Forest participated in an Informal Conference with OSHA to discuss the Notice. The Notice is available on the OSHA website at www.osha.gov/oshstats/index.html Click on the Inspection Information link and enter the inspection number listed above.

Q--18. How do we get copies of the reports and the recommendations that will follow?
All documents related to the Dutch Creek Fatality Accident Investigation are located on the National Park Service Fire and Aviation website at http://www.nps.gov/fire/fire/fir_wil_fatality_investigation_dc.cfm.

General Questions

Q--19. To what compensation are family members entitled?
The survivors of Federal employees whose death was work-related are entitled to benefits in the form of compensation payment, funeral expenses, transportation expenses for the remains, if necessary, and payment for termination of the deceased's status as a Federal employee**.**

[End of Questions and Answers.]

SAIT Members and Their Home Offices

Investigation Team Leaders

Investigation Team Leader, U.S. Forest Service:
Tina J. Terrell, Forest Supervisor, Sequoia National Forest, (Region 5)

Investigation Team Leader, NPS:
Scott Wanek, Regional Chief Ranger, Pacific West Region

Team Leader Trainee, NPS:
Mike Anderson, Regional Chief Ranger, Southeast Region

Chief Investigator:
Michelle Reugebrink, U.S. Forest Service, (Region 5) Safety & Health Specialist, Pacific Southwest Region

Investigation Team Members, United States U.S. Forest Service:

Safety Officer:
Ron Ashdale, Safety Officer, Angeles National Forest, (Region 5)

Technical Specialist:
Pete Duncan, Lead Instructor/Chainsaw Program Coordinator, Northern California, (Region 5)

Documentation Specialist:
Rose Leonard, Biologist, Pacific Southwest Research Station, Redding Research Lab

Documentation Specialist Trainee:
Patricia Johnson, Wildlife Biologist, Shasta-Trinity National Forest, (Region 5)

GIS Specialist / Editor Writer:
Karol McGuire, GIS Specialist, Shasta-Trinity National Forest, (Region 5)

USFS Union Representative:
Randy Meyer, President, NFFE Local 2066

Investigation Team Members, National Park Service:

Management Liaison:
Jim Milestone, Superintendent Whiskeytown National Recreational Area

Investigation Technical Consultant:
Technical Specialist:
Rich Zimmerlee, Boise Smokejumper, Prescribed Fire Manager, Bureau of Land Management

Accident Review Board (ARB) / Board of Review (BOR) Members

ARB/BOR Co-Chair
Michael May
Occupational Safety & Health Program Manager, National Park Service

ARB/BOR Co-Chair
Charles L. Myers
Deputy Chief, Business Operations, U.S. Forest Service

ARB/BOR member
Len Dems
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