

Issue 1
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Lessons
Learned

A Lessons Learned Newsletter Published Quarterly



Knowledge management is getting the right information to the right people at the right time.

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Lesson Learned – An innovative approach or work practice that is captured and shared to promote repeat application. A lesson learned may also be an adverse work practice or experience that is captured or shared to avoid recurrence.

Best Practice – A process, technique, or innovative use of resources, technology, or equipment that has a proven record of success in providing significant improvement to an organization.

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The new Interagency Lessons Learned Center for Wildland Fire began operations in May 2002.

The primary purpose of Lessons Learned is to improve safe work performance and organizational learning in the wildland fire community. The program may be expanded to include all risk management in the future.

The Center has three focus areas: Research and Analysis, Knowledge Management, and Information Transfer. Lessons Learned After Incident Reports (AIR) and Information Collection Teams are tools to gather information. An electronic database of Lessons Learned/Best Practices is currently being developed and will be available on a future website. Information will be shared with the field via email, the website, and the *Scratchline* newsletter.

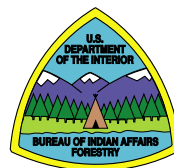
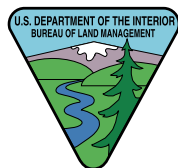
It is important for Type 1 - 5 incident commanders to complete an AIR for each incident. Crews and single resources are also encouraged to submit an AIR for any incident to which they are assigned.

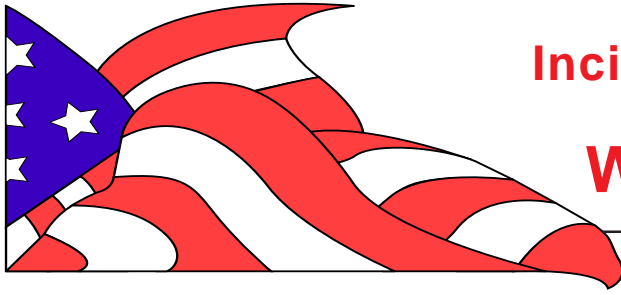
The AIR asks:

1. What was the most notable success at the incident that others may learn from?
2. What were some of the most difficult challenges faced and how were they overcome?
3. What changes, additions, or deletions are recommended to Wildland Fire Training curriculums?
4. What issues were not resolved to your satisfaction and need further review? Based on what was learned, what is your recommendation for resolution?

The AIR is available on-line at:
http://www.nartc.net/after_incident_form.html.

In this first edition of *Scratchline*, lessons learned from recent Type 1 and 3 incidents plus unique lessons from Incident Management Teams assigned to the World Trade Center disaster are highlighted. If you have a lesson learned or best practice you would like to share, please contact program manager Paula Nasiatka. ★





Incident Management Teams *at the* World Trade Center

This incident was unlike any previous Incident Management Team (IMT) assignment. The sheer scope of the incident, its cause, the number of human lives impacted, destruction, financial impact incurred, limited geographic area (1/4 square mile), multiple agency involvement, and international significance are unprecedented in IMT history.

Van Bateman's Southwest Area Type 1 IMT was mobilized to assist the Federal Emergency Management Agency (FEMA) within hours of the terrorist attack. This team worked at the FEMA Incident Command Post (ICP) in Lower Manhattan and at the New York City Fire Department ICP for approximately one month. Joe Stutler's Pacific Northwest Area Type 1 IMT, Mike Lohrey's Pacific Northwest Area Type 1 IMT, and Joe Stam's Alaska Area Type 1 IMT were dispatched to support responding agencies and their personnel working at Ground Zero.

Captured below are some of the IMTs' lessons learned during this catastrophic event:

Planning

Each Section Chief and Unit Leader needs to pay extremely close attention to their personnel for signs of stress. A means of debriefing needs to be set up, both at the incident site and at the home unit, for those adversely affected. Some of these needs were identified late and personnel were already demobilized and back at their home unit before arrangements were made for critical incident stress management services.

Logistics

IMT's should be aware that picture identifications are a necessity. Security was very tight and security protocols constantly changing. Access into many areas was denied without proper I.D.

IMT's should expect to spend extra time to ensure compliance with existing national standards when using shower or catering units that are not on the National Contract.

In large urban areas, there can be over 100 VHF and UHF radio systems in use. Dozens of systems were brought in and used on an emergency basis. A comprehensive communication plan was lacking. A meeting to facilitate the coordination of all emergency services communication staffs needs to be scheduled early on to develop a communication plan and to reduce duplication of resources.

Operations

IMT's need additional training in FEMA operational structure including its mission, organization, and ordering procedures. This should be incorporated into team meeting agendas as well as in formal training.

Type 1 crews were ordered to assist in the warehouse operation and with camp duties. This should be standard procedure for this type incident. Traditional camp crews are not viable due to the location, political environment, and work required.

Finance

Finance Section Chiefs must receive clear directions on specific procedures required by FEMA. They should immediately coordinate actions with FEMA comptrollers and procurement officials. The U.S. Forest Service National Incident Business Advisor should be contacted for assistance.

Information

The process to obtain permission for in person interviews was lengthy and often required more time than the media representatives could afford. Several interview requests were cancelled because interview deadlines could not be met. Phone interviews replaced live interviews when live ones could not be conducted in a timely manner. Expect that rigid protocol and multi-layered permission processes will prevent full and effective utilization of normal IMT information resources.

Safety

Not all people are suited for a disaster assignment. Because of the emotional impact of the situation, IMT's and Geographical Area Coordination Center's (GACC) should expect a certain percentage of personnel to request incident reassignment or demobilization almost immediately after arrival. This should not necessarily be seen as a performance problem. The reality of the situation has a greater impact on some than they might have anticipated.

Summary

Patience is a must. What might be considered small tasks or slow movements by many IMT members can be huge strides for other agencies in time of crisis – especially when they have a long tradition of self-reliance and have been directly affected by a loss of personnel, equipment, and facilities. ★

Lessons from Type 3 Incidents

in Hawaii, New Mexico, and Arizona



“Traditional fire suppression tactics were not applicable...”

A wildland fire in Hawaii and numerous other starts in the Southwest kept firefighters on the go during May and June. The following are highlights from these After Incident Reports (AIR). Many of our lessons learned/best practices come from basic firefighting principles.

Notable Successes

One hundred and eighty fire personnel were involved in the Kupukupu Fire in Hawaii. Traditional fire suppression tactics were not applicable due to many factors including dense rainforest vegetation, lack of escape routes, and potential for reburn of black area. Recent volcanic activity affected the area including holes on the surface not visible. One of the superintendents fell into an 8-foot hole but was not injured. During this entire incident (May 16 – June 20) there were no serious accidents. The Incident Commander (IC) felt this was because **established agency procedures were followed**.

On the Windmill Fire in Southwestern New Mexico, the **incident command system (ICS) was set up immediately** after the fire was reported. The local volunteer fire department on scene was notified of the incoming IC as well as forthcoming resources. This also aided in the transfer of command and integration of interagency resources.

The IC on the Witch Fire in Southeastern Arizona noted that **success is achieved when all firefighters go back to basics** and apply proven principles against fire behavior, weather, and terrain.

Difficult Challenges Faced

Using Fireline Explosives (FLE) was a challenge on the Kupukupu Fire. Initially the IC planned on using this tool because line construction through heavy fuels did not allow for an escape route or safety zone. However, fuels have to be dry and brittle for FLE to work. A slight shower moistened fuels and it was determined the FLE would no longer be an effective tool. One of the major issues was **transportation of explosives**. There were no commercial vendors available; the military was the only means of transport by air.

On the Windmill Fire, no fire agency had radio repeater coverage in this part of New Mexico. This was overcome by **establishing cellular phone communication**

with the dispatch center. Bureau of Land Management is in the process of establishing repeater coverage for future incidents.

Training Curriculum

The IC on the Witch Fire emphasized the importance of the following in all wildland fire training:

1. **The ICS system**
2. **Your equipment and capabilities**
3. **LCES (Lookouts/Communications/Escape Routes/Safety Zones)**
4. **Everyone is a safety officer** – you must act like one at all times.

Thank you to Jack Minassian (ICT3/Hawaii Volcanoes NP FMO), Jim Sullivan (ICT3/USFWS) and Bob Howard (ICT3/AZ State) for sharing their lessons learned and best practice experiences. ★

Lessons Learned Information Collection Teams (ICT's) were recently sent to the two largest incidents this season – the Hayman Fire in Colorado and the Rodeo/Chediski Complex in Arizona. The purpose of an ICT is to collect lessons learned/best practice information by interviewing the command and general staff. They do not evaluate the incident management team's performance. The ICT's also gathered information on the effects of critical resource shortages, effect of work/rest guidelines, effective use of ICS form 215A (Lookouts/Communication/Escape Routes/Safety Zone analysis), and effectiveness of the new Incident Response Pocket Guide. The ICT reports will be available soon at <http://www.nartc.net>.

Best Practices from the Hayman Fire:

- **Safety Stand-Down** – At a pre-determined time, all units on the fire stopped what they were doing and discussed safety issues related to their work assignment. This tool was deemed effective because it showed the IMT's priority commitment to safety. (Ron Raley's Team)
- **Six Minutes For Safety** – Safety message from the web at <http://www.nifc.gov> was used each day as the cover of the incident action plan. This tool was deemed effective because the same safety theme became visible to personnel every day. (Steve Frye's Team)



After Incident Report – Type 1 **BULLOCK FIRE - Southeastern Arizona** May 24 - June 6, 2002

Notable Successes

Trust among team members contributed to a successful effort. Incident Commander Larry Humphrey noted that this was one of the toughest fires he has ever been on. The fire was difficult for operations, logistics, planning, finance, and safety due to the extremely rough terrain and complex logistical challenges. Since the team had two personnel in most of the command and general staff positions, the fire was split into two branches and two base camps. Because the team has worked well together for years, the element of trust was beneficial even when the two branches were competing for limited resources.

Another success was **moving the ICP and base camp to a high school facility** once school was out for the summer. With electronic and computerized demands in large incidents, it is a difficult working environment when the base camp is in a remote location comprised of tents and limited power sources. If a facility such as a school is not available, **using construction trailers** is a must instead of U-Haul type rental trailers. The construction trailers are less expensive in the long term and offer good facilities for the command and general staff functions.

A third success occurred prior to the beginning of fire season. This entailed **training local personnel** in an area that is usually deficient of qualified personnel. Radio operators are critical positions, but are often thought of as easy to fill with an untrained person. A radio operator is a vital link from the field firefighter to base camp. Last winter the Safford District in Arizona trained 20 local personnel as dispatch recorders. Eight people who completed the class are out on fires this season; six of whom worked on the Bullock Fire or in Expanded Dispatch. The lesson learned is that local units need to recruit and train for these critical, lower ICS level, hard-to-fill positions in advance.

A practice that worked well was **using a local buying team** comprised of personnel from the forest. The forest administrative officer put this contingency in place ahead of time due to the expected severity of the fire season on the Coronado National Forest. A member of the local buying team was situated in each of the five spike camps to expedite purchases. Part of the success was having these local folks stay in the spike camp and do their ordering in cooperation with the spike camp personnel. Without this local buying team, turn around time for getting supplies to camps and on the fire would have significantly impacted morale.

Difficult Challenges Faced

The two biggest challenges were the **rough terrain** and the **logistical complexities**. The fire was burning on

two sides of the mountain range. The IMT brought two deputies or two section chiefs with them to this fire, having learned from previous assignments this spring, that they could not obtain these additional resources. Team members were divided into the two branches. Challenges included a three-hour drive from one side of the fire to the other, an ICP, two base camps and five spike camps. **Continual communication** was key in overcoming these challenges. The command and general staff located in two branches had to be able to interact at numerous times on any given day. Urban interface fires add to the logistical complexities since it often makes it more difficult to locate suitable camps. Several small spike camps were set up until the school year ended and a local high school became available.

Training Curriculum

Instructors need to emphasize the importance of **being innovative, adaptable and flexible with ICS positions** especially in the beginning of an incident. When ordered overhead does not arrive within 1-2 days, positions like a Ground Support Unit Leader, Documentation Unit Leader, and Demobilization Unit Leader should be used in other needed capacities. Another point to stress in training is depending on the type, size or complexity of an incident; certain ICS positions can become increasingly significant. Larry Humphrey's Team carries two structural fire specialists due to the high number of urban interface fires they manage. The structural fire specialists work in operations and liaison daily with the local fire departments. The IMT also has a security liaison (command staff position) that communicates regularly with local law enforcement agencies involved with the incident. This position is also critical due to the frequency of urban interface assignments.

Unresolved Issues

The most significant unresolved issue is how the 30-Mile Fire Abatement Plan makes it extremely difficult for incident commanders to maintain **compliance while managing an incident**. Individual agencies are issuing specific memos and interpreting the work rest guidelines differently. One agency memo came out in the middle of the Bullock Fire. The recommendation for resolution is that new policies and guidelines need to be issued in the winter before fire season begins. National Wildfire Coordinating Group (NWCG) needs to review, field test, and issue these directives across the board for all agencies.

The lessons learned for this report were submitted by: Larry Humphrey (IC), Paul Womack (SOFR), Chris Lyle (PSCI), Ed Ryan (LSC1), and Roy Hall (OSCI). ★