The Guidance Group, Inc

LESSONS LEARNED 2003

SUCCESSES AND CHALLENGES FROM AAR ROLL-UPS

For: Wildland Fire Lessons Learned Center
C/O The National Advanced Fire & Resource Institute
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Strategy and Leadership Services for Fire Organizations

LESSONS LEARNED RELATED TO THE LOGISITICS FUNCTION

Locating Mobilization Centers and Staging Areas

Background: Two incident management teams (IMTs) managing non-wildland fire incidents cited the location of their mobilization centers or staging areas as notable successes.

In regard to the Hurricane Isabel assignment, the respondents reported outstanding facilities and support at Fort Eustis, including:

- A hangar that provided ample space for storing the contents trucks that had to be off-loaded.
- Parking space available for two hundred trucks.
- Additional support provided by the base in the form of forklifts, operators, and access to base facilities such as the Post Exchange and the laundry.
- A military liaison assigned to the Mobilization Center Management Team (MCMT), an arrangement that was very effective.

Another IMT working on the Space Shuttle Columbia Recovery Effort reported that the selection of Longview, Texas for a Staging/Mobilization/Demobilization Center was outstanding. In retrospect, the location had the following key characteristics that made it an excellent choice to service the four camp locations:

- Local Airport Capacity: The long runway at Longview accommodates large charter jets (727, 737, 757) to efficiently transport multiple 20-person crews cross-country. Operations were greatly facilitated by the combination of runway length and the absence of the traffic and congestion that accompanies commercial air carriers at larger, commercial airports.
- Proximity to Dallas/Fort Worth and Shreveport**:** The relatively easy access to both the large commercial airport at Dallas/Fort Worth, and the regional airport at Shreveport via Interstate 20 greatly facilitated movement of overhead and those crews that flew commercial.
- Facilities: Longview has a significant number of vacant factories and manufacturing facilities. Three of these were under agreement for use by the incident: one as the ICP/crew housing (Coke Plant), one as crew housing/bus/van parking (Dresser), and one as rental vehicle return (Trinity). The availability of these facilities greatly facilitated housing large numbers of crews in warm dry conditions. “All Risk” means “all weather,” and keeping crews warm and dry is paramount.

- Access to Entertainment and Comfort Items: The tighter the crews are packed into a building, the more restless they become. Having eating establishments and convenience stores within easy walking distance greatly added to the comfort of the crews and kept them from looking for other forms of entertainment while in staging. Cards, movies (large screen TV or projector and DVD player) and horseshoes occupied the greatest number of the crewmembers.

- Central Location: Longview was within reasonable driving distance of all four camps and the Federal Emergency Management Agency Disaster Field Office (DFO) in Lufkin.

Lesson Learned: Mobilization Center/Staging Area location contributes to mission success. Look for characteristics including:

- Central location within reasonable driving distance of all incident locations being supported and the ICP.

- Adequate storage space for supplies and equipment needed to accomplish the mission.

- Ample parking space for all vehicles required by the incident operations.

- Additional support provided by the military or other cooperators including shipping, receiving and material handling; and access to facilities such as shopping and laundry.

- Adequate airport capacity to allow efficient mobilization and demobilization of incident personnel by charter aircraft.

- Proximity to major airport facilities to enable movement of overhead and crews flying commercial.

- Facilities that allow for housing incident personnel when assignment duration or environmental conditions demand.

- Access to entertainment and comfort items for incident personnel assigned to long-term incidents to discourage incident personnel from looking for other forms of entertainment while in staging.

- When working on a military post (or facility operated by an agency), a military liaison (or liaison from the organization managing the facility) should be assigned to the Mobilization Center Management Team (MCMT,) an arrangement that proved very effective at Fort Eustis.

Preventing the Spread of Illness on a Long-Term Incident

Background: Early in the incident, the IMT at a mobilization/demobilization center began housing incoming (mobilizing) and outgoing (demobilizing) crews in separate facilities. The demobilizing crews were housed at one facility; and the mobilizing crews were housed at separate facilities during the incident. Shower facilities were provided at each location. The only time the crews intermingled was at mealtime because the caterer was located at one facility. Separating the crews likely reduced the incidence of spreading coughs/colds and upper respiratory infections that the demobilizing crews had picked up in the two to three weeks they were on assignment.

After the crews departed from both the housing facilities of the mobilizing and demobilizing crews each day, camp crews moved the cots and mopped the floor with disinfectant in each crew area. Cots were sprayed with disinfectant, and all surfaces wiped with disinfectant. Warehouse doors were opened for ventilation, and fans were located to circulate air through the facility. Hand washing before entering the meal line was mandatory at the direction of the Incident Commander (IC).

The Medical Unit Leader and Medical Unit staff briefed the incoming crews on hygiene issues including the requirement that all incident personnel must wash their hands before meals by order of the IC. They also debriefed each crew to determine what medical issues the crew had, and followed up with those patients with medical conditions.

Lessons Learned:

- ☼ Segregating mobilizing and demobilizing personnel and providing consistent, daily sanitation and custodial service in sleeping areas can provide an effective strategy for preventing the spread of illness in mobilization/demobilization facilities.

- ☼ Hand washing and other hygiene factors decrease the spread of illness. Briefings by the Medical Unit provide information and rules to incident personnel. Crew debriefings enable the Medical Unit to follow-up on specific medical issues.

- ☼ The IC can assist in preventing the spread of illness by imposing mandatory hygiene rules.

Medical Unit Staffing with Physician and Nurses

Background: On the recovery effort, one IMT staffed its Medical Unit with a contracted physician and contracted nursing staff. Medical Unit services, notifications, and field responses were managed professionally following established team procedures, and the services of a physician and nursing staff at the ICP provided timely treatment in a cost efficient manner.

Lesson Learned: On-site, contracted medical staffing, including physicians and nurses, can be effective and cost efficient.

Incident Medical System Policy and Over-the-Counter Medications

Background: The IMT on one incident described the incident medical support system as "broken." Policy changes have handcuffed IMTs and the agencies have not "staffed-up" to address new policies. On this incident, the medical unit had significant problems securing adequate medical supplies, particularly cold/flu medications. The Medical unit had approximately 2400 visits for a variety of minor injuries or illness, 1550 of which were for cold/flu symptoms.

This IMT, like many others, recommends that the system use distributors or major chain stores that can process large orders of over-the-counter medications with 24-hour advance notice. With the number of large fires and the high percentage (65%) of visits being for flu/cold illness the demand is completely overwhelming the normal purchasing system. The respondents recommend that this change should be made as soon as possible.

Lesson Learned: Fire agencies should use distributors or major chain stores that can process large orders of over-the-counter medications with advance notice. The number of large fires and the high percentage of Medical Unit visits for flu/cold illness overwhelmed the normal purchasing system. This change should be made as soon as possible.

Medical Unit: Firefighter Foot Care

Background: An IMT reported that blisters and infected blisters, caused by poorly fitting boots, accounted for the highest number of cases in their Medical Unit. Some infected blisters were incurred during recent work capacity testing, and became infected because crews were assigned immediately afterward without their foot problems being attended to. Some of the problems resulted from poor blister care advice from Squad Bosses and Crew Bosses. The Medical Unit Leader scheduled three after-hours foot care clinics in an attempt to improve understanding of appropriate foot care.

Lessons Learned: Blisters and other foot care issues can account for the majority of Medical Unit visits. Many of these medical problems result from lack of information or understanding on foot care. Medical Unit Leaders must be prepared to educate firefighters about foot care, and off-shift foot care clinics and other creative approaches can help.

Logistics On an All Risk Incident (Space Shuttle Recovery Effort)

Background: The recovery effort provided opportunities to learn many lessons about managing logistics on long-term, all risk incidents. For example, one IMT found that they were able to resolve logistic issues and establish plans easily because of what they reported as the enormous cooperation demonstrated by the Texas Interagency Coordination Center (TICC), the Texas Forest Service (TFS), Federal Emergency Management Agency (FEMA,) Environmental Protection agency (EPA,) National Aviation and Space Administration (NASA) and the members of their IMT. Each modeled a spirit of working together to get the job done in the most efficient, effective manner. Daily conference calls and face-to-face meetings worked well. This IMT also reported that their Supply Unit had control of all resource order numbers, and thereby avoided common problems such as duplicate orders and requests.

Another IMT reported on the importance of "reasonably accurate" property accountability records (for items like radios, cellular telephones, computers, and global positioning systems receivers), when transferring command from one IMT to another.

Another IMT reported their success in managing approximately 640 rental vans and pickup trucks that had been procured through the Department of Transportation for use on the incident. The IMT established a very simple but efficient system for returning these vehicles. First, returned vehicles were checked against the rental package for "E" number, VIN Number, and license plate number. Following this check, incident personnel fueled the vehicles and parked them by vendor group. The parking area was fenced and provided 24-hour security patrols, and the keys were left in the unlocked vehicles. Department of Transportation (DOT) inspectors provided inspections, often with the claims adjuster from the vendor present, so the IMT ground support unit did not need to do any inspections. Once agreement was reached on claims pertaining to individual vehicles (including detailing charges), the vehicles were released back to the vendors. This process proved exceptionally efficient, allowing the incident to receive 200 vehicles in three days, with 150 of them returned to the vendors during the same time period.

However, the recovery effort was not without logistic challenges. IMTs assigned to the recovery effort reported that the national ordering process is not adequately staffed for all risk incidents, making it difficult to fill resource orders in a timely manner seven days a week and during normal "off" hours. One IMT

employed a workaround solution; finding out where orders were being delayed and calling personnel directly at home, but this solution proved less than satisfactory.

According to this IMT, the fire cache system is not adequately supplied to support all risk incidents, including inclement weather gear, medical supplies, winter sleeping bags, brush and snake chaps, etc. Some caches were unable to provide needed supplies due to inventory activities. The IMT worked with caches that were not inventorying, but found that they had to supplement their orders with purchases, both through the buying team and by purchasing locally.

The sensitive nature of salvaged shuttle material; maps and other items unique to NASA and the EPA required a fenced, secure, restricted area that some agencies and members of the IMT were not accustomed to. One IMT reports developing a list of personnel that were provided unrestricted access and requiring all other personnel to gain access through the personnel with unrestricted access.

Establishing and maintaining an ICP and base camp for 1500 personnel in a region that does not generally set up fire camps, compounded by winter conditions, presented unique and often serious challenges for one IMT. IMT members worked through most issues, and made-do when they had to. However, they struggled to meet basic health and sanitation needs, especially during an ice storm. A large number of personnel, including most of the IMT, fell ill to the “camp crud”. The number of ill people affected the functionality and productivity of the effort. Future assignments under similar conditions need to use different facilities, such as military facilities, colleges, etc. For incidents of this nature, it is important for the IMT to get out of the summer “fire camp” mindset and into an all weather/all risk assignment mindset.

Lessons Learned:

- ☼ A high level of cooperation between the IMT, host unit, and cooperating agencies facilitates the resolution of logistic issues and allows the organization to effectively plan. Needed is a spirit of working together to get the job done in the most efficient, effective manner. Daily conference calls and face-to-face meetings help.

- ☼ On multi-agency incidents, the Supply Unit should maintain control of all resource order numbers to prevent common problems such as duplicate ordering.

- ☼ Accurate property accountability records (for items like radios, cellular telephones, computers, and global positioning systems) are very important when transferring command from one IMT to another. Signed transfer of property accountability documentation is critical when IMT transition, especially on long duration incidents.

- ☼ When working with unfamiliar cooperating or host agencies, ask the agency to assign a logistics or property accountability person to the IMT to expedite equipment tracking.

- ☼ When assigned to demobilize a large number of rental vehicles, a simple and efficient system can be employed to manage the task. Incident personnel can check vehicles against the rental package for "E" number, VIN Number, and license plate number, fuel and park the vehicles by vendor group. DOT inspectors and the vendor's claims adjuster next provide inspections. Once agreement is reached on claims and charges, vehicles may be released back to the vendors.

Security Innovations

Background: Some responding IMTs reported innovations in security. One IMT implemented a security/identification badge system to identify incident personnel. The badges can be used for public safety, homeland security, supply distribution, and food facilities. The IMT believes that as the use of ID badges by incident personnel increases, conflicts in camp will decrease, reducing the workload in the areas of human resources and law enforcement/security. The team also believes that the use of identification badges will contribute to cost containment efforts by improving equipment accountability on incidents.

Another IMT established an alternate organization for safety and security on their team. This IMT modified the standard ICS organization, placed security and all law enforcement functions under the Safety Officer, and added the position of Public Safety/Law Enforcement Liaison. This IMT feels that the change proved more effective than a single Security Manager during interactions with the military, search and rescue groups county sheriff's offices and other entities external to the ICP.

One IMT reported that the security resources and safety officers necessary for their large complex of incidents were not available. The IMT solved the problem by using "Off Duty Officers" (ODO.) However, while providing a pool of skilled people, using ODOs comes at significant cost. ODOs cost this IMT $55 per hour per officer for regular duty hours, and $82.50 per hour per officer for overtime hours exceeding 40 hours per week; plus mileage for privately owned vehicles at .40/mile and lodging reimbursement for officers to stay in motels. The incident averaged eight officers per day over a 19-day period for a cost of $109,698. However, according to this team, the unavailability of qualified agency personnel to provide incident security will continue to require the use of contractors and ODO that will have the effect of increasing incident costs.

Lessons Learned:

- ☼ Implementing a security/identity badge system can reduce conflicts in camp, reduce the workload in several functional areas and contribute to equipment accountability and therefore, cost containment.

- ☼ An alternate organization for safety and security that places security and all law enforcement functions under the Safety Officer, and adds the position of Public Safety/Law Enforcement Liaison may prove more effective and efficient than the standard ICS approach.

- ☼ A shortage of qualified agency personnel to provide incident security will continue, requiring the use of contractors and off-duty law enforcement officers, who represent good, available, but expensive resources. Off-duty officers could represent a significant incident cost, perhaps costing tens of thousands of dollars or more.

Base Camp Guidelines: Conduct and Behavior

Background: An IMT reports that they developed a briefing paper with the Incident Commander's expectations and rules of the camp and distributed it to each crew boss. A 2200-0500 curfew was in place and enforced for late returning crewmembers, and the IMT placed overflow sleeping in a separate building, where cots and sleeping bags were provided so that late returning crewmembers were identified on their crew manifest and bedded down in the overflow sleeping area to avoid disturbing sleeping crews. A bar located 100 yards from camp presented a problem, and the IMT did have a total of four individuals arrested for public intoxication by the local police department after failing to comply with camp security.

Lesson Learned: A briefing paper that clearly communicates the Incident Commander's expectations and rules of the camp that is given to all incident personnel prevents many problems and enables the IMT to enforce its expectations and rules.

Fire Camps in Australia

Background: Many lessons were learned about how fires are managed and suppressed in Australia, including several related to fire camps and logistics.

<u>Minimally Staffed Camps that Support Operations Well</u>

In Australia, fire camps were minimally staffed. The fire camps the American group worked from were small, with not more than 300 to 350 people in the camp. The camp was there to provide for the firefighters and not to support itself. Food was available 24 hours per day, which meant that firefighters never had to leave the line to meet meal deadlines, but could work their shift and be flexible. If

firefighters came in early, there was food, and if they had to stay late, there was food.

Effective and Efficient Vehicle Maintenance and Support

Vehicle maintenance and support was unique and worked well. Operators parked their vehicles in a designated parking area after each shift. The mechanics were mobile, and came to each vehicle, fueled them, cleaned the air filters, and did the necessary services while the crews were off shift. Crews did not have to drive their vehicle to a mechanic when there was a repair problem. Incident managers assigned vehicles to the American crew, but vehicles were also passed around when necessary, such as when assigned crews were off on their two days rest, which meant fewer vehicles were needed and the fleet was better utilized.

Preparation for Foreign Assignment

Overall, the in-country briefing and training the U.S. firefighters received before going on the line was outstanding. However, they also believe that, if the U.S. sends people to Australia again, that they should be ordered with radios and tools. According to the respondents, it appeared that if radios and tools came into the country with the firefighters, they made it through customs. However, if tools and supplies were ordered separately and shipped to Australia separately, they took an inordinate amount of time to get through. The respondents also recommend that an Australian be assigned to work with, and act as a liaison for, any U.S. crew that is dispatched.

Alcohol in Australian Fire Camps

The availability of alcohol at Australian fire camps presented U.S. personnel with a challenging dilemma. The camps were at inns/pubs, and the pubs were open 24/7. The U.S. team started-off by following their normal policy of staying dry, but were perceived by the Australians to be snobs because of it. The after-shift drinking tended was social and the time when information exchange and teamwork was being accomplished. The respondents report that they did not see any major drunkenness or any fighting as a result of the drinking, but do not recommend fire camp drinking in the U.S.

Lessons Learned:

- ☼ The Australian approach to fire camps requires minimal staffing and supports fire operations well, allowing for operational flexibility.

- ☼ The Australian approach to vehicle maintenance, support and fleet management works well, minimizes impacts to crews and reduces the number of vehicles on the incident.

- ☼ If the U.S. sends people to Australia again, they should be ordered with radios and tools, be assigned an Australian firefighter to work with, and act as a liaison for, any US crew that is dispatched.

- ☼ Alcohol in Australian fire camps will present a cultural and ethical dilemma for U.S. firefighters dispatched to support assignments in Australia.

Managing Family Visitors to Base Camp

Background: While managing a fire, an IMT found that, with four crews from local Native American tribes assigned to the incident, family visitors were frequent. Overall, the IMT viewed the family visitation in a positive light, finding that it gave family members a chance to see their firefighters on assignment, and that the firefighters could receive support (clean clothes from home and some necessary personal items such as tobacco products), which reduced the need for local purchases. The IMT developed the following suggestions for managing this opportunity in the future, and shared these suggestions with the Agency:

- Designate a parking/meeting place for visitors

- The designated parking/visiting area should be adjacent to the camp, but separate from the camp activities and hazards such as large engine and heavy equipment traffic and parking.

- Established hours for visitors such as 1900 to 2230.

Lessons Learned:

- ☼ Under certain circumstances, family visitors to camp can and should be viewed as a positive. If acceptable, family visitation needs to be managed by the IMT.

- ☼ Manage family visitation to camp by establishing an area for parking and visitation adjacent to, but outside camp and establishing visiting hours. Designate a parking/meeting place for visitors. The designated parking/visiting area should be adjacent to the camp but separate from the camp activities and hazards such as large engine and heavy equipment traffic and parking.

Locating and Setting Up Base Camp and Incident Command Post (ICP)

Background: One IMT found that the host unit and the incoming IC and Logistics Section Chief must coordinate closely when deciding the location of the base camp and the Incident Command Post (ICP). Decisions on locations of those facilities should not be made until this coordination takes place. It is important for the IMT logistics/facilities personnel to talk to the hosting unit as

soon as possible to articulate team needs, because hosting units do not always understand infrastructure needs that may preclude potential ICP locations.

Another IMT reported on their effort to move their entire camp to a location closer to firefighters that had previously been in spike camps. The IMT moved their entire camp and set it back up to operational status in six hours. The team attributed their success to the fact that their team uses trailers that include electrical hookups. These trailers are very mobile, efficient, and rent-free (refurbished FEMA trailers provided at no cost.) This IMT also suggests pre-season trailer contracts to get what teams need, cut-down on mobilization time, aid in cost containment, and provide a better environment for computers and people.

Lessons Learned:

- ☼ Location of the base camp and the ICP must be closely coordinated between the host unit and the incoming IC and Logistics Section Chief. Decisions about camp and ICP location should not be made without this coordination.

- ☼ Trailers (vs. tents or other structures) allow for camps to be relocated quickly if necessary, particularly if they include electrical hook-ups. No cost work trailers are available through FEMA. Pre-season contracts for trailers may also provide an effective source.

- ☼ One IMT reports the importance of providing written documentation on how to set up their camp and the proximity of various functions to one another. This enables the Facilities Unit Leader to hand off a sketch and get things organized much more quickly.

Options for Managing Base Camps

Background: The Finance Section Chief on one IMT calculated the cost of maintaining base camp with contractors vs. staying in motels in town for the last few days of the incident. This effort by the Finance Section Chief saved the host units quite a bit of money, even though there was initial concern over having fire crews stay in motels.

Lesson Learned: A financial analysis should be prepared and considered when an incident is winding down and the IMT is considering its options for maintaining a camp vs. basing out of motels.

Supporting Spike Camps

Background: One IMT, points out that the management of many large incidents includes the use of remote base camps and spike camps, and that proper briefing of personnel at these sites becomes a regular challenge. This

IMT dealt with the challenge by adding qualified personnel on the incident to facilitate and provide the information needed at remote briefings.

Another IMT expressed a deeper concern, pointing out that being able to support firefighters in far away locations with hot food that wasn't spoiled presented a challenge. The IMT overcame this challenge by discussing the issue as a team, and communicating and working with the catering contractor.

Another team reported that their incident was a test of air operations. With as many as six spike camps in operation at one time, it was difficult to get the right resupply orders to the right place at the right time.

Lessons Learned:

- ☼ When using spike camps, order additional, qualified operations and planning personnel to the incident to ensure that incident personnel at remote camps are receiving quality briefings and the information they need.

- ☼ The IMT must be prepared to open lines of communication and work with catering contractors to assure that incident personnel in spike camps are receiving food in adequate amounts and of adequate quality.

- ☼ When operating spike camps supported by helicopter, assign a Receiving and Distribution Manager to the helibase, for the sole purpose of coordinating orders being moved to spike camps as cargo.

Incident Replacement Policy

Background: Apparently some of the Interagency Hotshot Crews (IHC) and contractors need to better understand the incident replacement policy. One team reported problems with IHC regarding legitimate replacement of equipment at the incident. Another IMT reported that contractors were inspected using the general inspection form instead of the specialized inspection forms required under their contract. This caused problems on demobilization when contractors wanted to replace equipment that was left on the line. Contractors wanted to replace second grade hose with top of the line hose.

Lessons Learned:

- ☼ Issue written direction on the incident replacement policy to crews upon checking in, reminding them of national and regional direction on incident replacement.

- ☼ Use the engine/tender contract inspection form when inspecting contract engines, rather than the general inspection form.

Drinking Water: Replacing Cubitainers

Background: One IMT recommend that instead of ordering, building and filling "cubitainers" to be sent to the line, that the agencies buy drinking water. This IMT made contacts with distributors. For example, 2 ½ gallon jugs of water, 3 per case, are available from the Pepsi Distributor at a cost of approximately $6.25 per case or $0.83 per gallon. A new "cubie," prior to being built, costs approximately $4.80. Add the cost of strapping tape and labor costs to build the box, and fill the cubie, and the estimated cost per cubie is $8.00 or $1.60/gallon. Reducing the risk of contamination represents an additional benefit to buying pre-packaged water.

Lesson Learned: Bulk purchasing of pre-packaged drinking water appears to be more cost effective than using cubitainers, and can reduce the risk of drinking water contamination.

Cooling Systems for Regional Cache Yurts

Background: Yurts are a regional cache item, and are readily available to incidents for use as incident office facilities. However, IMTs report that, during hot weather over 90 degrees, cooling the interior of a yurt to a workable temperature is costly and difficult. After several days, one IMT replaced undersized evaporative coolers with small air conditioning units. However, air conditioners were not installed in all work tents as a cost containment measure. The IMT points out that cost containment is the responsibility of the team as well as the host unit, and that, in this case, the decision was not a cost effective one. According to this team, cooling systems need to be included as a cache item, or the agencies need to replace cache yurts with contracted tents that include cooling units.

Lesson Learned: During hot weather (over 90 degrees,) cooling the interior of a yurt to a workable temperature is costly and difficult. Cooling systems need to be included as a cache item, or the agencies need to replace cache yurts with contracted tents that include cooling units.

Donating Surplus Food

Background: Two IMTs reported that they were confronted with the challenge of finding an outlet for donating surplus food in the local community.

Lesson Learned: The local food bank is a viable option for donating surplus food.
