A. TASK FORCE MANAGEMENT & COORDINATION

Interaction with Task Force Members

- Each task force member needs to know what is expected from them and what they can expect from other members.
- Having a good understanding of the interactions and operations performed by the other task force and IST members and the role of each member in accomplishing different functions will improve efficiency and safety.

Interaction with the Local Command Structure

- The TFLs and Team Managers should address issues and agree on procedures for interactions with:
 - Local resources.
 - DMAT teams.
 - DoD light support military teams.
 - Other FEMA US&R TFs assigned in the area.
 - FAsT teams.
 - IST teams.
- Issues related to the TF interaction with the local medical system should be investigated.

Work Period Scheduling/Rotations

- One of the most important strategic considerations for the TFLs and Team Managers (the Medical Team Manager in particular) is the initial determination of how to deploy the TF personnel at the start of mission operations.
- When the TF arrives at the assigned location, it may be most appropriate/advantageous to commit all TF personnel to the initial requirements that must be addressed, to include:
 - Base of Operations set up.
 - Structures triage.
 - Search and recon activities.
 - Equipment cache set up.
 - Initial rescue operations.

MEDICAL SPECIALIST TRAINING 04/97
TASK FORCE MANAGEMENT & COORDINATION
TASK FORCE MANAGEMENT
■ Identify interactions with:
Local resources.
DMAT teams.
DoD military light support teams.
Other FEMA US&R TFs assigned in the area.
• FAST
- IST
FEMA US&R RESPONSE SYSTEM
RESCUE SPECIALIST TRAINING 04/97
TASK FOREIMARAGEMENT & COORDINATION
TASK FORCE MANAGEMENT

Work period scheduling/rotation -

Base of Operations set up

Search and recon activities

Equipment cache set up

Rescue operations

Structure triage

Initial tasks:

FEMA US&R RESPONSE SYSTEM

A. TASK FORCE MANAGEMENT & COORDINATION

Work Period Scheduling/Rotations (continued)

- The inherent expedience required to effect successful live victim extrications, coupled with the sizeable capability that a 62-person TF offers, substantiates this total commitment of personnel at the onset.
- The full-scale commitment must be balanced by a review of the present and anticipated search and rescue opportunities.
- Within a matter of hours of initial personnel deployment, the Task Force Leader and Team Managers must begin some moderate to long term planning.
- Depending upon the general conditions present, it may be most appropriate to attempt the following deployment guideline:
 - 1st 8 12 hours All personnel committed to:
 - 1) TF set-up.
 - 2) structures triage.
 - 3) search and rescue operations.
 - Next 4 6 hours Half of the personnel relieved for feeding/sleep (after first 8 12 hours) (those personnel assigned Base of Ops set-up and organiz-

ation should be relieved first).

• 12-hr cycles - Half of the TF works, the other half rests/eats/sleeps.

Locating an Area for Base of Operations Set Up

At the same time that the Task Force Leaders receive their briefing from the local jurisdiction, and/or while the task force equipment cache is being unloaded, an advance team should be sent ahead of the arriving task force personnel and cache to provide reconnaissance for choosing an appropriate site for the task force Base of Operations.

MEDICAL SPECIALIST TRAINING

MEDICAL SPECIALIST TRAINING

TASK FORCE MANAGEMENT & COORDINATION

DEPLOYMENT GUIDELINES

■ 1st 8-12 hours — personnel committed to:

• TF set-up.

• structures triage.

• search and rescue operations.

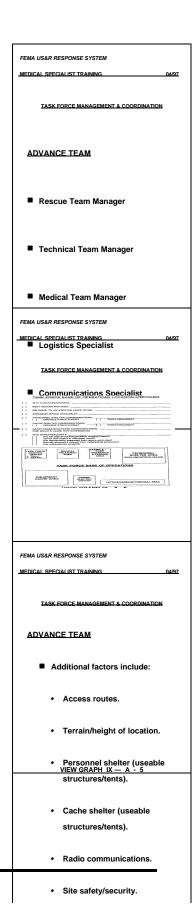
- Next 4-6 hours
 - Half of the personnel relieved for feeding/sleep (after first 8 -12 hours) (those personnel assigned Base of Ops set-up and organiz-ation should be relieved first).
- Subsequent 12-hr cycles
 - Half of the TF works, the other half rests/eats/sleeps.

VIEW GRAPH IX — A - 3

A. TASK FORCE MANAGEMENT & COORDINATION

Locating an Area for Base of Ops Set Up (continued)

- This advance team should include:
 - Rescue Team Manager
 - Technical Team Manager
 - Medical Team Manager
 - one Logistics Specialist
 - one Communications Specialist.
- These personnel should use the Task Force Site Location Checklist/Sketch Form to assist in the assessment of the best location for the Base of Operations for the task force.
- The most strategic factor for the placement of the Base of Operations is the proximity of the Base to the potential/anticipated rescue work sites. There are two key factors:
 - First, travel distance is critical and is variable based on transportation availability.
 - Second, available transportation and accessibility will play an important role in the site selection process. If transportation is limited, the need to establish a Base close to the anticipated work area is imperative.
- Additional factors include:
 - Access routes.
 - Terrain/height of location.
 - Personnel shelter (useable structures/tents).
 - Cache shelter (useable structures/tents).
 - Radio communications.
 - Site safety/security.
- Personnel must assure that adequate space is available for:
 - Equipment cache set up and maintenance.
 - Shelter for personnel and canine.
 - Task Force Control Center.
 - Medical treatment area.
 - Food preparation and feeding area.
 - Toilet and sanitation area.
 - Helicopter landing zones (possibly).



A. TASK FORCE MANAGEMENT & COORDINATION

TASK FORCE ACTION PLANNING (continued)

- The TF action plan does not have to be complicated or lengthy. General issues have been outlined in the <u>Incident Daily</u> <u>Briefing Form</u> which may be used as a suitable agenda for the planning sessions.
- TF planning sessions should have limited attendance. Too many in attendance slow the process. To promote effective action planning, the following personnel should be involved:
 - Task Force Leader.
 - Team Managers (at least one each).
 - Logistics Specialist.
 - Communications Specialist.
 - Structural Engineer.
 - Planning & Safety Officer.
 - Technical Information Specialist.

TASK FORCE BRIEFINGS/DEBRIEFINGS

- The TFL has the responsibility to attend briefings convened by the local IC (or designee) and to ensure that the TF is kept informed of issues in a scheduled and timely manner.
- There are two types of operational briefings that a TFL will be responsible for during the various phases of the deployment:
 - A general briefing that all TF personnel should attend.
 - Technical briefings related to functional issues, where only selected individuals are designated to participate.
- The TFL needs to establish the briefing process that will be used throughout a mission. This should include:
 - Who will be responsible for conducting the briefings.
 - The briefing schedule and location.
 - Who should attend.
 - Topics or issues to be covered.
- Briefings should be conducted at the beginning of each operational period, during the one-hour shift overlap.

MEDICAL SPECIALIST TRAINING MAST

USAR OPERATIONAL PROCEDURES

TASK FORCE MANAGEMENT

■ Task force planning sessions — attendance:

• Task Force Leaders

• Team Managers

• Logistics Specialist

• Communications Specialist

• Structural Engineer

• Planning/Safety Officer

■ Tech Info Specialist

FEMA USAR RESPONSE SYSTEM

MEDICAL SPECIALIST TRAINING MAST

TASK FORCE MANAGEMENT

- Task force briefings:
 - Two types:
 - general briefings
 - technical briefings with selected individuals
 - The briefing process should identify:
 - who will conduct them
 - who should attend
 - topics/issues to be addressed
 - Briefings should be conducted at the change of each operational period

■ It may be necessary to conduct impromptu briefings for special situations such as those dealing with life threatening information, change of tactical assignment or work priorities, special risk or hazard identification, injury of a TF member, etc.

A. TASK FORCE MANAGEMENT & COORDINATION

TASK FORCE BRIEFINGS/DEBRIEFINGS (continued)

- On-incident debriefings of TF members are also critical in order to maintain current resource and situation status. Information gathered from TF members will be important to both local officials at the Incident Command Post, TF managers and IST Leader.
- Information obtained from these debriefings will aid managers in the tracking of assigned personnel and equipment, TF work progress and tactical planning activities. Debriefings normally require the involvement of the TFLs, Team Managers, Rescue Squad Officers, Communications and Logistics Specialists.

MEDICAL SPECIALIST TRAINING

USAR OPERATIONAL PROCEDURES

TASK FORCE MANAGEMENT

■ On-incident debriefing

• Debriefings should be conducted to determine:

- personnel/equipment status

- situation assessment

- TF work progress

- tactical planning activities

• Information identified is useful not only to TF managers but also for local jurisdiction

VIEW GRAPH IX - A - 9

B. RESCUE OPERATIONS STRATEGY & TACTICS

- The primary functions of the US&R task force are to locate, extricate and provide initial medical treatment to live victims entrapped inside damaged structures. As soon as entrapped victims are located, the majority of task force resources and time will center around rescue operations.
- It is important for all task force members to understand the strategy and tactics of rescue operations in order to better support this primary function.

Evaluating Rescue Opportunities

- One of the critical responsibilities of the Rescue Team Managers and Squad Officers is determining, evaluating and prioritizing rescue extrication operations involving live, entrapped victims.
- There are generally five phases of rescue operations at collapse incidents:

Phase One: Assessment of the collapse area.

- Area searched for possible victims (surface/buried).
- Evaluation of the structure's stability.
- Utilities must be evaluated and shut down for safety.

Phase Two: Removal of all surface victims as quickly and safely as possible.

Phase Three: All voids and accessible spaces searched and explored for viable victims.

- An audible call out system can be used during this phase.
- Only trained canine or specially trained personnel should be used in voids/accessible space searches.

Phase Four: Selected debris removal (using special tools/techniques) may be necessary after locating a victim.

■ Phase Five: General debris removal is usually conducted after all known victims have been removed.

FEMA US&R RESPONSE SYSTEM MEDICAL SPECIALIST TRAINING RESCUE OPERATIONS STRATEGY & TACTICS **RESCUE OPPORTUNITIES** PHASE ONE Assessment of area PHASE TWO Surface victim removal PHASE THREE **Exploration of voids** PHASE FOUR Select breaching/debris removal PHASE FVE General debris removal VIEW GRAPH IX - B FEMA US&R RESPONSE SYSTEM RESCUE OPERATIONS STRATEGY & TACTICS

MULTIPLE RESCUE OPPORTUN-ITIES/PRIORITIZATION

- Victim viability/longevity
- Degree of difficulty
- Anticipated results
- Safety considerations

B. RESCUE OPERATIONS STRATEGY & TACTICS

Evaluating Rescue Opportunities (continued)

- The most perplexing strategic decisions will probably involve choices between multiple rescue opportunities that surpass the rescue resources of a TF. In this situation, TF management personnel must prioritize rescue opportunities. Factors include:
 - Victim(s) viability and longevity.
 - Degree of difficulty and duration of each rescue.
 - Possible end results of rescue efforts (i.e., a single rescue operation yielding the extrication of two or more victims, etc.).
 - Safety considerations for rescue personnel.

Rescue Work Site Set Up

- In order to ensure safe and effective rescue operations the responsible Rescue OIC must establish control of the area immediately surrounding the selected work site.
- A Collapse/Hazard Zone is established for the purpose of controlling all access to the immediate area of the collapse that could be affected/impacted by further building collapse, falling debris and/or other situations (i.e., aftershocks) hazardous to personnel.
- The only individuals that will be allowed within this area are the primary TF personnel directly involved in search for or extrication of victims. All other TF personnel must be located outside the hot zone until assigned or rotated.
- The Collapse/Hazard Zone will be identified by an X-type cordon of flagging or rope (criss-crossed) as outlined in the following illustration.
- An Operational Work Area is established for the purpose of controlling access to the rescue work site except for assigned TF members, military personnel, volunteers and other local rescue personnel involved in an operation, and to provide safe and secure work areas for the personnel supporting the rescue operations.
- The Operational Work Area will be identified by a single,

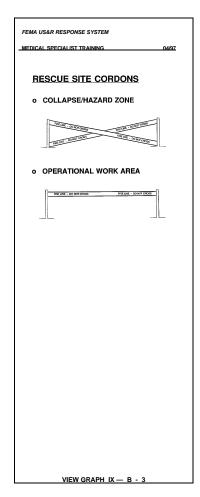


illustration.	on of flagging or r		I	

B. RESCUE OPERATIONS STRATEGY & TACTICS

Rescue Site Set Up

■ When establishing the perimeter of the operational work area, the needs of the following support activities must be provided for and properly identified:

Operations Post - area used by the Rescue OIC assigned to manage and coordinate all SAR activities at the work site.

Medical Treatment Area - location where the TF medical team can set up operations and provide treatment to TF members and extricated victims.

Personnel Staging Area - where unassigned TF members can rest, eat, and be immediately available in case the assigned rescue workers become trapped.

Rescue Equipment Staging Area - where assigned tools and equipment can be safely stored, maintained and issued as needed to support the operation.

Cribbing/Shoring Working Area - where building materials/lumber can be stored and processed as needed to support the on site search and rescue operations.

Access/Entry Route(s) - a clearly defined avenue(s) should be planned and identified for access to and from the rescue work site. Personnel, tools, equipment and other logistics needs would be safely channeled through this route. In addition, controlled egress would be required to quickly evacuate a victim or injured TF member.

Consideration must be given to the security needs and environmental protection (tent/tarps) for the tools, equipment and comfort of the assigned personnel and victims. FEMA USAR RESPONSE SYSTEM

MEDICAL SPECIALIST TRAINING

RESCUE OPERATIONS STRATEGY & TACTICS

RESCUE SITE SET UP

Operations Post

Medical Treatment Area

Personnel Staging

Equipment Staging

Cribbing/Shoring Area

Access/Entry Routes

C. TASK FORCE COMMUNICATIONS CONSIDERATIONS

On-Site Emergency Signalling Procedures

- Effective emergency signalling procedures are essential for the safe operation of task force personnel operating at a disaster site. These signals must be clear and universally understood by all task force personnel.
- Air horns or other appropriate hailing devices shall be used to sound the appropriate signals as follows:
 - Evacuate the Area

3 short blasts (1 sec each)

- Cease Ops/All Quiet 1 long blast (3 sec)
- Resume Operations 1 long and 1 short blast

Radio Communications Plan

- The <u>Radio Communications Plan</u> will be prepared by the task force Communications Specialist once an assignment has been received and evaluated.
- The development of this plan will be conducted in conjunction with the Task Force Leader and the appropriate communications official as determined by the host jurisdiction.
- The purpose of the plan is to specify the appropriate communications frequencies for the task force for all tactical, command, logistics and liaison functions.
- A radio communications plan will be developed for each operational period (as determined by the TFL or Incident Command Post).
- The communications plan should be incorporated as part of the task force briefings to ensure that all personnel are informed of its requirements.
- The Communications Specialist is responsible for monitoring all TF communications for compliance. The Communications Specialist will ensure that all communications hardware is turned off prior to boarding any aircraft.

COMMUNICATION PROCEDURES **EMERGENCY SIGNALLING** ■ Evacuate the Area 3 short blasts (1 sec each) Cease Ops/All Quiet 1 long blast (3 sec) Resume Operations 1 long and 1 short blast FEMA US&R RESPONSE SYSTEM VIEW GRAPH IX - C - 1 COMMUNICATION PROCEDURES **COMMUNICATIONS PLAN** Radio Communications Plan ■ Purpose Each operational period Monitoring for compliance

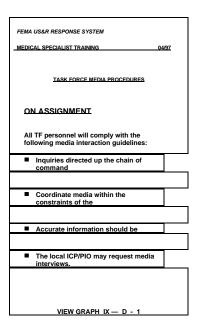
FEMA US&R RESPONSE SYSTEM

MEDICAL SPECIALIST TRAINING

D. TASK FORCE MEDIA CONSIDERATIONS

On Assignment

- All FEMA US&R TF personnel will comply with the following media interaction guidelines while on mission assignment:
 - inquiries made to a TF member should be directed up the chain of command to a Team Manager, TFL or IST, as appropriate.
 - TF Team Managers and the TFL should strive to coordinate media interaction within the constraints of the local jurisdiction's ICP requirements for public information dissemination. The local ICP should have a Public Information Officer (PIO) assigned who will coordinate these issues at the incident.
 - The TFL should coordinate information exchange and release between his TF at the site and the local public information official assigned to the Incident Command Post. This would include coordination of media activities and access during search and rescue operations.
- At times it may not be feasible or practical to defer media inquiries up the chain of command to the local jurisdiction. Accurate information should be provided within the confines of one's job knowledge and responsibility.
- The local jurisdiction's ICP/PIO may request TF personnel to assist in media interviews during the course of operations.



D. TASK FORCE MEDIA CONSIDERATIONS

MEDIA MANAGEMENT SUGGESTIONS

Interviewing "Do's":

- **Ask the reporter's name.** Then use it in your response.
- Use your full name. Nicknames are not appropriate.
- Choose the site (if possible). Make sure you are comfortable with the location of the interview. Consider what is in the background.
- Choose the time (if possible). If you would be more comfortable waiting another five minutes, ask the reporter if that's okay.
- **Be calm.** Your demeanor and apparent control of the situation are very important in establishing the tempo of evolving events.
- Tell the truth.
- **Be cooperative.** There is an answer to most questions, and if you don't know it now, let them know you will work diligently to determine the facts needed.
- **Be professional.** Don't let your personal feelings about the media, or this reporter in general, affect your response.
- **Be patient.** Expect dumb questions. If the same question is asked again, repeat your answer without irritation.
- **Take your time.** If you make a mistake, indicate that you would like to start over with your response.
- **Use wrap-around sentences.** This means repeating the question with your answer for a complete "sound bite".

FEMA US&R RESPONSE SYSTEM

MEDICAL SPECIALIST TRAINING

TASK FORCE MEDIA PROCEDURES

INTERVIEWING DO'S

- Ask the reporter's name.
- Use your full name.
- Choose the site (if possible).
- Choose the time (if possible).
- Be calm
- Tell the truth.
- Be cooperative.
- Be professional.
- Be patient.
- Take your time.
- Use wrap-around sentences.

VIEW GRAPH IX — D - 2

D. TASK FORCE MEDIA CONSIDERATIONS

MEDIA MANAGEMENT SUGGESTIONS

(continued)

Interviewing "Don'ts":

- Say "no comment".
- Give your personal opinion. Stick to the facts.
- Go off the record. Anything you say can and will be used against you.
- **Lie.** To tell a lie unintentionally is a mistake. To intentionally tell a lie is stupid.
- Bluff. The truth will come out.
- **Be defensive.** The media and their audience recognize a defensive attitude and tend to believe you're hiding something.
- **Be afraid.** Fear is debilitating and is not a characteristic you want to portray.
- **Be evasive.** Be up front on what you know about the situation and what you plan to do to mitigate the incident.
- **Use jargon.** The public is not familiar with much of the language used in the US&R field.
- Confront. This is not the time to tell a reporter how much you dislike the media.
- Try to talk and command an incident at the same time. You won't do either well.
- Wear sunglasses.
- Smoke.
- Promise results or speculate.
- Respond to rumors.

FEMA US&R RESPONSE SYSTEM

MEDICAL SPECIALIST TRAINING

TASK FORCE MEDIA PROCEDURES

INTERVIEWING DON'TS

- Say "no comment".
- Give your personal opinion.
- Go off the record.
- Lie.
- Bluff.
- Be defensive.
- Be afraid.
- Be evasive
- Use jargon.
- Try to talk and command.
- Wear sunglasses.
- Smoke
- Promise results or speculate.
- Respond to rumors.

VIEW GRAPH IX - D - 3

E. PROPERTY ACCOUNTABILITY & RESOURCE TRACKING SYSTEM

Property Liability

The following accountability/liability process will cover all US&R activities such as training sessions, exercises and disaster responses.

- The term "non-expendable property" normally includes highcost tools and equipment such as generators, radios, power tools, medical and technical equipment.
- The term "expendable property" normally includes items such as gloves, batteries, food, medication, etc.
- The term "personal property" includes any items that are taken to the disaster by TF members that are not provided by FEMA or the sponsoring organization, such as cameras, radios, binoculars, etc.
- Written statements shall be provided to the TFL, sponsoring organization and FEMA explaining the reason for any nonexpendable items lost, damaged or destroyed, regardless of the circumstances. This should include a statement of the events contributing to the loss or damage and recommend corrective actions, if appropriate.
- The cost for repair or replacement will be charged to the appropriate entity that initiates the use of the cache for any use including training, simulation exercises and disaster response.
- During the restocking process, expendable item shortages will be identified, reordered through the proper channels, and charged to the appropriate agency initiating the activity.
- Authorization for taking personal property must be obtained in writing from the appropriate FEMA official prior to departure. Only personal property that support a legitimate TF activity will be considered.
- Items taken by team members without prior written approval that are lost or damaged are the responsibility of the individual team member.

MEDICAL SPECIALIST TRAINING 04/97
PROPERTY ACCOUNTABILITY/RESOURCE TRACKING
PROPERTY LIABILITY
■ "Non-expendable property"
■ "Expendable property"
■ "Personal property"
FEMA US&R RESPONSE SYSTEM
MEDICAL SPECIALIST TRAINING 04/97
VIEW GRAPH IX — E - 1
PROPERTY ACCOUNTABILITY/RESOURCE TRACKING
PROPERTY LIABILITY
■ Written statements shall be provided
■ The cost for repair or replacement
■ Restocking, expendable item shortages
Authorization for taking personal

F. CACHE MANAGEMENT

The term Cache Management is a generic term for a wide variety of cache activities ranging from pre-deployment packaging of equipment to post mission maintenance. Drills and actual incidents have indicated that the logisticians quickly become overwhelmed with maintenance and tracking activities. The role of all task force members in Cache Management is to support and assist the logistician primarily during deployment activities. These duties will include, but are not limited to:

- Cache Movement, Set Up and Organization
- Inventory and tracking of the cache
- Cache accountability
- Tool Maintenance
- Documentation

Cache Movement, Set-Up, and Organization

Cache Movement, Set-Up and Organization is the laborious task of moving the Cache from point A to point B. This includes pallet build up, loading and/or unloading of transport vehicles and Base of Operations Set Up. All personnel may be required to assist in these labor intensive tasks.

- Any movement of the cache should be under the direction of the logistician who will organize the physical layout of the Cache at the Base of Operations. As a general rule, like colored containers should be grouped together and containers placed in numerical order.
- To assist in Cache organization and to ensure uniformity in marking containers the following colors have been selected to identify the various Task Force elements:

•	RESCUE	Red
•	MEDICAL	Blue
•	TECHNICAL	Yellow
•	COMMUNICATIONS	Green
•	LOGISTICS	White

FEMA US&R RESPONSE SYSTEM MEDICAL SPECIALIST TRAINING CACHE MANAGEMENT Cache Movement, Set Up and Organization ■ Inventory and tracking of the cache Cache accountability ■ Tool Maintenance ■ Documentation FEMA US&R REVIEWS GRAPHMIX — F - 1 CACHE ORGANIZATION ■ RESCUE Red ■ MEDICAL Blue ■ TECHNICAL Yellow **■** COMMUNICATIONS Green ■ LOGISTICS White

F. CACHE MANAGEMENT

Inventory Tracking

- Due to the limited equipment in the cache and possibility of having multiple rescue sites requires Logistics and Medical Specialists to be able to identify which equipment is in use, its location, and which tools are unavailable. To accomplish this task, all task forces should have developed and tested a system for tracking resources and monitoring inventories.
- The two primary methods for tracking resources are:
 - A T-Card is a card specific to each piece of equipment in the cache. As equipment is assigned, the T-Card is removed from the equipment container and a notation is made on the back of the T-Card as to who received the equipment and its location. The T-Card is then placed in a pocket holder at the Base of Operations until the equipment is returned.
 - Bar coding requires assigning a bar code to all equipment and personnel in the task force. As equipment is issued, the rescue specialist who receives the equipment has his/her bar code scanned. The equipments bar code is then scanned which assigns that equipment to the rescue specialist.
- Which ever system the task force uses, all members should be intimately familiar with the workings of their team's system.
- UNDER NO CIRCUMSTANCE SHOULD ITEMS BE REMOVED FROM OR RETURNED TO THE CACHE WITHOUT BEING PROPERLY DOCUMENTED.

Property Accountability

- As care takers and operators of FEMA-owned equipment, the task force must be able to account for all FEMA-owned equipment. Some equipment is a one time use item, other equipment is non-expendable.
- During large-scale disasters some cache items may prove beneficial to the ongoing relief effort. Prior to demobilizing, some cache items may be transferred to the local jurisdiction.

FEMA US&R RESPONSE SYSTEM
MEDICAL SPECIALIST TRAINING 04/97
CACHE MANAGEMENT
INVENTORY TRACKING
■ Two primary systems:
T-Card System
Electronic Barcoding
■ Medical Specialists must be familiar
with task force's system(s)
■ Equipment <u>must</u> be documented
when checked out or back in

VIEW GRAPH IX -

Only the appropriate FEMA ESF-9 official at the Disaster Field Office,in conjunction with the IST Leader and Task Force Leader, can authorize cache items to be left behind.

F. CACHE MANAGEMENT

Documentation

- The documentation process is one of the most important activities undertaken by a task force. Cache management documentation will provide an accurate account of tool performance and maintenance as well as provide justification for FEMA reimbursement of expendable items.
- There are several cache management areas which will require the Medical Specialist to provide written documentation. These include:
 - Equipment use logs should maintained in order to track upcoming maintenance, and to document which equipment has been found most useful to the task force.
 - Repair logs are not only used to record maintenance but to identify which equipment requires frequent repairs, design problems and/or personnel training deficiencies.
 - Repair tickets must be filled out for any equipment needing repair. A description of the repairs needed or a statement indicating the operating problems should be noted. In addition, any trouble shooting done in the field should be noted on the repair ticket. This will help reduce duplication of effort.
- Repair tickets should be attached to the item needing repair so repairs can be done at a later time.

FEMA US&R RESPONSE SYSTEM	
MEDICAL SPECIALIST TRAINING	04/97
CACHE MANAGEMENT	
DOCUMENTATION	
■ Documentation should provide	
an account of tool performance	
and maintenance.	
■ Maintenance should be tracked.	
■ Repair tickets should be filled out.	
■ Field troubleshooting should	
be documented.	

VIEW GRAPH IX

G. STRUCTURE TRIAGE, ASSESSMENT & MARKING SYSTEM

TASK FORCE MARKING SYSTEMS

- It is imperative that the information derived from a coordinated building triage and/or search and reconnaissance activities be consolidated by the TF supervisory personnel.
- This will be used to identify operational priorities and also must be forwarded to the local ICP (or other officials in charge) to assist with their overall assessment of the event.
- Information gathered by TF personnel must be represented in a standardized fashion to ensure uniformity and clarity. The TF Marking System is identified and divided into two sections:
 - Structure/Hazards Evaluation Marking
 - Search Assessment Marking
- The marking procedures are designed to identify specific information pertinent to each affected building.
- Each can be completed independently, although normally the Structure/Hazards Evaluation would be completed first.
- It is expected that the TF Structures and Haz Mat Specialists on the search/reconnaissance team would address the Structure/Hazards Evaluation marking while the balance of the team would address the Search Assessment marking.

FEMA US&R RESPONSE SYSTEM

STRUCTURES TRIAGE, ASSESSMENT & MARKING

TASK FORCE MARKING SYSTEMS

- Consolidate information from:
 - triage team(s)
 - · search and reconn team(s)
- Establish priorities for follow-up actions
- Information categorized in standardized manner
- Two categories of marking:
 - structure/hazard evaluation
 - search assessment

VIEW GRAPH IX — G - 1

G. STRUCTURE TRIAGE, ASSESSMENT & MARKING SYSTEM

STRUCTURE/HAZARDS EVALUATION MARKING

- A 2' X 2' square box will be outlined at any entrance accessible for entry into any compromised structure.
- Aerosol cans of spray paint (International Orange color) will be used for this marking system.
- It is important that an effort is made to mark all normal entry points to a building under evaluation to ensure that TF personnel approaching the building can identify that it has been evaluated and discern its condition.
- Specific markings will be clearly made adjacent to the box to indicate the condition of the structure and any hazards at the time of this assessment.
- Normally the square box marking would be made immediately adjacent to the entry point identified as safe. An arrow will be placed next to the box indicating the direction of the safe entrance if the Structure/Hazards Evaluation marking must be made somewhat remote from the safe entrance.
- The depiction of the various markings are as follows:
 - The structure is accessible and safe for search and rescue operations.
 - damage is minor with little danger of further collapse.
 - The structure is significantly damaged.
 - some areas are relatively safe, but other areas may need shoring, bracing, or removal of falling and collapse hazards.
 - the structure may be completely pancaked.

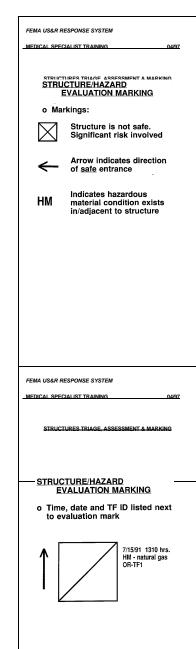
MEDICAL SPECIALIST TRAINING 04/97
STRUCTURES TRIAGE, ASSESSMENT & MARKING
STRUCTURE/HAZARD EVALUATION MARKING
■ Identify access points
■ Mark with paint
■ Mark all access points
■ Mark condition of structure
FEMA US&R RESPONSE SYSTEM
MEDICAL SPECIALIST TRAINING 04/97
MEDICAL SPECIALIST TRAINING
VIEW GRAPH IX — G - 2
VIEW GRAPH IX — G - 2
VIEW GRAPH IX — G - 2 STRUCTURES TRIAGE, ASSESSMENT & MARKING STRUCTURE/HAZARD
VIEW GRAPH IX — G - 2 STRUCTURES TRIAGE, ASSESSMENT A MARKING STRUCTURE/HAZARD EVALUATION MARKING
VIEW GRAPH IX — G - 2 STRUCTURES TRIAGE ASSESSMENT & MARKING STRUCTURE/HAZARD EVALUATION MARKING o Markings:

G. STRUCTURE TRIAGE, ASSESSMENT & MARKING SYSTEM

STRUCTURE/HAZARDS EVALUATION MARKING (continued)

- The structure is not safe for search and rescue operations and may be subject to sudden additional collapse.
 - remote search operations may proceed at significant risk.
 - if rescue operations are undertaken, safe haven areas and rapid evacuation routes should be created.
- An **arrow** located next to a marking box indicates the direction to the <u>safe</u> entrance to the structure, should the marking box need to be made remote from the indicated entrance.
- "HM" indicates that a hazardous material condition exists in or adjacent to the structure.
 - personnel may be in jeopardy.
 - consideration for operations should be made in conjunction with the Hazardous Materials Specialist.
 - type of hazard may also be noted in clear text.
- The TIME, DATE, and TF ID, will also be noted outside the box at the upper right-hand side. This information will be made with pieces of carpenter's chalk or lumber crayon An optional method may be to apply duct tape to the exterior of the structure and the detailed information written on the tape with a grease pencil or black magic marker.

The View Graph indicates that a safe point of entry exists above the marking (possible a window, upper floor, etc.). The single slash across the box indicates the structure may require some shoring or bracing before continuing operations. The assessment was made on July, 15, 1991 at 1:10 PM. There is an apparent indication of natural gas in the structure. This evaluation was made by the #1 TF out of the state of Oregon.



H. PHYSICAL SEARCH

The Physical Void Search

- By the time US&R Task Force resources arrive at most incidents a basic physical search is done by neighbors, passersby or first responders.
- The physical void search method of locating potential victims may be used by the Task Force Search and Reconnaissance Team and other members during the initial stages of the rescue operation and at other times as deemed necessary by the Search Team Manager.
- To be effective the physical void search must be organized and conducted in a logical and systematic manner to reduce duplication of effort and to locate as many victims as possible in the shortest amount of time while visually assessing all accessible void spaces.

Hailing Search Method

- Since the ability to locate victims by actually seeing them during a void space search is limited, the Hailing Search Method is also used during the physical search.
- This method can be used by task force members working in teams of two during the physical void search or by several task force members in a coordinated fashion as an array of listeners deployed in an encircling or grid pattern around the collapse site.
- The area is quieted and a bull-horn or other hailing method is used to provide direction to potentially trapped victims. Task force members listen and attempt to pin-point the location of any noises being made in response to the directions.
- Hailing directions given to potential victims:
 - This method has a higher success rate when potential victims are told to yell and knock on something solid between 3 and 5 times at the same time.
 - The collapse pattern, building materials and a multitude of other variables can cause voices to be heard clearer

PHYSICAL SPECIALIST TRAINING

PHYSICAL SEARCH

PHYSICAL VOID SEARCH

Usually done by neighbors, passersby or first responders.

A thorough and effective physical void search must be:

Organized

Conducted in a logical and systematic manner

Assess all accessible void spaces.

FEMA USAR RESPONSE SYSTEM

MEDICAL SPECIALIST TRAINING

VIEW GRAPH IX — H - 1

	than knocking and clearer than voices.	sometimes	knocking	can b	oe heard	

H. PHYSICAL SEARCH

Advantages and Disadvantages of the Physical Void Search and the Hailing Search Method

- Advantages of physical void search:
 - Does not require specialized personnel, canine, or sophisticated electronic equipment.
 - Most people can be quickly trained to support the physical void search — utilizes the natural sight and hearing capabilities of the personnel conducting the search while working in teams of at least two members.
- Disadvantages of physical void search:
 - Limited access to all void spaces in the building.
 - Required proximity to damaged structures may be dangerous to search personnel.
- Advantages of the Hailing Search Method:
 - Same as above. Personnel can inform the victim of expected response/obtain information from the victim.
 - This can be modified/used with listening devices.
- Disadvantages Hailing Search Method:
 - Will not locate unconscious, physically weak or very young victims unable to follow directions.
 - Sound of yelling/knocking may be too weak for audible detection by task force members.

Where to Start a Physical Void Search

- Search Likely Survival Places First
 - Type of Occupancy. (Office, School, Home, etc.)
 - Time of day when the collapse occurred.
 - Talk with co-workers, relatives, neighbors, or survivors.
 - If possible, obtain a map of the site or facility.
 - Consider potential exit pathways and current position of the collapsed building.
 - Victims are sometimes entrapped in hallways leading to an exit while trying to escape when the building collapsed.
 - Depending on how far the building shifted during the collapse, some victims have been located in

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PHYSICAL SEARCH

PHYSICAL VOID SEARCH

- Advantages:
 - · Does not require specialized personnel or equipment.
 - · Quickly trained to support this effort

FEMA US&R RESPONSE SYSTEM

■ Disadvantages:

- Limited access to all void spaces in the PHYSICAL SEARCH buildina.
- Damaged structures may be dangerous. HAILING METHOD
- Advantages:
 - Same as physical void search.
 - Personnel can inform the victim of VIEW GRAPH IX — H - 3

 expected response and obtain additional

FEMA US&R RESPONSE SYSTEM

• This procedure can be modified and used in conjunction with listening devices.

- PHYSICAL SEARCH

 Disadvantages:
 - · Will not locate unconscious, physically

weak or very young victims unable to WHERE TO START

- Sound of velling/knocking may be too
- Search Likely Survival Places First weak for audible detection by task force

members.

Type of Occupancy. (Office, School, Home, etc.)

VIEW GRAPH IX — H - 4

- Time of day when the collapse occurred.
- · Talk with co-workers, relatives, neighbors or survivors.
- If possible, obtain a map of the site or facility.
- Consider potential exit pathways and current position of the collapsed building.

rooms under floors six to eight feet to the side of similar rooms remaining above.	ſ

H. PHYSICAL SEARCH

Where to Start a Physical Void Search (continued)

- Known location of entrapped victim(s)
 - The search team should take the safest and most direct route to that location to verify the location of the victim(s).
 - After locating the victim(s) the search team may take any one of the following actions based on their current assignment and stage of the rescue operation.
 - The victim(s) may be rescued by the search team if the rescue can be easily accomplished.
 - The search team requests appropriate resources to extricate severely entrapped victims.
 - The search team notifies the Search Team Manager about the location of the victim(s) and then continue to conduct a search of the entire building.
- Unknown location of potential victim(s)
 - The team will need to systematically search all the rooms and accessible void spaces of the entire building.
 - Entry options into the structure should include:
 - If possible, use existing openings.
 - breaching (cutting) access holes through the roof or floors is quicker and safer than making holes in walls.
 - access from the top of the structure is sometimes safer than entering from the sides.

Basic Search Patterns

- Basic Search Pattern for Multiple Rooms —Go Right, Stay Right
 - After entering the structure turn to the right, stay in contact with the right wall, either visually or physically, until the entire accessible area has been searched and search team returns to their starting point.
 - If the search team needs to exit and can't remember the direction they entered, simply turn around and stay in contact with the same wall, either visually or physically, keeping it on the left.

FEMA US&R RESPONSE SYSTEM

_MEDICAL SPECIALIST TRAINING 04/97

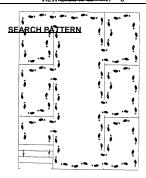
PHYSICAL SEARCH

WHERE TO START

- Known Location of Entrapped Victim(s)
 - The search team should take the safest and most direct route to that location to verify the location of the victim(s).
- Unknown Location of Potential Victim(s)
 - The team will need to systematically search all the rooms and accessible void spaces of the entire building.
- If possible, use existing openings.
- Breaching (cutting) access holes through the roof or floors is quicker and safer than making holes in walls.
- Access from the top of the structure is

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H. PHYSICAL SEARCH

Basic Search Patterns (continued)

- Basic Search Pattern for Large Open Areas (Auditoriums, Cafeterias, Offices with multiple partitions, etc.) Line Search:
 - Spread search team members straight across the open area.
 - Slowly walk through the entire open area to the other side.
 - Team members on the ends of the line, search perimeter rooms using the go right and stay right method.

Other Physical Void Search Considerations

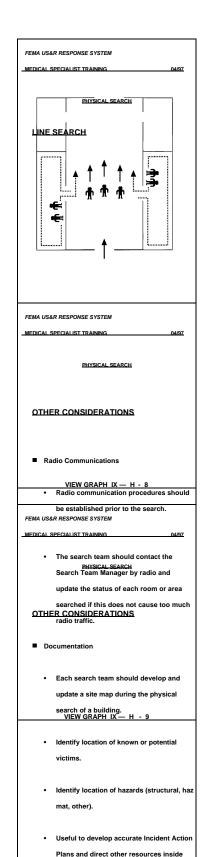
- Radio Communications
 - Radio communication procedures should be established prior to the search beginning.
 - The search team should contact the Search Team Manager by radio and update the status of each room or area searched if this does not cause too much radio traffic.
 - Search Team Manager can update a site map, if available, and keep track of the search team's progress and exact location within the building.

Documentation

- Each search team should develop and update a site map during the physical search of a building.
- Identify location of known or potential victims.
- Identify location of hazards (structural, haz mat, other).
- Useful to develop accurate Incident Action Plans and direct other resources inside the building.

Search Markings

A separate and distinct marking system is necessary to conspicuously denote information relating to victim and hazard locations in the areas searched.



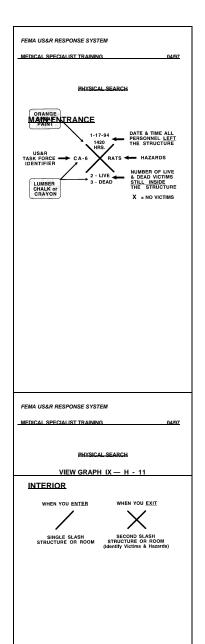
the building.

H. PHYSICAL SEARCH

Search Markings (continued)

- The Search Marking system is designed to be used in conjunction with the Structure/Hazards Evaluation marking system.
- Search Markings must be easy to make, easy to read and easy to understand.
- To be easily seen the search mark must be large and of a contrasting color to be background surface.
 - Orange spray paint seems to be the most easily seen color on most backgrounds.
 - Line marking or "downward" spray cans apply the best paint marks on both vertical and horizontal surfaces.
 - Lumber chalk or lumber crayons should be used to mark additional information inside the search mark because they are easier to write with than spray paint.
- A large distinct marking will be made outside the main entrance of each building or structure searched.
 - This "Main Entrance" search marking will be completed in two steps.
 - First, a large (approximately 2') single slash shall be made near the main entrance at the start of the search.
 - After the search of the entire structure has been completed a second large slash shall be made in the opposite direction forming and "X".
 - Specific information will be placed in all four quadrants of the Main Entrance "X" summarizing the entire search of the structure.
 - Left Quadrant- FEMA US&R TF identifier
 - Top Quadrant- Date and time that TF personnel left the structure
 - Right Quadrant- Personal hazards
 - Bottom Quadrant- Number of live and dead victims <u>still inside</u> the structure.

(small "x" = no victims)



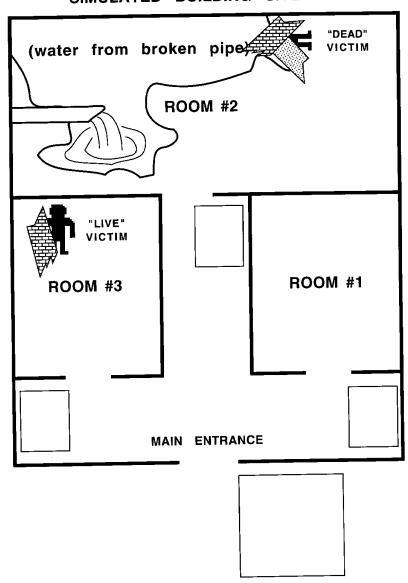
H. PHYSICAL SEARCH

Search Markings (continued)

- During the search function while inside the structure a large (approximately 2') "X" will be made in the same two step process upon entry and exit of each room or area.
 - The only information placed in any of the "X" quadrants while inside the structure shall be that of any significant hazards or the number of live or dead victims.
- The Main Entrance and internal search markings must be kept up to date after the initial search markings have been made.
 - The previous Main Entrance search marking must be crossed out and a new one initiated by the personnel now entering the structure.
 - Internal search markings and the Main Entrance mark must be updated with the correct information at the time all personnel leave the structure.
- The search marking symbols must be placed on the developing site map during the search of the structure or area.

H. PHYSICAL SEARCH

Search Markings (continued) SIMULATED BUILDING SITE MAP



VIEW GRAPH IX — H - 13

I. CANINE SEARCH

Overview

- A well trained canine search team can search large areas in a relatively short amount of time. The team consists of a Canine Search Specialist and a search dog. The dogs use their keen sense of smell to detect victims buried under the debris.
- Many different breeds of dogs are used in disaster work. The dogs should be medium-sized, agile, responsive to the handler's directions, generally friendly, and extremely willing to please. The dogs used for high-level US&R disaster work should be nationally certified at the Advanced level. If demand exceeds availability, then the dogs used should at least be certified at the minimally-deployable Basic level.
- The handler should be certified in Advanced First Aid and CPR. He is required to have taken the Rescue Systems 1 class, and Haz Mat Awareness, as well as having a good knowledge of I. C. S., and C.I. S. D.
- The search dog will indicate finding the scent of a buried human victim by focused barking at the strongest scent source. The canine may dig at the scent source and try to penetrate to the victim. The primary function of the canine is to detect those victims that are alive. However, most canines will give subtle indications of the dead, and whenever possible, these areas will be noted for future recovery.

Canine Operations

The search team manager, technical search specialist, and the canine search specialists (handlers) will survey the site and decide the best search strategy for the operation. They will factor in the time of day, the temperature, size of area to be searched, and the type of collapse. The site will usually be divided into small search sectors. The search team manager should sketch the general features of the structure/rubble area, labeling each search sector, and noting all significant information (land marks, etc) on the sketch for future reference.

FEMA US&R RESPONSE SYSTEM CANINE SEARCH OVERVIEW Team consists of: · one handler FEMA US&R RESPONSE SYSTEM CANINE SEARCH ■ Certification OVERVIEW Canine search response: VIEW GRAPH IX -FEMA US&R RESPONSE SYSTEM CANINE SEARCH CANINE OPERATIONS Search Team Manager Tech Search Spcist Canine Search SpcIst VIEW GRAPH IX - I Strategy based on: temperature Sector division Label and map

I. CANINE SEARCH

Search Tactics

- The Search Specialist, from a safe zone will deploy canine #1 to free search the sector. If no alerts or areas of interest are indicated the handler will then direct the canine in a fine grid like search of the sector. While canine #1 is searching, canine #2 is nearby and resting. However, team two handler and possibly the Team Manager will be observing (spotting) canine #1 search. Each will watch from a different vantage point. These spotters provide the handler with very important information on how well the area has been covered, areas that need to be researched, and any subtle alerts on possible dead bodies, etc.
- If canine #1 detects human scent and alerts, the handler will praise and reward the canine as they leave the area. The area must be noted on the map and no flagging will be placed at this time. Canine #2 will be deployed into the general area of the alert. If the alert is confirmed by canine #2 it will be flagged and the search team manager will inform the task force leader of a find.
- If there are no finds the canine teams will switch places after approximately 20-30 minutes of searching. Canine #2 will research the same sector. If possible, the handler will direct canine #2 to fine grid the sector in a different direction than canine #1 worked, such as north to south or east to west.
- When a search sector has been completely searched by both canines, the next sector will be started, and so on until the entire site has been searched. The canine team should continue to search around rescue operations that may be in progress, providing this doesn't endanger the rescuers.

CANINE SEARCH SEARCH TACTICS Search is a priority: free search fine search re-coverage w/ 2nd dog work to rest ratio role of the spotter FEMA US&R RESPONSE SYSTEM VIEW GRAPH IX - I - 4 CANINE SEARCH DETECTION/ALERTS Reward, resume or exit Mapping alerts Reconfirmation Interface with rescue Note lack of coverage

FEMA US&R RESPONSE SYSTEM

I. CANINE SEARCH

Scent

- Scent channels around the solid slabs, large chunks of concrete, and canines will indicate where scent is emerging, not necessarily exactly where the victim is located. Scent tends to raise /flow relatively evenly through more broken rubble and lighter types of structures such as light frame, URM rubble with wood floor planes, and badly broken reinforced concrete and precast concrete buildings. Therefore, the canines will tend to indicate a more precise location of the scent source/victim in these lighter, more broken structures.
- Continued researching of any structure, as it is penetrated by cutting and removal, is important in order to better locate the initial victim and provide information regarding additional victims. This is especially true for concrete structures with solid slabs, since the scent may be traveling back and forth across many solid layers/floor surfaces, and a true direction for victim location may not be indicated until the layers/floor level on which the victim rests is reached.

Canine Working Conditions

- Best working conditions:
 - Dawn and dusk when scent is rising.
 - Cool weather, light winds (up to 20 MPH).
 - Stable rubble that doesn't slide as canine traverses.
 - Light rain.
- Difficult working conditions:
 - Hot weather (above 90 degrees).
 - Middle of day when temperatures are above 80 degrees.
 - Strong winds/no winds.
 - Snow makes surfaces more slippery/hides surface safe footing unknown.
 - Fire fighting foam and other chemicals.

FEMA US&R RESPONSE SYSTEM SCENT precast concrete pane FEMA USAR RESPONSE SYSTEM Emergence vs. Location CANINE SEARCH smaller rubble more precise Continued research important
 WORKING CONDITIONS scent travels back and forth ■ Rest · dawn, dusk VIEW GRAPH IX FEMA US&R RESPONSE SYSTEM CANINE SEARCH · light winds WORKING CONDITIONS stable rubble ■ Difficult: light rain id-day VIEW GRAPH IX — I strong wind

I. CANINE SEARCH

Canine Pros and Cons

- Advantages in canine search:
 - Can search large areas in short period of time.
 - Can traverse or gain access to voids and other opportunity sources.
 - Can work in unsafe areas.
 - Can detect unconscious victims
- Disadvantages:
 - Short work period of 20-30 minutes, rest for 20-30 minutes, ready to work, etc.
 - Need two canines to search same area, to check/confirm
 - Performance may vary according to individual handler/canine capabilities.
 - Scarce resource

Combining Search Tools

- Whenever possible dogs and electronic search should be employed together.
- Canines can and have successfully worked with electronic detection that senses structure borne sound/vibration.
- In Mexico City 1985 Quake, relatively crude seismic sensors were used in the quiet of late night to determine if live/conscious victims were present in pancaked, waffle slab structures. Canine teams were then deployed within the cavities of the building to pinpoint the location of victims, leading to the successful rescue.
- With the more sensitive electronic detection currently available, a more efficient interaction between canine and seismic sensors should be initiated.

FEMA US&R RESPONSE SYSTEM CANINE SEARCH CANINE PROs/CONs Advantages: · large area in short time FEMA US&R RESPONSE SYSTEM unstable, unsafe areas

FDICAL SPECIALIST TRAINING CANINE SEARCH · unconscious victims CANINE PROS/CONS ■ Disadvantages: VIEW GRAPH IX - I - 9 · rest periods FEMA US&R RESPONSE SYSTEM

• use of two to confirm performance may vary - uncertified to certified - basic to advanced handler to handler **COMBINING SEARCH TOOLS** scarce resource Canine and seismic ■ Electronic: · large, pancaked structures · indicate which floor level VIEW GRAPH IX - I - 10 ■ Time of day: · electronic mid-day (hot) · canine at night canine to confirm/pinpoint unconscious victims bldgs w/ poor vibration xmit

Both can verify each othe

I. CANINE SEARCH

Combining Search Tools (continued)

- For large, multi-story, pancaked concrete slab structures the electronic detectors could initially indicate, if conscious victims respond, even on which floor level they are trapped. Canine could then be more efficiently directed to search a specific floor area, even through relatively thin, unsafe voids.
- During hot, day time hours, the electronic devices could be deployed to locate numerous areas where victims are located. These area would then be searched at dusk by canine teams to confirm and pinpoint location.
- In buildings with unconscious victims or poor vibration transmission, characteristic of (badly broken structures of wood, brick, and even precast concrete), the initial search by canines may be the most effective.
- By contrast, in a large concrete and/or steel structures, electronic detection should be the most effective initial search tool.
- When both of these area search tools are available, they should be used to check/verify the finds of the other.

Site Search Priority

Depending upon the situation, it may not be necessary to deploy a full search and recon team. Once a viable specific work area (i.e., group of buildings, single building o separate section within a building) has been determined or assigned, the various search tactics should be determined. In many instances, the canine search can provide the most rapid assessment of a work site area. One search canine team can cover a significant area in short amount of time. This capability might be used first to sweep an area for a general assessment of indications for victims. The redundant check by the other canine should be used to ensure the greatest degree of credibility.

FEMA USAR RESPONSE SYSTEM

MEDICAL SPECIALIST TRAINING

CANINE SEARCH

SITE SEARCH PRIORITY

Canine provide rapid assessment:

movable component

don't need entire recon

use for initial sweep

large area in short time

I. CANINE SEARCH

Site Search Priority (continued)

- The electronic search capability may be used effectively, prior to, in conjunction with the ongoing canine search, or afterward. The electronic search by it's nature will usually be slower and more time consuming. The specific selection of an electronic search site could result from the prior indications of the canine search teams be based upon the or construction/occupancies affected, as noted earlier. again, a redundant check by a second operator should be made after an initial find is identified and should also be marked if necessary.
- Prior to the location of any viable trapped victims, the task force rescue personnel present a significant search resource. They should be used to assist the canine and technical search personnel with safety assessments at collapse sites, gaining access to difficult areas, deploying equipment, etc. They also should conduct physical search operations, either separately, or in conjunction with the canine/electronic search operations. Individual void inspections or combined listening operations can be conducted, as necessary. These operations would be coordinated by the Rescue Team Manager in conjunction with the Rescue Squad Officers.
- Once a reliable indication of the general location of a victim(s) is made, the use of the fiberoptic viewing equipment (in conjunction with the concrete hammer/drills, if necessary) may prove useful in precisely determining the exact location and orientation of the victim(s). These tools may also prove to be the most effective method of performing a general sweep of a collapse area adjacent to an open, accessible area (such as an intact basement or floor above a collapsed area). An array of inspections holes can be drilled and fiberoptic viewers can be inserted to make a general determination of the collapsed area.

MEDICAL SPECIALIST TRAINING

CANINE SEARCH

SITE SEARCH PRIORITY

Electronic:

• slower, more time-consuming

• use before/after/with canine

Rescue personnel assist with:

• safety/access/equipment

• physical search separately or in conjunction with canine

VIEW GRAPH IX - I - 13

I. CANINE SEARCH

Summary

- When the task force arrives at an area severely affected by an earthquake, they could possibly be faced with hundreds of persons trapped beneath the rubble. Some may be alive, others dead, and many simple rescues may have already been accomplished by the community.
- The combined use of physical, canine and electronic search tactics will enable the task force to better establish priorities and focus emphasis on the most important rescue activities.
- The task forces will be assigned the most difficult rescue situations. Depending on the complexity of the search and rescue activity, a great amount of time may be spent on each live extrication. The search function must locate viable victims before committing rescue resources to any prolonged operation.
- Time should not be wasted in unproductive missions (such as removing bodies or finding trapped animals) while other live victims might still be saved.
- Accordingly, it is essential that all members of the task force understand the advantages and disadvantages of each search tool. The interdependence of the search and rescue function requires mutual respect and confidence, which can be best maintained by understanding that each has significant capability, and limitations.
- Task force supervisors must ensure the close interaction of the Structures Specialists with the search and rescue personnel during search operations. The Structure/Hazards Assessment should include information regarding existing openings, probable victim location, in addition to evaluation of structure stability and hazard identification.
- Recurring assessments should be performed throughout the operations, since aftershocks and debris/structure removal can expose new hazards and new search opportunities.

FEMA US&R RESPONSE SYSTEM
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CANINE SEARCH
SUMMARY
■ Search is priority.
■ Know resources/tools
■ Train w/ local canine
■ ID breakdown situations
■ Combine tools when possible
■ Well trained canine effective
VIEW GRAPH IX — 1 - 14

J. LIFE SAFETY ISSUES

Safety

- Safety of the team members is of the utmost concern, especially when conducting field operations.
 - Some team members may not be familiar with the vast amount of things that can go wrong immediately following a disaster.
 - Some of the highlights that you may be exposed to during your assignment may not be routine to someone outside the first responder community.
 - If safety is compromised by anyone at any time, the consequences could be serious.

The following safety issues should be considered, but not limited to your operation:

Security:

- Don't always count on a disaster area being secure. In many cases one may find civil disturbance is jeopardizing response initiatives which further complicates the mission. These areas must be avoided until conditions are sufficiently safe for team members to perform their tasks.
- Area security is a State/local government responsibility.
 In some cases, police escort may be necessary. Again, in these situations, uniformed personnel may be targeted by undesirables seeking to take advantage of the damaged infrastructure.
- Security at the Base of Operations is the responsibility of FEMA Logistics and in some cases may be provided by MERS unit personnel.
- NOTE: Unless so authorized, do not take any weapons along.

MEDICAL SPECIALIST TRAINING

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LIEEAARETEX

Safety Concerns/Issues

Security

Weapons

Air Operations

Unstable Structures/Footing

Hazardous Materials

Contamination

Adverse Weather

Unfamiliar Surroundings

Aftershocks

Damaged Infrastructure

Falling Material/Falling Objects

VIEW GRAPH IX -

J. LIFE SAFETY ISSUES

Safety (continued)

Air Operations:

- One method of travel frequently used by US&R personnel is helicopter. A word of caution: be sure to receive a pre-flight safety briefing before boarding and follow instructions furnished by the pilot or loading supervisor.
- Remember, following a disaster unusual hazards may exist that the pilot may not be familiar with. Unsafe acts on the part of the pilot and crew can also be a problem.
- Some of the issues to be concerned with include overloading, proper clearances for takeoff and landing, rotor wash, security around the helicopter, and adequate intercom capabilities so that team members can communicate during flight. Example: Philippines Assessment Flight.

Unstable structures and uneven footing.

Injuries to emergency responders, in many cases, are
the result of falling debris and compromised surfaces.
Assessment team members must take extra precautions
to minimize injuries by wearing the required safety gear
when working in the affected area. An injury during the
mission becomes a team liability which may prevent the
completion of the entire assessment task.

Exposure to hazardous materials.

- Their is a significant risk of exposure to hazardous material. There are two kinds of exposure to be consider prior to entering the impact area: direct exposure from an area that has been contaminated and indirect exposure from moving water or a cloud/vapor plume moving through or beyond the impact area.
- Most facilities (major targets) such as hospitals, labs, universities, manufacturing plants and warehouses have a broad array of hazardous material on site. Other major sources of hazmats are underground pipe lines, railroad cars, and trucking companies. Displaced power line transformers may also pose a significant risk to assessment teams.

J. LIFE SAFETY ISSUES

Safety (continued)

- Contaminated air, water and fuel.
 - Contamination of air, water and fuel sources following a disaster is likely. It is best to assume contamination has occurred until proven otherwise. Ensure that you have a adequate supply of water and fuel before entering the affected area.

Adverse weather.

- It is essential that you are prepared for any kind of weather change prior to leaving your point of departure.
 A weather change that the team is ill equipped to handle could jeopardize successful and timely completion of the mission.
- Response teams must be self sufficient. Additional resources may not be immediately available in the effected area.
- Rain gear, cold weather gear, and appropriate amounts and types of clothing are required for all deployments.
 Wet and cold conditions could cause illness or injury among team members which would interfere with completing the mission.
- Navigating in unfamiliar surroundings.
 - Traffic directional signs and other land marks may not survive the disaster impact. Traditional road maps not be valid following a major disaster. Extra care to avoid accidents must be taken because the "new" landscape is distracting and may be confusing.
 - Team members should utilize sophisticated electronic communications equipment and drive a vehicle at the same time. A designated driver with no other responsibility must be assigned to provide transportation for the team.

J. LIFE SAFETY ISSUES

Safety (continued)

- Earthquake aftershocks.
 - Severe after shocks following a major earthquake are common and can create additional injuries and fatalities Unstable structures including bridges, overpasses, high rises and water towers may suffer further collapse as a result of after shocks. Personnel must be constantly aware that they may be effected by such events and take necessary precautions while conducting their task. Many injuries and deaths of first responders could be prevented if more precautions against additional shockwaves were taken.
- Compromised infrastructure, including communications, roadways, bridges, air traffic control.
 - Assume all infrastructure has been compromised even though prior intelligence may have stated otherwise.
 Although telephone and cell systems may have survived the disaster intact, they may soon be overloaded by responder and/or public demands.
 - Traffic congestion will always occur following a disaster.
 The affected public will be evacuating the area as responders are moving toward the disaster.
 - US&R vehicles must be clearly marked and warning lights should be used to facilitate arriving at target sites.
 Vehicles should be equipped with four wheel drive.
 Standard vehicles may have difficulty traversing terrain while getting to and around target sites.
- Falling material or flying objects.
 - Displaced material may be everywhere; after shocks or winds may cause displaced objects to become airborne. Eye and head protection are essential. Eye injuries are especially painful and immediate treatment will be required to prevent further injury. Eye and head injuries are a liability to the team and may even require aerial medical evacuation.
 - Contact lenses wearers are especially vulnerable.
 Responders with contact lenses should bringing an extra pair of glasses.

J. LIFE SAFETY ISSUES

Team Safety

- Safety concerns for team personnel include:
 - Assessment of their physical fitness.
 - Successful completion of a current physical examination.
 - Proper inoculations.
 - Personal gear pack/day pack organized and immediately available.
 - Appropriate personal safety equipment on hand.
- Safety assessments should be identified and factored into:
 - Base of Operation site selection.
 - Transportation strategies.
 - Selected work sites/areas to assess
 - Communications, action-planning, and personal accountability process.
 - Briefing(s).
- Safety issues should be highlighted during operational briefings to include:
 - Emergency communications system.
 - Personal accountability process.
 - Medevac procedures identify process to use.
 - Role and responsibility of individual and team.
 - Stress/fatigue of team members.
 - Reporting and documenting injuries.

FEMA US&R RESPONSE SYSTEM
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LEE SAFETY
Other Non-Operational Concerns
■ Physical Fitness
■ Physical Examination
■ Inoculations
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■ Personal Preparedness MEDICAL SPECIALIST TRAINING 04/97
■ Safety Equipment LEE SAFETY
Safety Assessment Issues
FEMA US&R RESPONSE SYSTEM
MEDICAL SPECIALIST TRAINING 04/97
■ Base of Operations
■ Transportation VIEW GRAPH IX — J - 2
Operational Briefing Considerations Assigned Work Area
■ Communication/Action-Planning
■ Personal Accountability
■ Emergency Communication Issues
■ Briefings ■ Personal Accountability
■ Medevac Procedures
■ Roles and Responsibility
■ Stress/Fatigue
■ Reporting/Documenting Injuries VIEW GRAPH IX — J - 3

J. LIFE SAFETY ISSUES

Conclusions

- Safety and security of the team is essential. If someone is injured and not able to perform their function and mission objectives can be compromised.
- How well one does the job will be determined by the end results. The question to be asked is, are you satisfied that the immediate life-saving needs of the community and your team are met in a professional manner?

FEMA	US&R RESPONSE SYSTEM
MEDIC	AL SPECIALIST TRAINING 04/97.
	LHE-RAFETY
	Summary of Issues and Concerns
•	Mission Objectives
•	Team Concerns
•	Safety Concerns
•	Other Non-Operational Concerns
•	Safety Assessment Issues
•	Briefing Issues

K. CODE OF CONDUCT

- Conduct of your task force response personnel when deployed is of high concern of your sponsoring organization, FEMA and the local officials associated with the disaster response operations.
 - You are perceived by all concerned that you represent a well organized, highly professional group of technical specialists that have been assembled to provide support to communities who are in desperate need of assistance.
- Any violation of principles or adverse acts by individuals will be looked upon as non-professional and will reflect poorly on the whole team performance.
 - All of the good work you may have performed will soon be forgotten.
 - Through all phases of the response effort is no time for a free lancer who may want to take advantage of any situation/opportunity that surfaces.
 - At the conclusion of the mission, you must ensure that your image has been positive and you will be remembered for the outstanding way you performed both socially and in the work environment.
- Task force managers will reinforce the US&R Code of Conduct during briefings and will be responsible for monitoring for compliance.
 - Violations will be documented and appropriate follow-up action will be taken.

FEMA US&R RESPONSE SYSTEM

MEDICAL SPECIALIST TRAINING 04/97

US&R OPERATIONAL PROCEDURES

CODE OF CONDUCT

- No transportation/use of illegal drugs/alcohol
- No firearms allowed
- Normal radio protocol used/traffic kept minimum
- Know your chain of command/who you report to
- Limit procurement of equipment
- Do not take things without authorization
- Act professional
- Remain ready even when unassigned
- Recreation limited to <u>unassigned</u> hours
- Maintain/wear safety gear/clothing
- Wear proper uniform
- Your actions reflect your organiz./FEMA

VIEW GRAPH IX — K - 1

IX. OTHER US&R OPERATIONAL PROCEDURES L. MISSION CLOSURE

DEMOBILIZATION

- The TFL should be considering demobilization issues several days before the assignment has been completed, and discussed with the Team Managers during action planning meetings and reviewed with TF members during the briefing sessions.
- Advanced consideration is required for issues such as:
 - The condition of TF personnel.
 - Notifications to the sponsoring organization.
 - Transportation requirements (both ground and air), inventory and packaging of tools and equipment.
 - Break down of support facilities (tents, etc.).
 - General clean up of the rescue work sites.
 - Resupply requirements and after-action activities including TF debriefing, records and reports etc.
- An operational debriefing should be conducted after the TF has completed the incident assignment, and prior to their arrival back at their original Point of Departure. There are several advantages to conducting the debriefing as soon as possible after tactical operations have terminated and before the TF returns home:
 - Information is still fresh in the minds of TF members.
 - Provides another opportunity for team building.
 - Makes good use of TF members' down time.
 - Problems can be identified and hopefully defused.

FEMA US&R RESPONSE SYSTEM

DICAL SPECIALIST TRAINING 04/97

US&R OPERATIONAL PROCEDURES

DEMOBILIZATION

- Demobilization/Reassignment —

 Advanced considerations:
 - Condition of personnel
 - Notification of sponsoring organization
 - Transportation requirements
 - · Cache inventory/packaging
 - Break down/clean up
 - After-action debriefings

VIEW GRAPH IX — L - 1

L. MISSION CLOSURE

AFTER-ACTION DEBRIEFING SESSION

- An <u>After-Action Debriefing Form</u> has been developed to assist the TFL with a meeting agenda and to categorize the information to be addressed. The debriefing process should address at least the following issues:
 - Safety concerns related to all aspects of the mission.
 - Management and coordination issues:
 - intra-TF cooperation and effectiveness.
 - integration of the TF into the local jurisdiction's system.
 - integration of the DoD Liaison Team into the TF.
 - information flow between TF functional elements, between the TF and ICP, and between the TF and the DoD Liaison Team.
 - Communications issues:
 - intra- and inter-TF, ICP, DoD.
 - frequency planning and use.
 - effectiveness of the radio coverage.
 - Effectiveness of planning for TF tactical operations:
 - planning sessions.
 - operational briefings and debriefings.
 - shift scheduling, rotations and change over.
 - General physical logistics of the TF operations:
 - layout and management of the Base of Ops.
 - work site management and control.
 - equipment cache set up/organization.
 - Medical issues:
 - care and treatment of TF personnel.
 - related canine issues.
 - victim treatment including hand-off/tracking.
 - management of drugs/medicines/supplies.
 - Supply logistics:
 - property accountability/resource tracking.
 - coordination/sharing of equipment between work sites.
 - tool care/maintenance.
 - resupply requests.
 - Interpersonal skills and overall performance of TF supervisors and personnel.

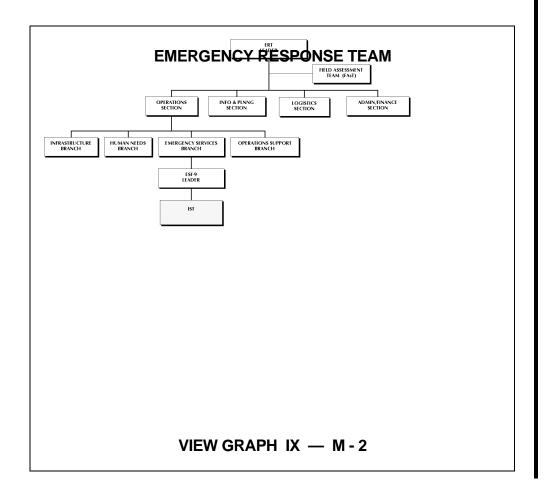
FEMA US&R RESPONSE SYSTEM	
MEDICAL SPECIALIST TRAINING 04/97	
IJS&R-OPERATIONAL PROCEDURES	
AFTER-ACTION DEBRIEFING	
■ Safety concerns	
■ Management/coordination	
■ Communications	
■ Planning issues	
■ Operational issues	
■ Medical issues	
■ Supply/Logistics	
■ Performance evaluations	

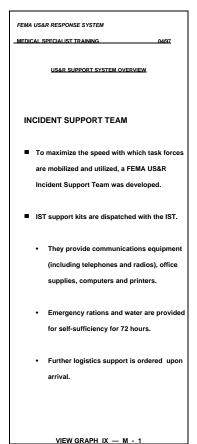
VIEW GRAPH IX -

M. INCIDENT SUPPORT TEAM

Incident Support Team

- The mobilization and use of US&R task forces provides a significant capability for disaster response and mitigation. To maximize the speed with which task forces are mobilized and utilized, a FEMA US&R Incident Support Team was developed.
- The US&R Incident Support Team is a component of the ERT, serving as the ESF-9 Cell in the ERT Operations Section.





INCIDENT SUPPORT TEAM M.

MISSION STATEMENT

The US&R Incident Support Team was developed to provide a group of highly qualified specialists readily available for rapid assembly and deployment to a disaster area. The mission of the IST is to provide (ESF-9) Urban Search and Rescue management and support, provide technical assistance, logistical support, and advice about US&R issues to public officials at the Federal. State and local levels.

Development

- The primary responsibility of the IST is providing US&R assistance, support and advice to Federal, state and local disaster management officials in areas related to management and coordination of all facets of ESF-9 response activities at the Disaster Field Office, FEMA National and Regional Operations Centers, State and local EOCs, and on scene at ESF-9 operations at collapsed structures.
- The US&R Incident Support Team was developed to be:
 - Consistent with the terminology and organizational structure of the Federal Response Plan the ERT, and US&R task forces.
 - Consistent with FEMA's Initial Response Resource deployment procedures.
 - Representative of the primary disciplines involved in US&R operations.
 - Comprised of sufficient personnel to provide initial assistance at the Regional Operations Centers (ROC), State EOCs, DFOs and local EOCs (may be augmented as necessary).
 - Provide 24-hour coverage at EOC/DFO and other facilities for ESF-9.
 - Self-sufficient for at least 72 hours.
 - Capable of deploying to a designated location within two hours of activation.
 - Outfitted with an appropriate support kit.

FEMA US&R RESPONSE SYSTEM

US&R SUPPORT SYSTEM OVERVIEW

MISSION STATEMENT

The US&R Incident Support Team was

developed to provide a group of highly

qualified specialists readily available for rapid

assembly and deployment to a disaster area.

The mission of the IST is to provide (ESF-9)

Urban Search and Rescue management and EMA US&R RESPONSE SYSTEM

logistical support, and advice about US&R

issues to public officials at the Federal, State

and local levels.

- The primary responsibility of the IST and ICT is to provide:
 - US&R assistance
 - Support

VIEW GRAPH IX — M - 3

MosFederal-Tetratevened local disaster

management officials.

US&R SUPPORT SYSTEM OVERVIEW

DEVEL QPMENUTS CRATEGRA Ananagement and

coordination of all facets of ESF-9 response

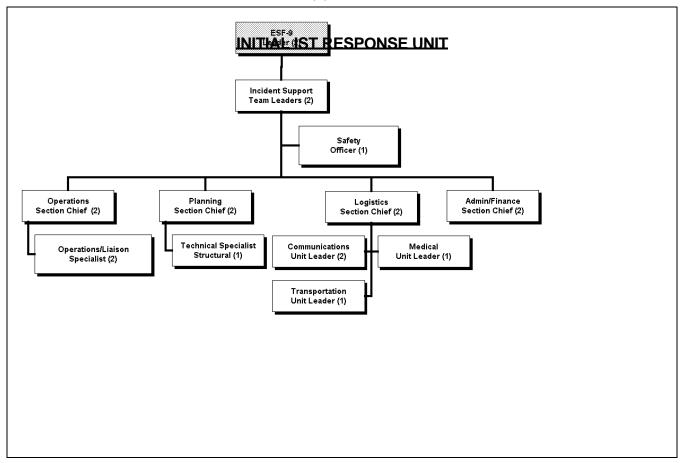
- The IST was developed to be:
 - Disaster Field Office.
 - Consistent with the Federal Response
 FEMA National
 - Plan, the ERT, and US&R task forces. Regional Operations Centers,

 - State and local EOCs, Consistent with FEMA's Initial Response and on scene at ESF-9 operations. Resource deployment procedures.
 - VIEW GRAPH IX M 4
 Representative of the primary disciplines
 - Provide 24-hour coverage
 - Self-sufficient for at least 72 hours.
 - Capable of deploying within two hours.
 - Outfitted with an appropriate support kit.

M. INCIDENT SUPPORT TEAM

The <u>initial</u> response of an IST is usually comprised of the following 18 positions along with two ESF-9 Leaders:

- IST Leaders (2)
 - Safety Officer
- Operations Section Chiefs (2)
 - Operations/Liaison Specialist (2)
- Planning Section Chiefs (2)
 - Technical Specialist Structural (1)
- Logistics Section Chiefs (2)
 - Communications Unit Leader (2)
 - Medical Unit Leader (1)
 - Transportation Unit Leader (1)
- Administrative/Finance Section Chief (2)



VIEW GRAPH IX — M - 6

M. INCIDENT SUPPORT TEAM

Primary Responsibility

- The IST is a designated team of functional specialists who provide support, management and assistance to US&R task forces.
 - The assistance provided should meet the needs of local government officials.
 - The IST is required to provide an active management for task force operations if the local agency makes the request.
 - The primary responsibility of the IST is to work with local government to establish initial support operations and management for US&R task forces.
 - The IST establishes its base of operations with the ESF-9 Leader (usually at the DFO) and provides task forces full time support to meet their needs.
- An initial response of the Incident Support Team mobilizes with a complement of 18 personnel.
 - As the complexity/duration of an event escalate and/or as the duties and responsibilities of the team expand, it may be necessary to augment sections of the IST.
 - Positions may be filled with two persons each, and this will depend on the present IST deployed and need for 24-hour coverage, as reflected in the ERT request. The following organizational structure depicts an expanded Incident Support Team:

FEMA US&R RESPONSE SYSTEM

MEDICAL SPECIALIST TRAINING 04/9

LIS&R SUPPORT SYSTEM OVERVIEW

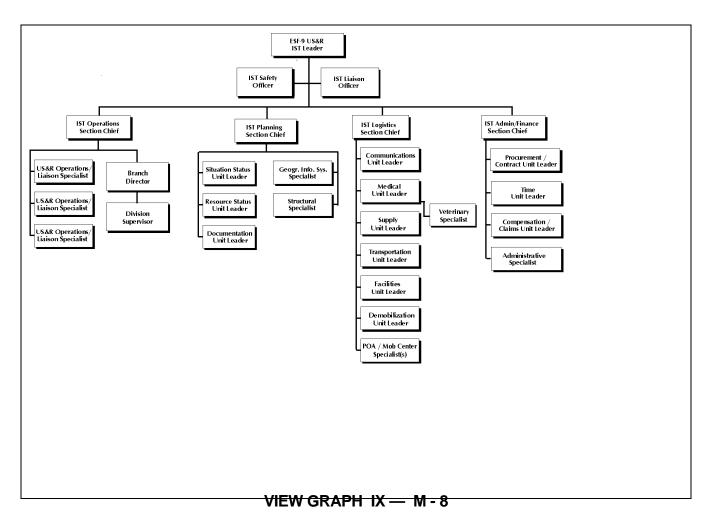
PRIMARY RESPONSIBILITIES

- The IST is a designated team of functional specialists who provide support, management and assistance to US&R task forces.
 - Assistance should meet the needs of local government.
 - Provide active management for task force operations upon local agency request.
 - Work with local government to establish initial support operations and management for US&R task forces.
 - Establishes base of operations with the ESF-9 Leader .

VIEW GRAPH IX — M - 7

M. INCIDENT SUPPORT TEAM

EXPANDED INCIDENT SUPPORT TEAM



- If additional staffing is required, the IST Leader will request necessary personnel through the ESF-9 Leader in the ERT.
- IST support kits are developed and available for dispatch with the IST.
 - These kits provide the IST with communications equipment (including telephones and radios), office supplies, computers and printers.
 - Emergency rations and water are also dispatched with the IST to provide selfsufficiency for the first 72 hours.
 - Further logistics support for the IST is ordered by the IST upon arrival at the

Command Post.

N. FIELD ASSESSMENT TEAM

FAST Mission

- In May of 1994, a work group was established to develop a system for a rapid interagency assessment capability. The group included representation from FEMA Headquarters and Regions, the Primary Agencies of the ESFs as well as from the National Emergency Management Association (NEMA).
- The mission defined for the FAsT is to collect and provide information to determine requirements for critical resources needed to support emergency response operations.

FAST Concept Of Operations

- The system is designed for team personnel and support equipment to be able to arrive within the disaster vicinity within 12 hours of activation. The teams are designed to be small and self-sufficient so that local and State resources will not be impacted. It is expected that the teams will complete their assignments within 24 to 72 hours.
- The teams will use a standard FAsT organization, including equipment and reporting procedures.
- The teams deploy quickly at the request of the affected State in coordination with the involved FEMA Region. FAsT may be pre-deployed at the request of the FEMA Region in anticipation of a potential disaster such as a hurricane.
- The teams are a component of the Advanced Element of the Emergency Response Team (ERT-A) to assess the overall impact of an event and determine Federal response requirements.
- The teams will collect and provide information to determine requirements for critical resources needed to support emergency response activities.
 - Will provide disaster intelligence to the ROC, State EOC, and ERT-A concerning life-threatening situations and imminent hazards.
 - Will most likely deploy to catastrophic scenarios where

FEMA US&R RESPONSE SYSTEM SYSTEM DESCRIPTION MISSION Collect and provide information to determine requirements for critical resources needed to support emergency response activities FEMA US&R RESPONSE SYSTEM SYSTEM DESCRIPTION CONCEPT OF OPS ■ Arrive within 12 hours VIEW GRAPH IX - N-1 ■ Small, self-sufficient team FEMA US&R RESPONSE SYSTEM MEDICAL SPECIALIST TRAINING

Complete mission within 24-72 hrs. SYSTEM DESCRIPTION Standardized team organization, equipment and procedures CONCEPT OF OPS ■ Immediate needs assessment (not PDA) ■ Deploy to catastrophic disasters VIEW GRAPH IX - N - 2 Teams requested by State through FEMA Teams supplement State/local capabilities

magnitude resources.	and	scope	indicates	need	for	Federal	1	

N. FIELD ASSESSMENT TEAM

FAsT Organization

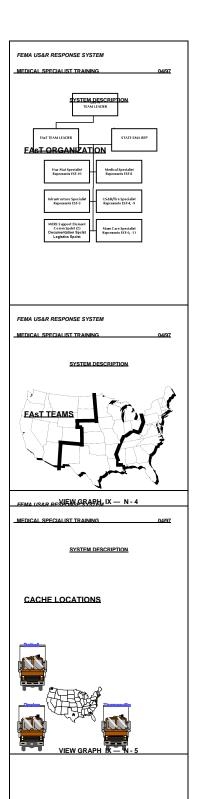
- As mentioned earlier, the FAsT will be a component of the ERT-A and will report directly to the ERT-A team leader. In most instances, the ERT-A Team Leader is co-located with the State at the EOC.
- The FAsT consists of a team leader pre-designated by one of the FEMA Regions, a State EMA representative from the affected State, a MERS Support element, and five assessors from other Federal Departments and Agencies.

FAsT Geographic Representation

- A cadre of interagency team members are being trained and rostered. Team training was conducted along geographic/territorial lines to provide rapid deployment capability.
- If necessary, team members could deploy outside their assigned geographical area. This is why standard organization, equipment, procedures and training are critical.

FAST Cache Locations

- A standard cache for communications and logistical support has been developed by the Denton MERS and the process of acquiring a prototype has been initiated.
- It is proposed to establish a support package at three of the MERS Detachments in Thomasville, Georgia; Denton, Texas; and Bothell Washington. More information on this will be provided later in the lesson.



N. FIELD ASSESSMENT TEAM

FAsT Command and Control

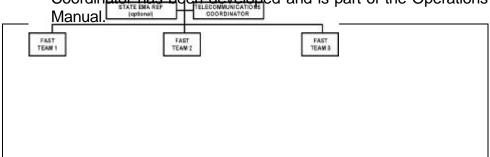
- As mentioned earlier, the FAsT will work for the ERT-A Team Leader.
- Team deployment and operations will be coordinated by the Information and Planning Section.

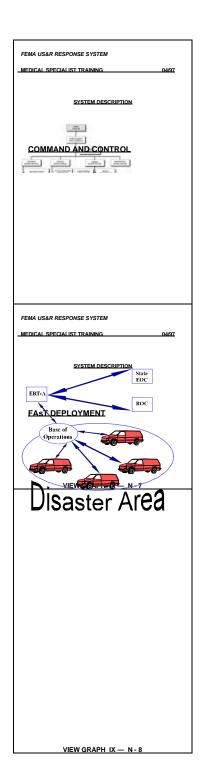
FAsT Deployment

- This graphic depicts deployment of a FAsT. Reports from the teams will be consolidated at the Base of Operations (BoO) and provided directly to the ERT-A Team Leader who transmits data to the State EOC and to the Regional Operations Center (ROC).
- Each FAsT team will be supported by four four-wheel-drive vehicles configured to transport team members and communications gear.

Multiple FAsT Deployment

- In the event that more than one FAsT is deployed a Field Assessment Team coordinator may be assigned to assist the ERT-A Team Leader.
- The chart depicts organizationally how this would work. Each team would continue have a State representative assigned to help coordinate operations.
- A position description and functional checklist for the Team Coordinator has been developed and is part of the Operations





VIEW GRAPH IX — N - 9