V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

Introduction

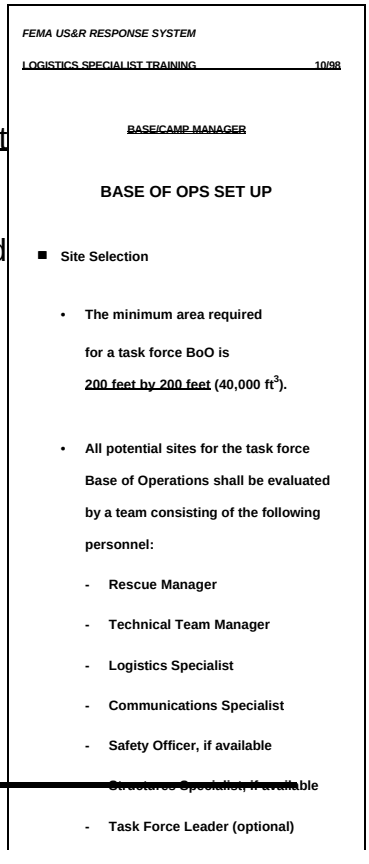
- The Base of Operations (BoO), or Base in ICS terminology, is the location at which the primary logistics functions are coordinated and administered. The Incident Command Post (ICP) may be co-located with the Base. There is only one Base per incident. The BoO is also where significant equipment maintenance, repair, reorder and procurement activities occur. Finally, the BoO is where task force managers plan and coordinate the various interrelated functions which enable the emergency operations to meet mission objectives as effectively and safely as possible.

- Because the BoO plays such an important role in keeping a task force operational over a period of days and weeks, site selection, setup and ongoing management of the facility are very important. Decisions made early on in a mission concerning the BoO will either help or hinder day-to-day operations for the remainder of that mission. The following are guidelines which may assist task force Logistics Specialists in the selection and setup process for establishing a safe, secure and efficient Base of Operations.

Site Selection

- The minimum area required for a task force BoO is 200 feet by 200 feet (40,000 ft^3).

- All potential sites for the task force Base of Operations shall be evaluated by a team consisting of the following personnel:
  - Rescue Manager
  - Technical Team Manager
  - Logistics Specialist
  - Communications Specialist
  - Safety Officer, if available
  - Structures Specialist, if available
  - Task Force Leader (optional)


FEMA US&R RESPONSE SYSTEM
LOGISTICS SPECIALIST TRAINING 10/98
BASE/CAMP MANAGER
BASE OF OPS SET UP
- Site Selection
  - The minimum area required for a task force BoO is 200 feet by 200 feet (40,000 ft^3).
  - All potential sites for the task force Base of Operations shall be evaluated by a team consisting of the following personnel:
    - Rescue Manager
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    - Communications Specialist
    - Safety Officer, if available
    - Structures Specialist, if available
    - Task Force Leader (optional)

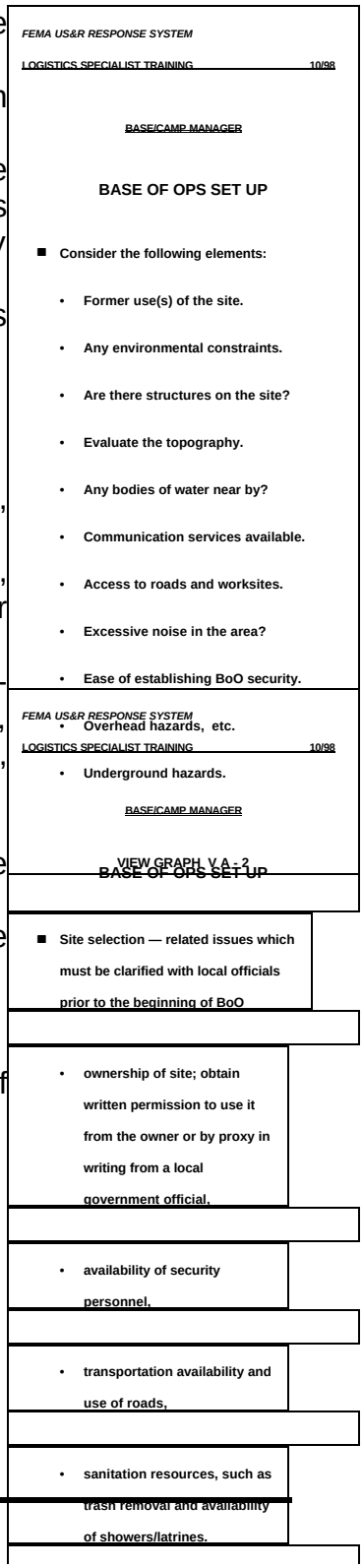
V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

Site Selection (continued)

- Consider the following elements:
  - Find out any information possible regarding former use(s) of the site.
  - Find out about any environmental constraints of the site, which can mean both temporary and permanent affects.
  - Are there structures on the site? Do we have permission to use them? Any land use agreements signed? Have a Structures Specialist or Safety Officer evaluate the structures before they are used as part of the BoO.
  - Evaluate the topography, estimating where runoff from heavy rains would flow. Are there any bodies of water near by?
  - Communication services available.
  - Access to roads and worksites.
  - Excessive noise in the area?
  - Ease of establishing BoO security -- controlled entry/exit, perimeter fences or barriers?
  - Site the BoO away from overhead hazards, such as power lines, trees, tall buildings, rocks or debris from nearby hills or buildings, weakened adjoining structures, etc.
  - Site the BoO away from underground hazards, such as below-grade vaults, below-grade utility and power transmission lines, buried debris and hazardous materials, local high water table, unstable ground fill, etc.

- Related issues which must be clarified with local officials prior to the setting up of Base:
  - ownership of site; obtain written permission to use it from the owner or by proxy in writing from a local government official.
  - availability of security personnel.
  - transportation availability and use of roads.
  - sanitation resources, such as trash removal and availability of showers/latrines.



V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

Site Selection (continued)

- Land use agreements for sites should be done prior to arrival by IST Logistics. If not, then the Task Force Leader and Logistics Specialists should be present during these meetings with local officials.

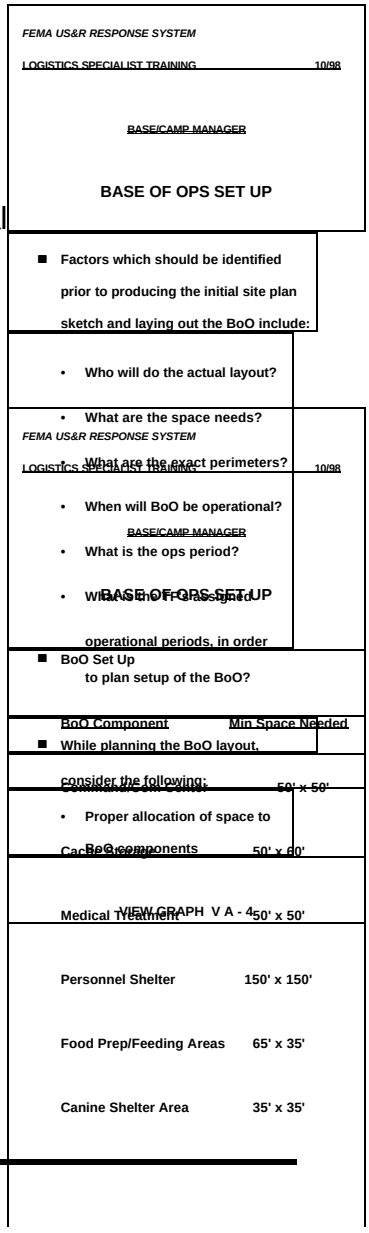
Base of Operations Sketch and Layout

- Factors which should be identified prior to producing the initial site plan sketch and laying out the BoO include:
  - Who is the BoO manager, and who will do the actual layout?
  - What are the space allocation needs?
  - What are the exact perimeters of the BoO site?
  - When will the BoO need to be operational?
  - What is the estimated operational period for the BoO?
  - What is the latest word in the task force's assigned operational periods, in order to plan setup of the BoO?

- While planning the BoO layout, consider the following:
  - Proper allocation of space to BoO components

BoO Component	Minimum Space Needed
Command/Com Center	50' x 50'
Cache Storage Component	50' x 60'
Medical Treatment Area	50' x 50'
Personnel Shelter Area	150' x 150'
Food Preparation/Feeding Areas	65' x 35'
Canine Shelter Area	35' x 35'

- Activities which can be grouped together:
  - Command/Communications
  - Toilets and wash areas



V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

Base of Operations Sketch and Layout (continued)

- Activities which need to be isolated:
  - sleeping areas
  - fuel and vehicle depot
  - canine shelter area

- Areas which need ready access to transportation and facilities:
  - cache storage component
  - kitchen and feeding areas
  - medical treatment area
  - fuel and vehicle depot

- Establish access/egress routes for foot and vehicular traffic and mark them early on.

- Design the layout in order to minimize security problems, coordinating this with the BoO Security Manager.

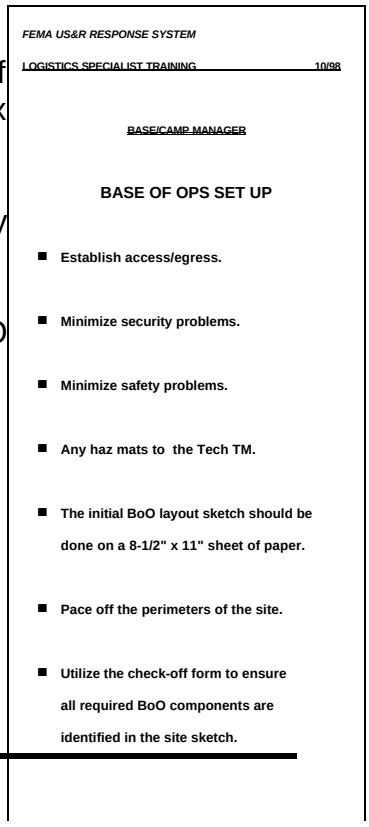
- Design the layout in order to minimize safety problems, coordinating this with the Task Force Safety Officer.

- Refer any questions concerning any hazardous material situation on the site to the Technical Team Manager.

- The initial BoO layout sketch should be done on a 8-1/2" x 11" sheet of paper. If possible, this should be graph paper with a maximum matrix of 1/4" squares.

- Roughly pace off the perimeters of the site. Remember - these are only estimates. Do not measure!

- Utilize the following check-off form to ensure all required BoO components are identified in the site sketch:


FEMA US&R RESPONSE SYSTEM
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BASE/CAMP MANAGER
BASE OF OPS SET UP
- Establish access/egress.
- Minimize security problems.
- Minimize safety problems.
- Any haz mats to the Tech TM.
- The initial BoO layout sketch should be done on a 8-1/2" x 11" sheet of paper.
- Pace off the perimeters of the site.
- Utilize the check-off form to ensure all required BoO components are identified in the site sketch.

V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

Base of Operations Component Check-off List

- Base of Operations Design
  - Personnel capacity _____
  - Expected duration _____
  - Locations _____
    _____
  - Agreements/constraints _____
    _____
    _____
  - Co-located functions:
    IST _____
    Staging _____

- Physical Components
  - Points of access and egress _____
  - Command post _____
  - Communications _____
  - Medical treatment _____
  - Medical cache area _____
  - Logistics/cache area _____
  - Logistics/equipment staging _____
  - Logistics/equipment repair _____
  - Briefing area _____
  - Sleeping areas _____
  - Kitchen/feeding areas _____
  - Food storage area _____
  - Potable water storage _____
  - Gray water storage _____
  - Latrines _____
  - Hand washing stations _____
  - Solid debris holding _____
  - Fuel depot _____
  - Parking _____
  - K-9 relief areas _____

V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

Base of Operations Safety and Security Issues

- Traffic flow
  - Check points _____
  - Vehicles _____
  - Pedestrians _____
  - Signs _____

- Environmental
  - Dust _____
  - Shade _____
  - Noise _____
  - Water flow _____

- Safety issues
  - Tripping hazards _____
  - Vehicle speeds posted _____
  - Fuel storage _____
  - Food unit/food storage _____
  - Solid waste disposal _____
  - Potable water storage _____
  - Heliports/helispots _____
  - Vehicle parking _____
  - Associated lighting _____

- Layout design
  - Posted _____
  - Copies for briefing distributed to facilities unit leader and unit leader helpers _____

V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

Base of Operations Safety and Security Issues

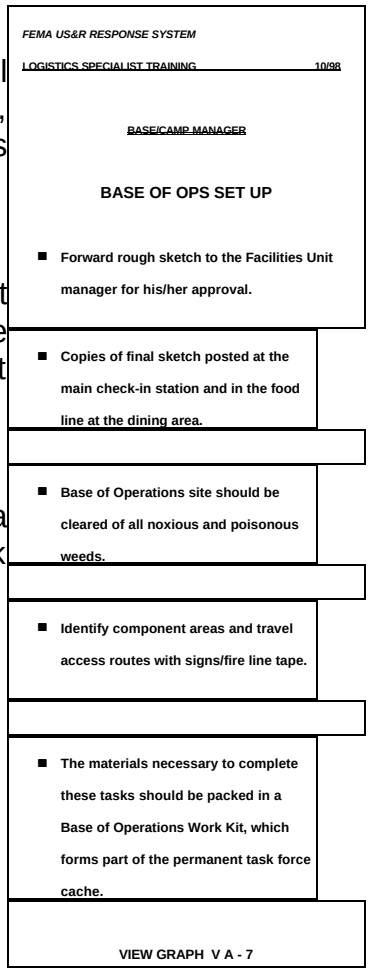
- When a rough sketch of the Base of Operations layout is completed, forward it to the Facilities Unit manager for his/her approval. Once it is approved, redraw the sketch in a more finished form on a large sheet of paper on a flip chart. Use high-visibility magic markers, as the sketch will be referred to during the Base of Operations setup process.

- Copies of this final sketch shall also be posted at the main check-in station and in the food line at the dining area.

- Prior to laying out the Base of Operations, the site should be cleared of all noxious and poisonous weeds. The site should also be free of vines, shrubs and overhanging tree limbs where small animals and insects can live.

- To facilitate the setup of the Base of Operations, identify component areas and travel access routes with signs and fire line tape. These areas can also be marked using spray paint or lime. Use spray paint to mark the location of individual tents.

- The materials necessary to complete these tasks should be packed in a Base of Operations Work Kit, which forms part of the permanent task force cache.



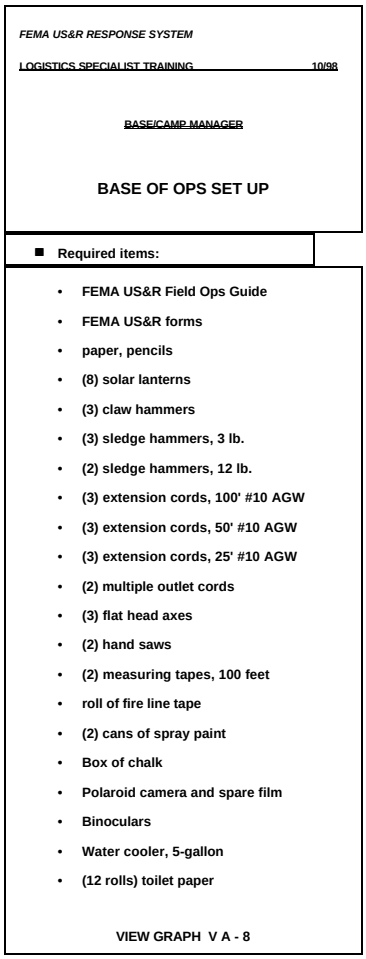
V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

Base of Operations Work Kit

- The following items are for a 25-tent Base of Operations. If it will be larger, add additional quantities of kit items,

  - FEMA US&R Field Operations Guide
  - FEMA US&R forms
  - paper, pencils
  - (8) solar lanterns
  - (3) claw hammers
  - (3) sledge hammers, 3 lb.
  - (2) sledge hammers, 12 lb.
  - (3) extension cords, 100' #10 AGW
  - (3) extension cords, 50' #10 AGW
  - (3) extension cords, 25' #10 AGW
  - (2) multiple outlet cords
  - (3) flat head axes
  - (2) hand saws
  - (2) measuring tapes, 100 feet
  - roll of fire line tape
  - (2) cans of spray paint
  - Box of chalk
  - Polaroid camera and spare film
  - Binoculars
  - Water cooler, 5-gallon
  - (12 rolls) toilet paper



V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

BASE OF OPERATIONS SETUP

Task Force Base of Operations Briefings

- As soon as a Base of Operations layout sketch is approved and copied onto the large format, the Task Force Leader needs to prepare a series of briefings of task force personnel.

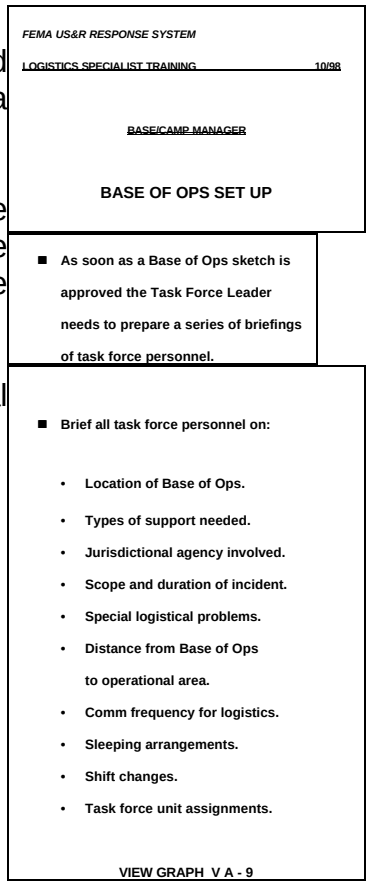
- With input from logistical, plans and safety personnel, all task force personnel need to be briefed and updated as needed during the incident regarding the following information (this information can be found in the Incident Action Plan):
  - Location of Base of Operations.
  - Expected numbers and types of resources needing logistical support.
  - Jurisdictional agency involved.
  - Scope and duration of incident.
  - Special logistical problems.
  - Distance from Base of Operations to operational area.
  - Communications frequency for logistics.
  - Sleeping arrangements.
  - Shift changes.
  - Task force unit assignments.

Personnel Assignments for Setup of the Base of Operations

- Unless operational requirements preclude these arrangements, the various components of the task force Base of Operations will be set up by task force personnel as indicated.

- Logistics area/Cache Setup and Organization
  - Technical Team Manager
  - (2) Logistics Specialists
  - Rescue Squad One

- Task Force Command and Communications Center
  - Task Force Leader(s)
  - Technical Team Manager
  - Communications Specialist(s)
  - Technical Information Specialist(s)



V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

Task Force Personnel Assignments for Setup of the Base of Operations

- Medical Treatment Area
  - Medical Team Manager(s)
  - (2) Medical Specialists
- Personnel Shelter Requirements
  - Rescue Squad 2
- Sanitation/Hygiene Issues
  - Task force personnel as available
- Food Provision/ Meal Preparation
  - Task force personnel as available
- Canine Shelter Area
  - K-9 unit and task force personnel as available
- Security/Hazards Issue
  - Task Force Leader and Team Managers
  - Logistics Specialist
  - Task force personnel as available

US&R Task Force Command and Communications Center

- As soon as the Base of Operations is sited and laid out, the task force Command and Communications Center should be established. This task will be accomplished by the technical team manager, communications specialists and technical team specialists. If available, a Task Force Leader may manage the process.
- The minimum size requirement for this component of the Base of Operations is 50 feet by 50 feet.

V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

US&R Task Force Command and Communications Center

- Siting of the Command and Communications Center should be based on the following criteria:
  - For the purposes of visibility, it should occupy the high ground in the Base of Operations, if possible,
  - It should be near elevated structures or high ground for deployment of communications antennas and satellite telephone systems,
  - It should be adjacent to the entry point of the BoO, yet away from other BoO elements.
  - Given that this component will be in operation 24 hours-per-day, it should be located as far away as possible from the personnel sleeping area.

- Once the site is identified, mark the perimeter with fire line tape. Then, establish the location for the Command and Communications Center tent(s), marking the spot(s) with spray paint.

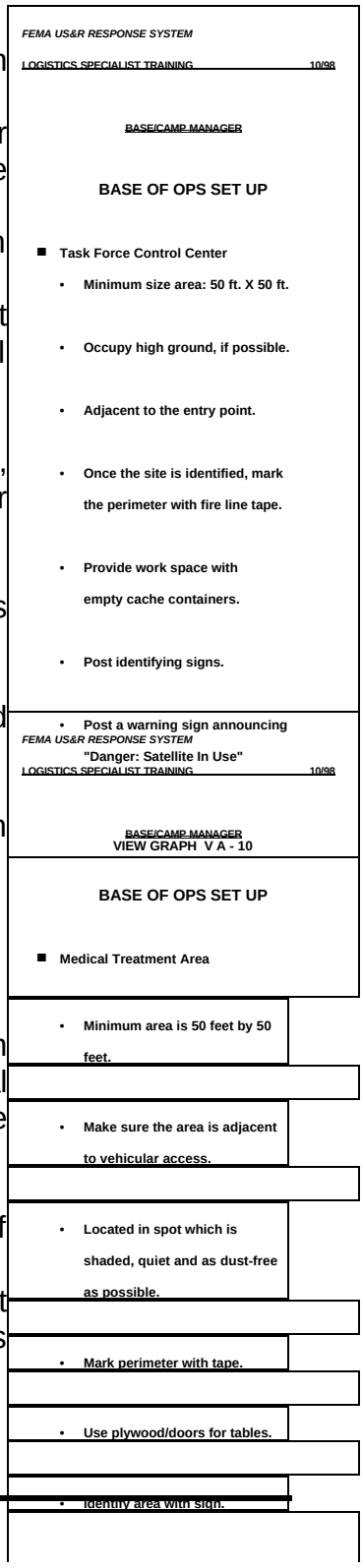
- Once the tents are up, provide work space with empty cache containers as seating and pallets as work tables.

- Outside the tents, post a sign identifying this as the Command and Communications Center.

- Once the satellite is set up, post a warning sign in a conspicuous location announcing "Danger: Satellite In Use"

Medical Treatment Area

- Once the Base of Operations is sited and laid out, the medical team managers and two medical specialists should set up the Medical Treatment Area. Criteria for this Base of Operations component are as follows:
  - Minimum area is 50 feet by 50 feet,
  - Make sure the area is adjacent to vehicular access to the Base of Operations, with entry for a medical transport vehicle.
  - While it should be accessible by vehicle, the Medical Treatment Area should be located in a spot which is shaded, quiet and as dust-free as possible.



V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

Medical Treatment Area (continued)

- Mark the perimeter with fire line tape and indicate the location for the tent(s) with spray paint. This component is divided into two parts; the Medical Treatment section and the storage site for the medical cache.

- Use plywood and doors for work tables and empty cache boxes seating.

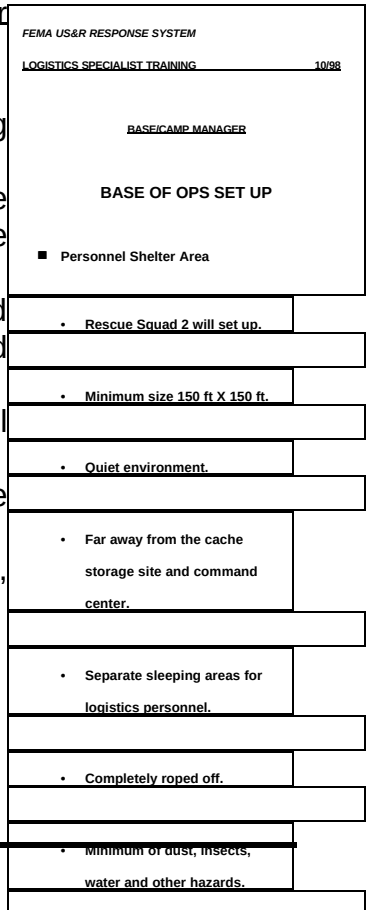
- Identify the area with an exterior sign.

Personnel Shelter Area

- Once the Base of Operations is sited and laid out, Rescue Squad 2 will set up the tents which will provide shelter for rest and relaxation for task force personnel.

- The minimum size requirement for the area will depend on the type of tents used. As a guideline, plan for 150 feet by 150 feet. Another way to estimate is using the standard of 60 square feet per person.

- Siting of shelters for personnel should take into account the following criteria:
  - It is in a quiet enough environment to be conducive to adequate sleeping. Therefore, it should be 250 feet minimum from the feeding tent and 1,000 feet minimum from the parking area.
  - It should also be far enough away from the cache storage site and command/communications center in order not to be disturbed by the 24 hour-a-day operations conducted in these areas.
  - There should be separate sleeping areas for logistics personnel and personnel involved in the kitchen.
  - It should be roped off be completely separated from any vehicle access through the Base of Operations.
  - It should be in an environment with a minimum of dust, insects, water and other hazards.



V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

Personnel Shelter Area (continued)

- All safety issues, such as tripping hazards (debris, holes in the ground, tree roots, tent ropes, etc.) and unstable areas, should be corrected. If this is not possible, the hazards should be flagged at all times and illuminated at night.
- Evaluate the site for fire danger. Educate all task force members in safety procedures in this regard.
- The showers and latrines should be a safe distance away, yet be reasonably accessible.

■ Once the site is identified, mark the perimeters with fire line tape. Then mark the location of individual tents with flagging.

■ Some task forces set up separate tents for canines and handlers.

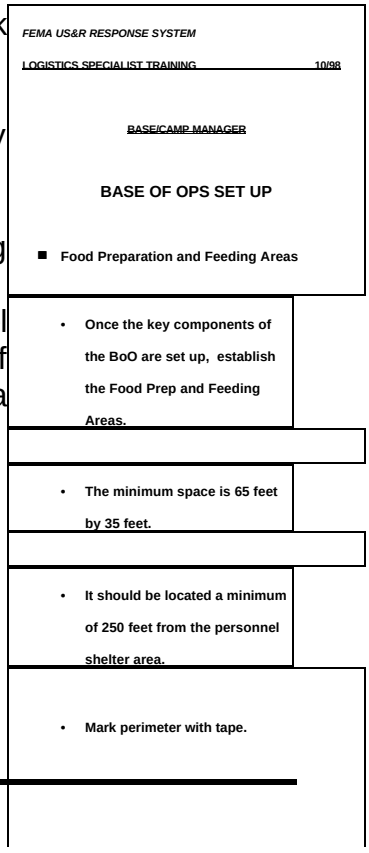
■ Once the tents are up, post exterior identification signs at the front and back of each tent.

Food Preparation and Feeding Areas

■ Once the key components of the Base of Operations are set up, task force personnel establish the Food Preparation and Feeding Areas.

■ The minimum space for this Base of Operations component is 65 feet by 35 feet.

■ The following criteria should guide the placement of the food and feeding area in the Base of Operations:
- It should be located a minimum of 250 feet from the personnel shelter area, and be placed toward the entrance of the Base of Operations so that personnel can travel to the feeding area without passing near sleeping task force members.



V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

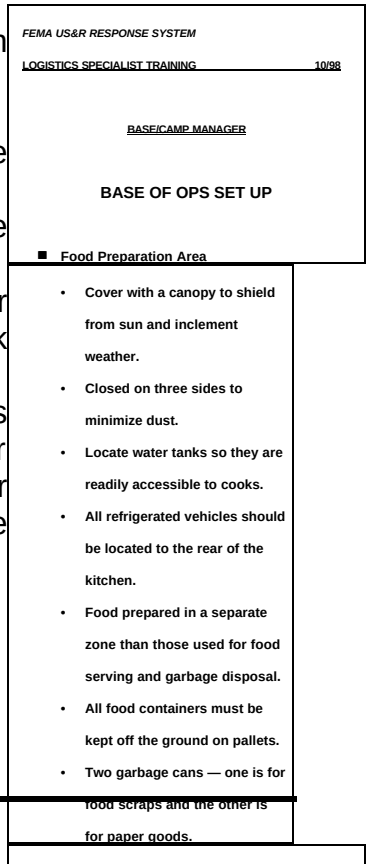
Food Preparation and Feeding Areas (continued)

- It should not be located near brush or vegetation where vermin could find cover.
- If the mission is in a cold climate, the potential site should be evaluated to see whether a burn barrel smudge pots or warming pit could safely be placed to warm personnel.
- The site should be level and have good drainage, with a buffer zone between it and any nearby body of water. This avoids uncontrolled runoff of water from dishwashing and food preparation.

■ Once the site has been identified, mark the perimeters with fire line tape. Then lay out the components of the Food Preparation and Feeding Site with spray paint.

The Food Preparation and Feeding Site consists of the following areas:

■ Food Preparation Area
- The area covered with a canopy in order to shield the food and the cooks from the sun and inclement weather. This also minimizes overhead contamination.
- The area is closed on three sides to minimize contamination with dust. Consider prevailing winds when closing in the sides.
- Locate water tanks so they are readily accessible to cooks.
- All refrigerated vehicles should be located to the rear of the kitchen, so they are readily accessible to the cooks.
- Set up the area so that food preparation is done in a separate zone than those used for food serving and garbage disposal.
- All food containers must be kept off the ground on pallets or suitable racks so that the containers do not contaminate work surfaces during the food preparation process.
- Two garbage cans with tightly fitting lid and plastic bag liner is conveniently located in the Food Preparation Area. One is for food scraps and the other is for paper goods. The paper goods can be burned or buried, while the scraps must be disposed of off-site.



V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

Food Preparation and Feeding Areas (continued)

- Feeding Area
  - Should be located at the end of the kitchen to facilitate the disposal of food utensils.
  - Should be covered to protect food and task force personnel from heat and inclement weather.
  - A traffic flow pattern for diners getting their meals should be established during the setup phase and marked with fire line tape or ropes.
  - A garbage can with tightly fitting lid and plastic bag liner is located within the eating area for easy disposal of single-use plates and utensils.
  - All criteria must follow State and Federal guidelines.

Showers

- Showers for task force personnel should be located close to the Personnel Shelter Area without being disruptive to personnel who are resting.
  - A rule of thumb is to place them within 50 feet of the Personnel Shelter Area.

- The site for showers should provide the following:
  - Be on higher ground so that rain or other runoff does not pool at the site.
  - Adequate gray water disposal yet be far enough away from nearby bodies of water so that the runoff does not flow directly into it, be secure and well lit at all times.

- The standard rule of thumb for the number of showers is one shower per 20 personnel as a minimum, add as needed.

- The following items should be provided at the shower area:
  - Benches
  - Basins
  - Soap
  - Towels
  - Garbage cans with lids

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BASE/CAMP MANAGER
BASE OF OPS SET UP
■ Feeding Area
• Located at the end of the kitchen for disposal of food utensils.
• Covered to protect food and personnel from heat and weather.
• A traffic flow pattern established during the setup phase and marked with fire line tape or ropes.
• A garbage can located within the eating area for easy disposal of single-use plates and utensils.

FEMA US&R RESPONSE SYSTEM
LOGISTICS SPECIALIST TRAINING 10/98
BASE/CAMP MANAGER
BASE OF OPS SET UP
VIEW GRAPH V A - 15
■ Showers
• Place within 50 feet of the Personnel Shelter Area.
• On high ground so that runoff does not pool at the site.
• Adequate gray water disposal.
• One shower per 15 to 20 personnel as a minimum.
• Provide at the shower area:
- Benches - Basins
- Soap - Towels
- Garbage cans with lids

V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

Latrines

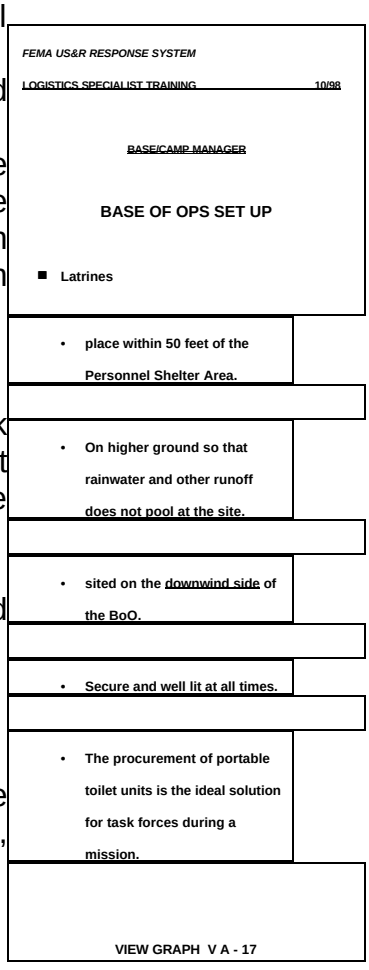
- Latrines in the BoO should be located close to the Personnel Shelter Area without being disruptive to personnel who are resting.
  - A good rule of thumb is to place them within 50 feet of the Personnel Shelter Area.
  - Logistics Specialists should consider siting the latrines fairly close to the shower area because this can simplify related security issues and availability of water.

- The latrine site should provide the following:
  - On higher ground so that rainwater and other runoff does not pool at the site.
  - The topography provides a buffer zone between the latrines and any nearby body of water.
  - Based on the prevailing wind of the area, the latrines should be sited on the downwind side of the BoO. (The direction of the prevailing wind can be identified by evaluating tree growth patterns and weed/trash buildup along fences or between buildings, or asking locals.
  - Secure and well lit at all times.

- The procurement of portable toilet units is the ideal solution for task forces during a mission. They are self-contained, so there is not pollution problem, and major servicing of the units is performed by the leasing company.

- If no portable units are available, task forces have a variety of field-tested latrines available from commercial sources to form part of the cache:
  - Folded corrugated cardboard toilets (FL-TF1)
  - Self-standing latrine and shelter units (California task forces).

- If none of these area available, task force logistics specialists may have to oversee the correct construction of more rustic latrine facilities, following all environmental and health guidelines.



V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

Latrines

- Whatever type of latrine is setup, the rule of thumb regarding the required number of units is one latrine per 20 persons, but more may be required due to use and cleaning schedules.

- The following needs to be provided at the latrines at all times:
  - Chemicals or lime to control odor,
  - Sufficient toilet paper,
  - A handwashing station with adequate water, soap and paper towels,
  - A trash can with snug lid.

Canine Shelter Area

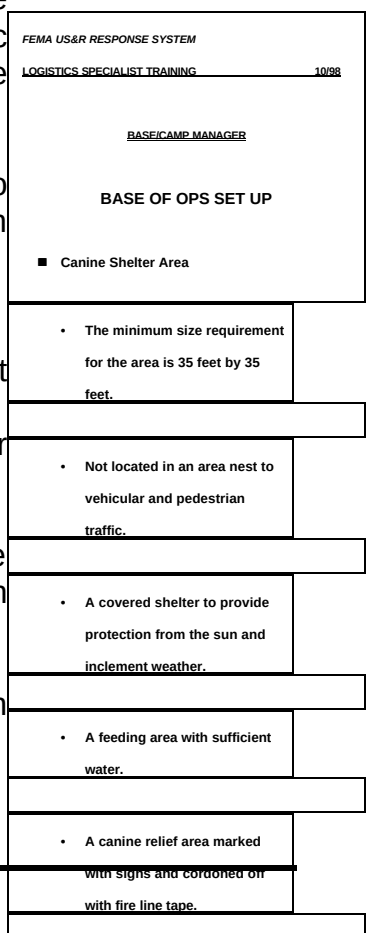
- Once the Base of Operations is sited and laid out, canine search specialists and other task force personnel will set up the canine shelter area.

- The minimum size requirement for the area is 35 feet by 35 feet. The area can be adjacent to the task force sleeping area, but a specific Base of Operations site may require that the canines shelter be separate.

- The canine shelter area should not be located in an area adjacent to ongoing vehicular and pedestrian traffic, so that resting canine search specialists and search canines are not disturbed.

- The canine shelter area should include the following features:
  - A covered shelter to provide protection from the sun and inclement weather,
  - Sufficient tentage for canine search specialists and canines for rest,
  - A K-9 feeding area with sufficient water,
  - A canine relief area, to be located in an unused rear corner of the Base of Operations, marked with signs and cordoned off with fire line tape.

- Once the site is identified, mark the perimeters with fire line tape and then mark the location of individual tents with spray paint.



V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

Canine Shelter Area (continued)

- Once the tents are set up, post exterior identification signs at the front and back of each tent. Cordon off the canine relief area with fire line tape and post signs.

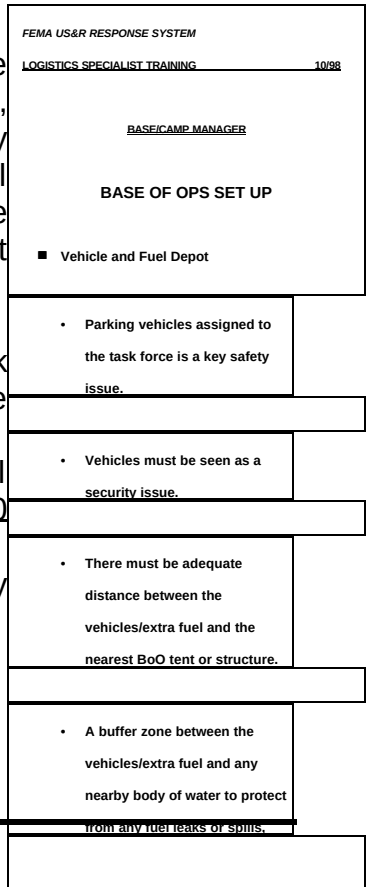
- Establish canine food storage in vermin-proof containers, and discuss cleanliness procedures for the canine relief area with the task force Safety Officer and Medical Team Leader.

Vehicle and Fuel Depot

- The parking of vehicles assigned to the task force is a key safety issue in the BoO which has no easy answers. On one hand, the fuel in the vehicle tanks makes them very real fire and explosion hazards. For this reason, the US Forest Service places vehicle parking some distance from the outer perimeter of the BoO. The vehicles are parked with the extra fuel, with the entire area marked a hazardous zone. Consequently, several US&R Task Forces in California plan to park their assigned vehicles outside the BoO.

- However, these vehicles must also be seen as a security issue, given the danger of tampering and theft by non-task force personnel. Moreover, the extra fuel in cans stored near the vehicles is probably irreplaceable during the first days of task force operations. There will be Logistics Specialists attending this class who would balk at the idea of parking task force vehicles and storing extra fuel anywhere but inside the secure confines of the BoO.

- Wherever Logistics Specialists and Safety Officers decide to park task force vehicles and store extra fuel, the following safety issues must be addressed:
  - There must be adequate distance between the vehicles/extra fuel and the nearest BoO tent or structure; a rule of thumb is 150 feet. More distance is even better.
  - A buffer zone between the vehicles/extra fuel and any nearby body of water to protect from any fuel leaks or spills,



V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

Vehicle and Fuel Depot (continued)

- The site should be on high ground and have good drainage, so that the vehicles can be moved easily following a rain or snowstorm,
- The site should be on the other side of the BoO from any helicopter LZ.
- The vehicles should not be parked nor operated near the Personnel Shelter Area.

■ Once set up, the following safety practices should be implemented by all task force personnel:

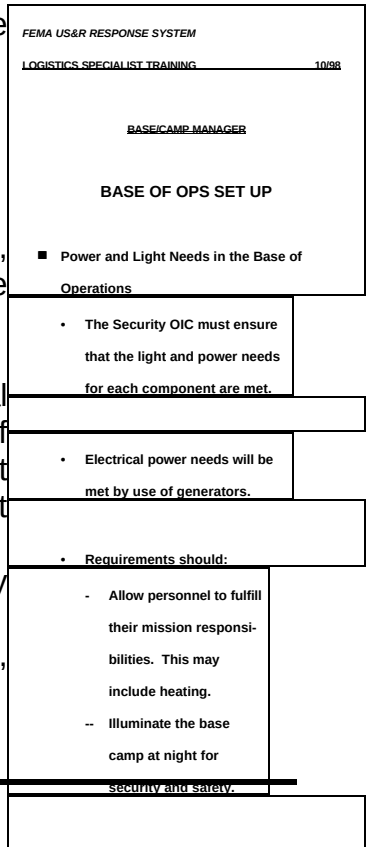
- All parked vehicles should be chocked,
- A fire extinguisher should be placed near the cans of extra fuel,
- "No Smoking" signs should be posted on all sides of the area,
- The speed limit when driving the vehicles inside the BoO is 5 MPH.
- All routes of travel and the perimeters of a parking area should be marked with ground lines. Vehicle access within the BoO should be limited to the Medical Treatment Area, the Cache Storage Component and the Kitchen and Feeding Areas.

Power and Light Needs in the Base of Operations

■ As Base of Operations components are set up and become operational, the Logistics Base of Operations Security OIC must ensure that the light and power needs for each component are met.

■ Base of Operations Electrical Power — in most cases, the electrical power needs for the Base of Operations will be met through the use of generators, which are part of the task force tools and equipment cache. Electrical power in the Base of Operations should be sufficient to:

- Allow personnel to fulfill their mission responsibilities. This may include heating.
- Illuminate the base camp at night to minimize tripping hazards, provide security and identify safety hazards.



V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

Power and Light Needs in the Base of Operations

- However, task force personnel must remember that electrical power is limited when the these needs are met with cache generators only.

- The following Base of Operations components will need electrical power as soon as they become operational:
  - The Task Force Command and Communications Center
  - The Task Force Medical Treatment Area
  - The Task Force Cache Storage and Reconditioning Areas

- As personnel become available to assist, electrical power can be extended to the Food Preparation and Feeding Areas, and perimeter lighting can be placed to meet Base of Operations security needs.

- All generators should be set up on the perimeter of the Base of Operations, in a down-wind location.

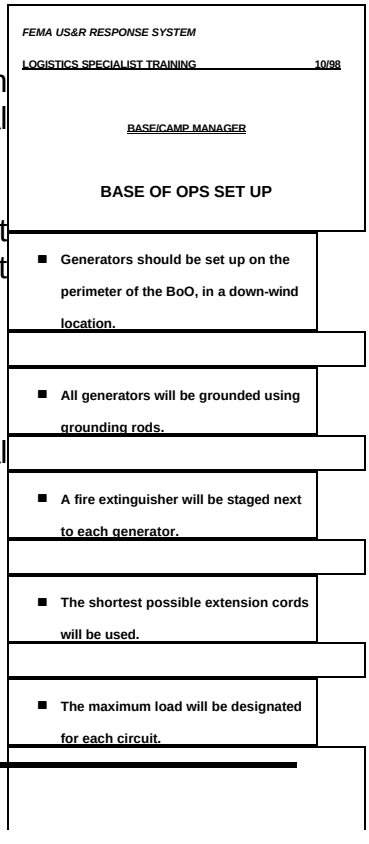
- All generators will be grounded using grounding rods. The grounding rod will be inspected daily.

- A fire extinguisher will be staged next to each generator.

- The shortest possible extension cords will connect the generators with the electrical equipment to be powered. This is to reduce electrical loads and to minimize tripping hazards.

- The maximum load will be designated for each circuit. Moreover, circuit protection shall be installed on all lines in order to prevent circuit overload.

- Indicators of an overloaded power system:
  - Breakers keep tripping,
  - Lights grow dim and then become bright when electrical components of the circuit are turned off,
  - Inadequate electrical wires become hot and/or smoke,
  - Task force personnel have received electrical shocks,
  - Task force personnel complain about dim lighting,
  - System failure has occurred.



V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

Power and Light Needs in the Base of Operations

- Electrical extension cords will be connected to devices and fittings in a way that tension is not transmitted to joints or terminal screws. This will be accomplished by:
  - A knot in the cord at the connection,
  - Securing the joint with tape,
  - Fabricating a special fitting for that purpose.

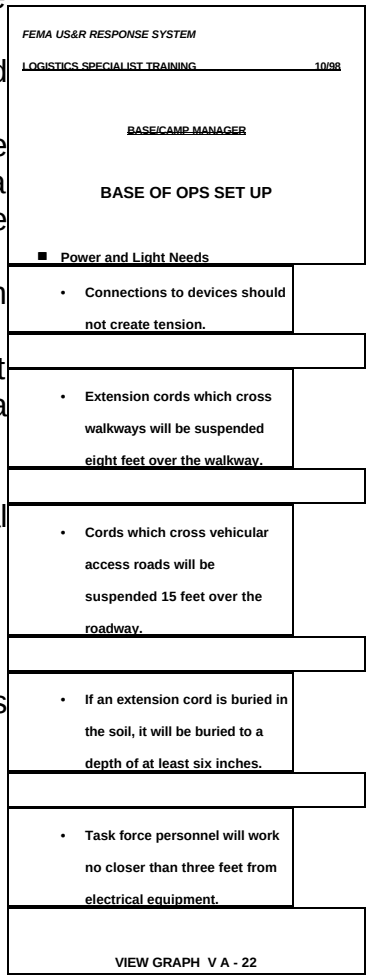
- Walkways, vehicular access roads and similar locations will be kept clear of extension cords to further minimize tripping hazards. If it is necessary to place an extension cord across these locations, the following safety measures will be used:
  - Any extension cords which cross walkways will be suspended eight feet over the walkway.
  - Any extension cords which cross vehicular access roads will be suspended 15 feet over the roadway, or will be protected by a bridge made of heavy boards on either side of and over the cord.
  - If an extension cord is buried in the soil, it will be buried to a depth of at least six inches.
  - If crushed rock is used to protect an extension cord, the segment of the cord which passes through the rock will be placed in a pipe, culvert, or other casing material.

- Task force personnel will work no closer than three feet from electrical equipment.

- Electrical tools will outfitted with the three-prong/wire type connector.

- A thorough re-evaluation of the Base of Operations electrical service is necessary when any of the following occur:
  - Additional generators are needed,
  - More lighting was added without a change in circuits,
  - Electrical loads have been redistributed,
  - Individual electrical components need to be replaced,
  - A safety engineer or electrician is needed.

- Larger-capacity generators are available from the US Army.



V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

Base of Operations Lighting

- Illumination of the Base of Operations has three primary functions:
  - Enable task force personnel to maintain operations 24 hours-per-day
  - Minimize safety hazards at night,
  - Provide security at night.

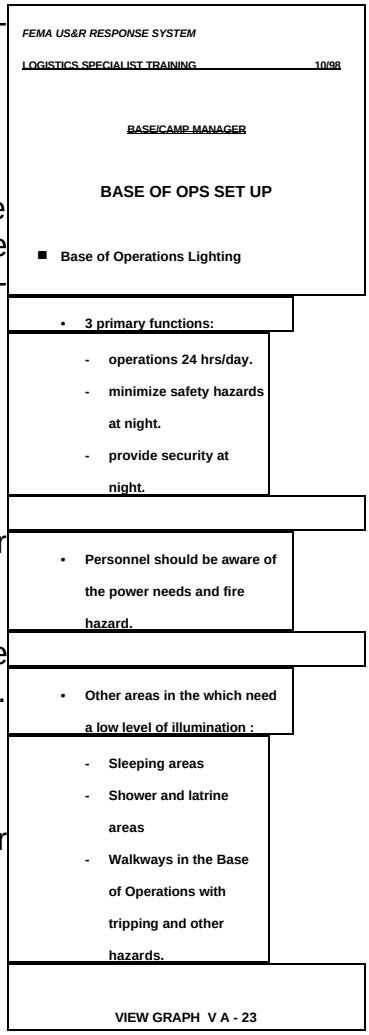
- Base of Operations components which need extensive lighting will utilize the various spotlights, etc., available in the task force cache. These components are primarily locations which operate on a 24-hour-per-day basis. Examples are:
  - Task Force Command and Communications Center
  - Task Force Cache Storage and Reconditioning Areas
  - Task Force Food Preparation and Feeding Areas
  - Points of access to the Base of Operations

- Personnel setting up these lights should be aware of the power needs for these units and of their fire hazard.

- Other areas in the Base of Operations which need a low level of nighttime illumination can utilize single-light, solar-powered units, one per area. Examples of these areas are:
  - Sleeping areas.
  - Shower and latrine areas.
  - Walkways in the Base of Operations with tripping and other hazards.
  - Light sticks.

Base of Operations Security

- The Logistical Base of Operations Security OIC is responsible for ensuring that Base of Operations security issues are identified and addressed during the entire task force mission. This individual may be assisted in this process by the task force Safety Officer and others.



V. BASE/CAMP MANAGER

A. BASE OF OPS SET UP

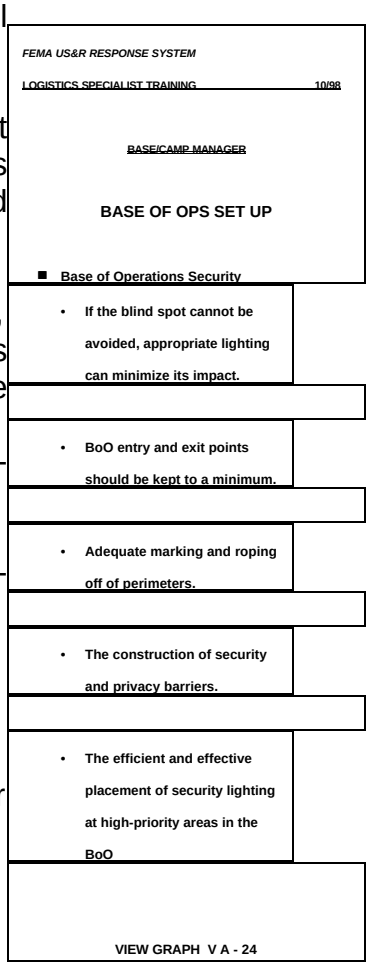
Base of Operations Security (continued)

- During the site selection process, the Base of Operations Security OIC should evaluate potential Base of Operations sites for the following security issues:
  - Blind spots both within and immediately outside the potential site perimeter. These areas do not offer 100 per cent visibility because of Base of Operations layout, area terrain, buildings, trailer vans, fences, etc. If the blind spot cannot be avoided, appropriate lighting can minimize its impact on Base of Operations security.
  - The number of Base of Operations entry and exit points. These should be kept to a minimum because each one will have to be controlled and illuminated equally.

- Once the Base of Operations site is selected, the manner in which it is set up can have a big impact on security. The Base of Operations Security OIC must ensure that the following elements are addressed by task force personnel doing the setup:
  - Adequate marking and roping off of perimeters,
  - The construction of security and privacy barriers where necessary,
  - Utilizing existing fences, buildings and other resources to act as security and privacy barriers, and to control access onto the Base of Operations,
  - The efficient and effective placement of security lighting at high-priority areas in the Base of Operations.

- For the sake of security planning and use of limited resources, the high-risk areas of the Base of Operations are:
  - Vehicle parking area(s)
  - Food preparation and feeding areas
  - Cache storage and reconditioning areas.

- Other Base of Operations security issues include sufficient protection for sleeping areas, ongoing sanitation, and shower and latrine areas.



V. BASE/CAMP MANAGER
B. EQUIPMENT CACHE SET UP

- The establishment of a secure, operational equipment cache is one of the top priorities when setting up the Task Force Base of Operations. It should be set up as soon as the base site is chosen and the equipment cache arrives from the Mobilization Center or Point of Arrival.

- The setup of the Task Force cache will be jointly managed by two Logistics Specialists, assisted by one Rescue Squad.

- A Logistics Work Kit should be prepacked in a cache box and utilized to expedite the cache setup process. The kit should contain:
  - FEMA US&R Field Operations Guide.
  - FEMA US&R forms.
  - Pencil, paper, pens.
  - Logbook.
  - Sufficient flashlights for all personnel.
  - Batteries.
  - (4) lanterns, solar-powered.
  - Safety signs (No Smoking, etc.).
  - Fire line tape, plastic snow fence, stakes, etc.
  - Micro tape recorder.
  - Laptop computer with cache inventory and tracking software.
  - Spray paint.
  - Mallets.
  - Small hand tools, as needed.

- The minimum size requirement for the cache component of the Base of Operations is 50 feet by 60 feet. Ideally, the cache should be located away from the main flow of traffic through the Base of Operations. The site should provide maximum protection from sun and inclement weather.

- Once the site is identified, mark the perimeter initially with fire line tape. Then, identify and mark with spray paint the following two areas: the cache supply area and the cache tool storage and reconditioning area.

- Any surviving structure within the Base of Operations site should be evaluated as a potential location for the equipment cache. Use of the structure provides protection from the

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BASE/CAMP MANAGER

EQUIPMENT CACHE SET UP

- **A Logistics Work Kit contains:**
  - **FEMA US&R Field Ops Guide.**
  - **FEMA US&R forms.**
  - **Pencil, paper, pens.**
  - **Logbook.**
  - **Flashlights for all personnel.**
  - **Batteries.**
  - **(4) lanterns, solar-powered.**
  - **Safety signs.**
  - **Fire line tape, stakes, etc.**
  - **Micro tape recorder.**
  - **Laptop computer.**
  - **Spray paint.**
  - **Mallets.**
  - **Small hand tools.**

FEMA US&R RESPONSE SYSTEM
LOGISTICS SPECIALIST TRAINING 10/98

VIEW GRAPH V B - 1
BASE/CAMP MANAGER

EQUIPMENT CACHE SET UP

- **The minimum size requirement for the cache component of the Base of Operations is 50 feet by 60 feet.**

- **Once the site is identified, mark the perimeter initially with fire line tape. Then, identify the following two areas:**
  - **the cache supply area**
  - **cache tool storage and reconditioning area.**

- **Any surviving structure within the Base of Operations site should be evaluated as a potential location for the equipment cache.**

elements and ease of security.

V. BASE/CAMP MANAGER
B. EQUIPMENT CACHE SET UP

Cache Set Up

Factors to consider when choosing location for equipment cache set up in the Base of Operations:

- Security - the need for security of the cache supersedes all other factors when a potential cache site is identified.

- A site deficient in another selection factor may ultimately be used for this purpose solely on the security issue. The issue comes down to; if the security of the cache is compromised, a key element of task force effectiveness may be lost, with a replacement unavailable for days or not at all.

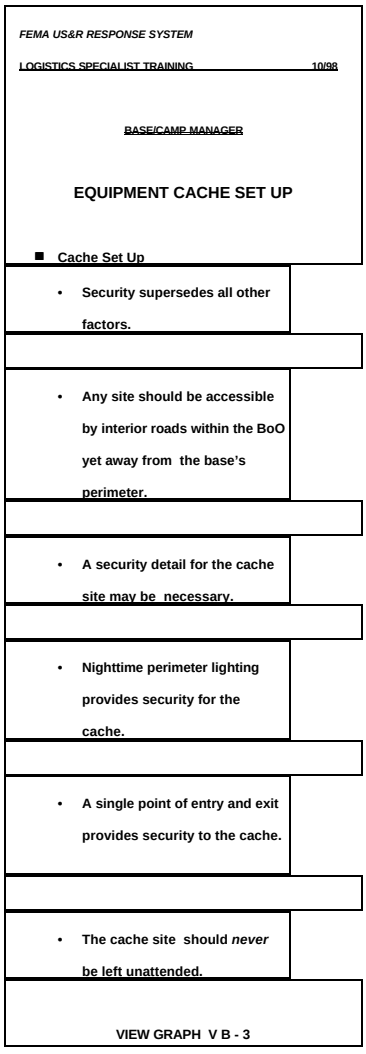
- Any site chosen as the equipment cache location should be both accessible by any interior roads within the Base of Operations yet be far enough away from the base's perimeter that non-task force personnel and vehicular access is limited.

- As part of the general request for local security support for the entire Base of Operations, a security detail for the cache site may be necessary, given conditions of a specific mission. (Robbery at gunpoint of rescue and relief supplies has occurred following disasters.)

- Nighttime perimeter lighting helps provide security for the cache. The perimeter should be clearly defined with the use of fire-line tape, plastic snow fencing, or other highly-visible means. (This equipment should be included in the cache.) If possible, this function can be accomplished using existing fences, building walls and/or fences.

- A single point of entry and exit for the cache site provides both security to the cache and ensures that task force personnel follow tool checkout procedures. This element of cache security should not be overlooked; as the desire to deploy rapidly to an identified operational site can result in breakdown of the equipment tracking process.

- As a general rule, the equipment cache site should *never* be left unattended during any time of a mission. If all Logistics personnel will be working away from the cache site, unassigned Task Force personnel should be utilized to secure



the cache for short periods of time.

V. BASE/CAMP MANAGER
B. EQUIPMENT CACHE SET UP

Safety

- As in all elements of Task Force operations, attention to safety issues may mean the difference to remaining operational during the entire mission or not. With the help of the Safety Officer, the Logistics Specialists must tour the cache site early on during the set up process to identify hazards and remove or flag them.

- If the cache is set up in a building which has survived the disaster, it must be evaluated by a Task Force Structures Specialist for safety and stability. This may result in portions of the structure being placed off-limits to Task Force personnel. The evaluation must include both the interior and the exterior of the building.

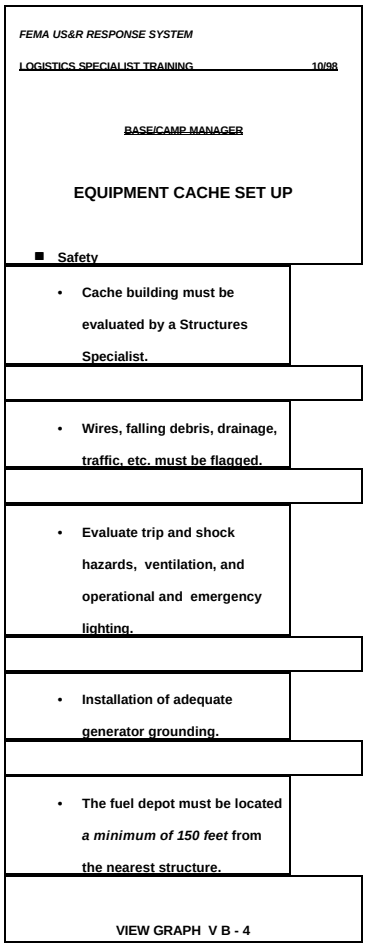
- During the exterior evaluation, elements such as wires, falling debris, drainage, traffic, etc. should be identified and flagged. This process should involve planning for cache protection should heavy rain or snow occur.

- During the interior evaluation, elements of interest include; trip and shock hazards, ventilation, and adequate operational and emergency lighting. While most traffic in and out of the cache component of the Base of Operations, a second means of egress which would serve as an emergency exit must be identified and marked on site drawings and diagrams.

- Once the cache is set up, Logistics Specialists must ensure that the layout provides a measure of safety for Task Force personnel at the site to pick up and drop off tools. The tool repair and rehabilitation areas should also be clear of tripping hazards and are adequately lighted for 24-hour operations.

- Again, with the assistance of the Safety Officer, the Logistics Specialists must ensure installation of adequate grounding of tents, antennas and generators around the cache area.

- The fuel depot must be located *a minimum of 150 feet* from the nearest Base of Operations structure yet be secured from theft. Ideally, the depot site should be downhill and downwind from the Base of Operations and be marked with “No Smoking” signs. The fuel must be stored in non-leaking containers.



V. BASE/CAMP MANAGER
B. EQUIPMENT CACHE SET UP

Safety (continued)

- One option for fuel storage is to stage the depot one block away from the Base of Operations as part of vehicle fleet parking.

Space Requirements

- The recommended minimum area for the cache component of the Base of Operations is 50 ft. X 60 ft.
- If the cache is stored in a tent or tents, the tents need to be sufficiently tall so that Logistics personnel can stand up inside them and work.

Protection

- Protection of cache tools and equipment from damage caused by the elements if a key element in keeping these items operational during an entire mission. The cache must be protected from moisture, dust and temperature extremes. The cache site should also protect cache equipment from vehicle traffic and other activities in the Base of Operations.
- It is ideal to have the entire cache under cover, be it in a surviving building or in Task Force tents. If tents are used, they should be the four-season type in order to provide adequate protection during most weather.
- Any items not under cover must be covered by tarps or plastic and placed on dunnage or pallets. The covers provide both protection from the elements and from theft. However, the Logistics Specialists must evaluate the local climate, as extreme temperatures or severe storms may preclude any part of the cache being stored outside during a particular mission.

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BASE/CAMP MANAGER
EQUIPMENT CACHE SET UP
- Space Requirements
  - The recommended minimum area for the cache component of the Base of Operations is 50 ft. X 60 ft.
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FEMA US&R RESPONSE SYSTEM
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BASE/CAMP MANAGER
VIEW GRAPH V B - 5
EQUIPMENT CACHE SET UP
- Protection
  - The cache must be protected from moisture, dust and temperature extremes.
  - It is ideal to have the entire cache under cover.
  - Any items not under cover must be covered by tarps or plastic and placed on dunnage.
  - Logistics Specialists must evaluate the local climate, as extreme temperatures may preclude any part of the cache being stored outside during a particular mission.

V. BASE/CAMP MANAGER
B. EQUIPMENT CACHE SET UP

Layout

- While drawing a layout schematic for the cache component of the Base of Operations, begin by dividing the covered space into the two main areas:
  - Cache supply storage area.
  - Tool storage and rehabilitation area.

- Note: Some task forces will place the Medical cache in the Medical treatment tents, particularly because of the need for temperature control of the medications and fluids.

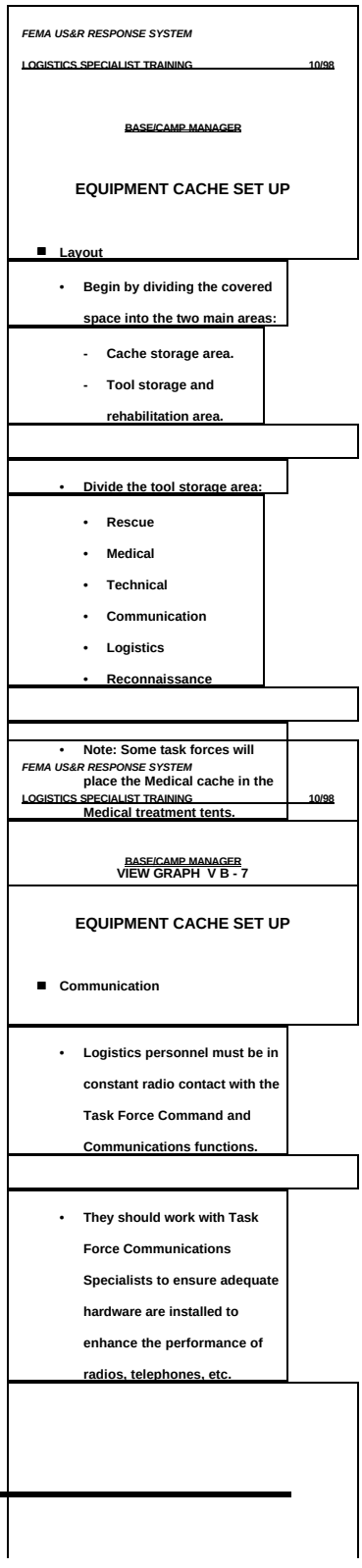
- Arrange in LOGICAL order, reserving areas of easier access to tools and equipment which will be used most often.

- An important part of the layout process is creating adequate traffic flow to handle the tool checkout and return. With only one entry point to the area, there needs to be sufficient space for personnel and boxes of equipment during this process.

- For Logistics Specialists working on the computer or repairing cache equipment, empty cache boxes and dunnage can be used for work space and seating.

Communication

- Logistics personnel must be in constant radio contact with the Task Force Command and Communications functions. They should work with Task Force Communications Specialists to ensure adequate hardware are installed to enhance the performance of radios, telephones, etc.



V. BASE/CAMP MANAGER
C. FORWARD EQUIPMENT STAGING AREA

Background

- A Forward Equipment Staging Area (Camp) serves as a temporary equipment cache storage and maintenance area to meet the tool and support needs of task force personnel operating at a remote site away from Base. While establishing a forward cache means that Logistics personnel will be operating at two or more locations simultaneously, having a small cache near the operational zone results in more efficient use of the equipment. It also means that the items are not moved to and from the BoO with every operational period.

- Logistics personnel should be aware that more than one Forward Equipment Staging Areas may be in use during a given time, based on the operational assignments of task force functions. As the situations becomes more complex, Logistics Specialists must plan and coordinate the sites so that supplies and equipment are used efficiently. This is not an easy job.

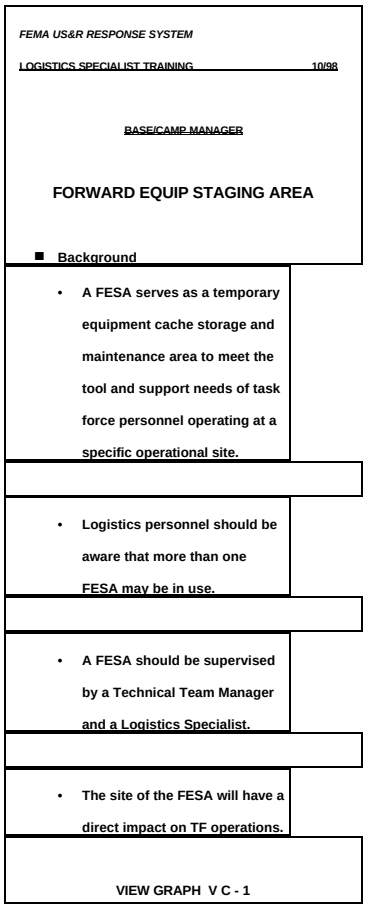
- The Forward Equipment Staging Area concept became a reality during the US&R Task Force response to the bombing of the Federal Building in Oklahoma City, OK in 1995. Because the Base of Operations was several miles away from the operational area, the actual setup of the Forward Equipment Staging Area had to meet the individual and varied needs of the different task force groups.

- A Forward Equipment Staging Area should be supervised by a Technical Team Manager and a Logistics Specialist.

- The site of the Forward Equipment Staging Area will have a direct impact on Task Force operations. Serious consideration must be given to the size of the equipment cache that will be staged at this location.

Criteria for Forward Equipment Staging Area Setup

- While the task force is off-loading the equipment cache at the Base of Operations, an Advanced Team should be sent to provide reconnaissance for locating an appropriate site for the forward equipment cache area.



V. BASE/CAMP MANAGER
C. FORWARD EQUIPMENT STAGING AREA

Criteria for Forward Equipment Staging Area Setup

- This Advanced Team should include:
  - Assistant Task Force Leader
  - Technical Team Manager
  - Logistics Specialist
  - Communications Specialist
  - Rescue Team Manager

- There are several factors which affect the placement of the Forward Equipment Staging Area:
  - Was the building collapse caused by nature (i.e., earthquake, hurricane, tornado, etc.) Or by man (i.e., construction failure, bomb explosion, etc.)? The Base of Operations in Oklahoma City was sited because the immediate area of the bomb explosion was considered a crime scene.
  - Site location may change during an incident numerous times due to the Operational Area being reclassified as a crime scene.
  - The proximity of the equipment staging area to the Operational Work Site. More than one task force might have to share the same Forward Equipment Staging Area.

Forward Equipment Staging Area Setup

- It is imperative that the safety of the location be of primary importance. If possible, fixed facilities and structures within proximity to the operational area should be considered, if the potential for failure has been ruled out by a Structures Specialist.

- Logistics personnel, with the assistance of task force leadership and IST support, must be aware of any restrictions and safety issues of the forward staging area chosen.
  - Despite the limited access to the site, there must always be two means of exit from the area in case of an emergency.

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BASE/CAMP MANAGER
FORWARD EQUIP STAGING AREA
- Criteria for FESA Setup
  - Advanced Team should include:
    - Assistant Task Force Leader
    - Technical Team Manager
    - Logistics Specialist
    - Communications Specialist
    - Rescue Team Manager

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LOGISTICS SPECIALIST TRAINING 10/98
BASE/CAMP MANAGER
VIEW GRAPH V C - 2
FORWARD EQUIP STAGING AREA
- FESA Setup
  - Fixed facilities and structures near the ops area should be considered.
  - Logistics personnel must be aware of any restrictions and safety issues of the area chosen.
  - The security of equipment and personnel must be examined during the setup phase and reevaluated.
  - The Logistics personnel must assure that adequate shelter space is available.

V. BASE/CAMP MANAGER
C. FORWARD EQUIPMENT STAGING AREA

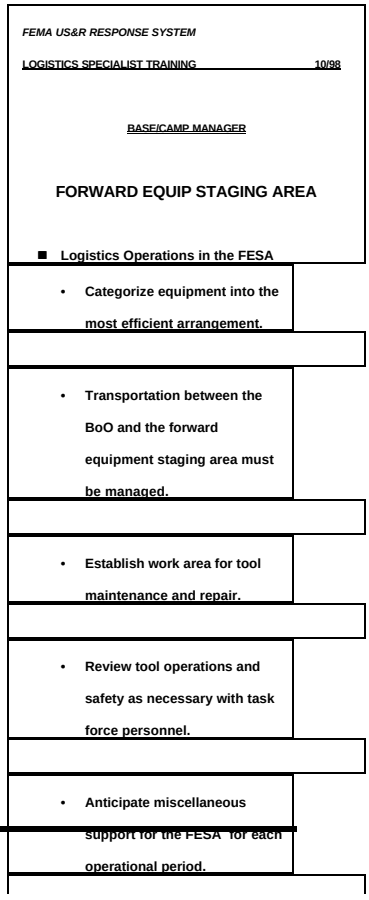
Forward Equipment Staging Area Setup (continued)

- The security of equipment and personnel must be examined during the setup phase and reevaluated as conditions change.
  - Local law enforcement officials can assist a task force personnel in this effort.
  - Like the BoO, there should be limited access to the site.
  - The Logistics Specialist should coordinate with the Medical Team Manager regarding security and accountability of controlled meds.

- The Logistics personnel must also assure that adequate shelter space is available for the equipment, plus room for maintenance, personnel and canine which will utilize the space.
  - The site needs to be adequate in terms of area and protection from the elements. If protection is inadequate, use tarps as necessary for protection from the weather.

Logistics Operations in the Forward Equipment Staging Area

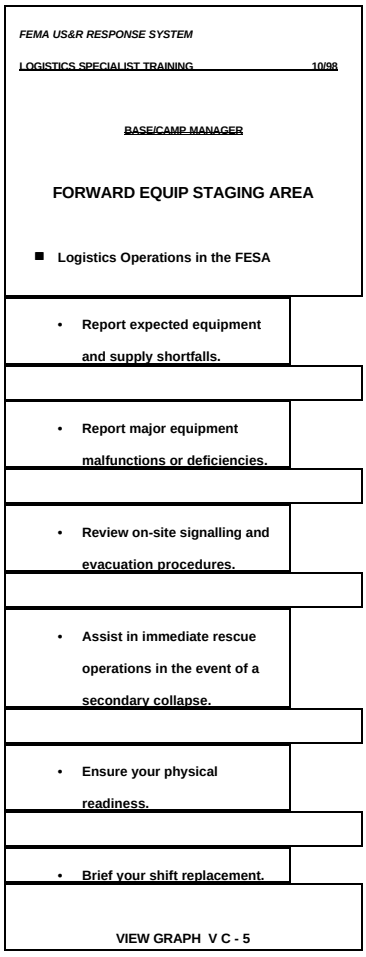
- Once the forward equipment staging area is established, the Logistics Specialist should:
  - Categorize equipment and supplies into the most efficient arrangement,
  - Transportation between the BoO and the forward equipment staging area must be managed during each operational period, especially when transportation resources are limited, implement property accountability and T-card systems early. Track location, availability of special tools/equipment. Review these procedures with task force personnel signing out equipment.
  - Establish work area for tool maintenance and repair.
  - Fuel equipment and tools, making sure they function properly and are ready for operation.
  - Review tool operations and safety as necessary with task force personnel.
  - Ensure the use of all safety equipment and procedures.
  - Logistics personnel must anticipate miscellaneous support for the forward equipment staging area, including water, food and fuel for each operational period.



V. BASE/CAMP MANAGER
C. FORWARD EQUIPMENT STAGING AREA

Logistics Operations in the Forward Equipment Staging Area

- Report expected equipment and supply shortfalls to cache component at the BoO.
- Report major equipment malfunctions or deficiencies to Technical Team Leader to expedite the procurement of replacements.
- Review on-site signalling and evacuation procedures.
- Be prepared to assist in immediate rescue operations in the event of a secondary collapse with task force personnel inside.
- Ensure your physical readiness through proper nutrition, water intake, rest and stress control techniques.
- Brief your shift replacement regarding all ongoing operations when relieved at work cycle rotations.



V. BASE/CAMP MANAGER
D. BASE OF OPS MANAGEMENT

- The subject of Base of Operations (BoO) management has not been developed from a program standpoint. However, Logistics personnel from a task force which has been mobilized for any period of time know how important the subject is, both from the standpoint of the overwhelming work assignment that Logistics Specialists have and the role of BoO management in maintaining the morale and health of all task force personnel.

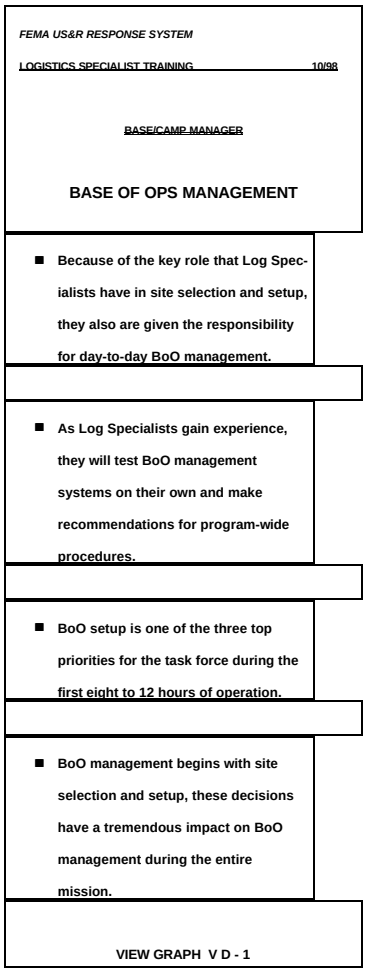
- Because of the key role that Logistics Specialists have in BoO site selection and setup, these personnel also are given the responsibility for day-to-day BoO management.
  - Because they have the responsibility, it does *not* mean that they must perform all the duties themselves. On top of their other roles, this would be impossible. Delegation is the key.

- The following is the first substantive entry on BoO management made in any US&R program manual. Understand that it is a first attempt to document this activity, and the text will certainly change dramatically over the next few years. As Logistics Specialists gain experience, they will test BoO management systems on their own task force and then make recommendations for program-wide procedures.

BoO Management During the First 24-Hour Operational Period

- According to the Task Force Management and Coordination section of the *FEMA US&R Response System* document, BoO setup is one of the three top priorities for the task force during the first eight to 12 hours of operation.

- BoO management begins with site selection and setup, as decisions made during this process have a tremendous impact on BoO management during the task force's entire mission.
  - For example, if there are problems with drainage at the site, the food preparation, latrine and shower areas will require more intensive upkeep in order to minimize health risks. The same holds true for issues of prevailing wind, access and space.



V. BASE/CAMP MANAGER
D. BASE OF OPS MANAGEMENT

BoO Management During the First 24-Hour Operational Period

- Therefore, do not allow impatient task force personnel to rush you into site and setup decisions which you will have plenty of time to regret later. Logistics Specialists must be a bit vigorous in exercising their role as BoO Manager. This is because, once the tents are in place, it is they who are responsible for the smooth operation of the facility.

■ Following the first eight to 12 hours, task force management will probably relieve half of the task force for feeding and sleep.
- The document indicates that those personnel assigned to BoO setup will be relieved first. Food-wise, the personnel will probably eat MREs for this first meal.
- At this point, the 12-hour shifts will begin. For the rest of the mission, half of the task force will eat and rest while the other half works.

Ongoing BoO Management During the Rest of the Mission

■ Successful BoO management is the result of systematic upkeep of the various elements of the BoO. As with any ongoing activity, the job will be easier if the tasks are performed at every required interval, be it every 12 hours, every day, or every few days.

■ In order to keep track of this tremendous task, the required elements of BoO management have been broken down into the following assignments. While the Logistics Specialists will be responsible for their completion, they will solicit and receive assistance from task force personnel in the carrying out of these assignments.

FEMA US&R RESPONSE SYSTEM
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■ **Following the first eight to 12 hours, half of the task force will probably be relieved for feeding and sleep.**

- **Personnel assigned to BoO setup should be relieved first.**
- **At this point, the 12-hour shifts will begin. For the rest of the mission, half of the task force will eat and rest while the other half works.**

■ **Successful BoO management is the result of systematic upkeep of the various elements of the BoO. The job will be easier if the tasks are performed at every required interval, be it every 12 hours, every day, or every few days.**

VIEW GRAPH V D - 2

V. BASE/CAMP MANAGER
D. BASE OF OPS MANAGEMENT

Base of Operations Management Assignments for Logistics Specialists

- Task Force Logistics Specialists will be assigned the following base of operations management assignments. They will solicit and receive assistance from task force personnel in the carrying out of these assignments.

- **Base of Operations Facilities Unit Leader/Logistics OIC**
  - This individual will establish the layout of the base of operations and oversee the day-to-day management of the facility. This entails the establishment of duty rosters and personnel meeting schedules as needed.

- The **Facilities Unit Leader** will also be responsible for the following base of operations-related issues:
  - Fulfillment of landowner agreements for the base of operations site,
  - Ordering of needed resources,
  - Any report of theft,
  - Management of special logistical problems as they arise,
  - Management of transportation resources and issues.

- The **Logistical Unit Support Leader** is responsible for meeting food, fuel and supply needs. In the area of supply receiving and distribution, he/she will:
  - Organize the physical layout of the cache supply area,
  - Establish procedures for operating the cache supply area,
  - Set up tracking system for receiving and distribution of
  - Supplies and equipment,
  - Maintain inventory of supplies and equipment,
  - Develop security measures for cache supply area.

FEMA US&R RESPONSE SYSTEM
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BASE/CAMP MANAGER
BASE OF OPS MANAGEMENT
■ BoO Facilities Unit Leader/Logistics OIC
• This individual will establish the layout of the base of operations and oversee the day-to-day management of the facility.
• This entails the establishment of duty rosters and personnel meeting schedules as needed.

FEMA US&R RESPONSE SYSTEM
LOGISTICS SPECIALIST TRAINING 10/98
BASE/CAMP MANAGER
BASE OF OPS MANAGEMENT
■ The Facilities Unit Leader will also be responsible for the following base of operations-related issues:
VIEW GRAPH V D - 3
• Fulfillment of landowner agreements for the base of operations site,
• Ordering of needed resources,
• Any report of theft,
• Management of special logistical problems as they arise,
• Management of transportation resources and issues.

FEMA US&R RESPONSE SYSTEM
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BASE/CAMP MANAGER
BASE OF OPS MANAGEMENT
■ The Logistical Unit Support Leader is responsible for meeting food, fuel and supply needs. In the area of supply receiving and distribution, he/she will:
• Organize the physical layout of the cache supply area,
• Establish procedures for operating the cache supply area,
• Set up tracking system for receiving and distribution of
VIEW GRAPH V D - 4
• Supplies and equipment,
• Maintain inventory of supplies and equipment,
• Develop security measures for cache supply area.

V. BASE/CAMP MANAGER
D. BASE OF OPS MANAGEMENT

Base of Operations Management Assignments for Logistics Specialists (continued)

- With the assistance of other task force personnel, he/she will also serve as the **Food Unit Leader**, supplying the food needs for the entire incident, including at remote locations. To fulfill this duty, he/she will have to:
  - Determine food and water requirements,
  - Order sufficient food and potable water from IST Logistics,
  - Maintain an inventory of food and potable water,
  - Determine method of feeding to best fit each facility
  - or operational site,
  - Establish base of operations cooking facilities,
  - Request necessary food-related equipment and supplies,
  - With the assistance of medical personnel, ensure that well-balanced menus are provided,
  - Maintain food service areas, ensuring that task force personnel serving as cooks follow all appropriate health and safety measures,
  - Provide and maintain coolers for the base of operations and at operational sites.

- The **Logistical Equipment Leader** is responsible for setting up the cache tool and equipment storage and conditioning area. During this process, he/she will maintain the tool inventory using both electronic and manual systems. During the entire mission, the Logistical Equipment Leader will ensure that tools are maintained in operational condition. When tools need parts for repair, he/she will forward pertinent ordering information to the Facilities Unit Manager for procurement. Other duties include:
  - Assembling tools and equipment for issuance during each operational period per the incident action plan,
  - Receive and recondition tools after each operational period,
  - Ensure that task force personnel follow all appropriate safety measures when operating and reconditioning tools and equipment,
  - Will manage the fuel staging area.

FEMA US&R RESPONSE SYSTEM
LOGISTICS SPECIALIST TRAINING 10/98
BASE/CAMP MANAGER
BASE OF OPS MANAGEMENT
■ The Food Unit Leader supplies the food needs for the entire incident, including at remote locations. He/she will have to:
• Determine food and water requirements,
• Order sufficient food and potable water
• Maintain an inventory
• Determine method of feeding
• Establish cooking facilities,
• Request necessary food-related equipment and supplies,
• Ensure well-balanced menus
• Maintain food service areas,
• Provide and maintain coolers for the BoO and at operational sites.
FEMA US&R RESPONSE SYSTEM
LOGISTICS SPECIALIST TRAINING 10/98
BASE/CAMP MANAGER
BASE OF OPS MANAGEMENT
■ The Logistical Equipment Leader is responsible for setting up the cache tool and equipment storage and conditioning area.
■ During this process, he/she will maintain the tool inventory using both electronic and manual systems. Other duties include:
• Assembling tools and equipment for issuance during each operational period per the incident action plan,
• Receive and recondition tools after each operational period,
• Ensure that personnel follow all appropriate safety measures,
• Manage fuel staging area.

V. BASE/CAMP MANAGER
D. BASE OF OPS MANAGEMENT

Base of Operations Management Assignments for Logistics Specialists (continued)

- The **Logistical Base of Operations Security OIC** is responsible for security, facilities maintenance, power requirements and upkeep of sanitation facilities at the base of operations.

- He/she will ensure that needed support, such as electrical power and lighting, are available to all base of operations components. Moreover, he/she will maintain the shower facilities and ensure that task force personnel keep the base of operations clean and orderly.

- Working in concert with the task force Safety Officer and the **Facilities Unit Leader**, he/she will ensure that security measures, such as fences and controlled access and egress, are installed and updated as necessary.

- How the above positions will be staffed will have to be developed by the Logistics Specialist, with the help and support of the Technical Team Leader and the Task Force Leader. It may be that two-to-four individuals will need to be briefed as to the responsibilities for a position, with those personnel performing the duties when they come off work each day. Or a Logistics Specialist will retain the position and will assign personnel to perform the required tasks on an ad hoc basis each day.

- This lack of an established system is the weak point of the entire BoO management issue. And because the duties tend to be considered trivial, or even demeaning, personnel volunteering to perform them may be few and far between. This requires that some kind of roster or team concept be developed.

- The following roster scheme was developed by a team of six participants at the first Logistics Specialist Training Course at McChord AFB in Washington State in 1993. Given the assignment to develop a BoO Management Plan, these individuals submitted the following:

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- The Logistical BoO Security OIC is responsible for:
  - Security
  - Facilities maintenance
  - Power requirements
  - Sanitation facilities
- He/she will ensure that needed support, such as electrical power and lighting, are available to all base of operations components.
- He/she will maintain the shower facilities and ensure that task force personnel keep the base of operations clean and orderly.

FEMA US&R RESPONSE SYSTEM
LOGISTICS SPECIALIST TRAINING 10/98
BASE/CAMP MANAGER
VIEW GRAPH V D - 8
BASE OF OPS MANAGEMENT

- The Facilities Unit Leader will ensure that security measures are installed and updated as necessary.
- How this will be staffed is developed by the Logistics Specialist, with the help and support of the Technical Team Leader and the Task Force Leader.
- The lack of an established system for this requirement is a weak point of the entire BoO management issue. This requires that some kind of roster or team concept be developed.

V. BASE/CAMP MANAGER
D. BASE OF OPS MANAGEMENT

Base of Operations Management Plan

- Our task was to formulate a plan for keeping the BoO running smoothly. Our resources were the 56 task force personnel plus whatever supplies we had brought with us. As a first step, we divided the tasks into categories:

- Predictable chores that need to be done twice daily:
  - Latrine duty
  - Cleaning toilets
  - Replenishing toilet paper
  - Cleaning up hand washing area
  - Remove bags of trash from individual containers and place into dumpster
  - Policing the BoO for litter
  - Food preparation
  - Replenishing potable water stores

- Daily duties of unknown frequency:
  - Support cache manager
  - Clean, refuel and maintenance of tools
  - Retrieving needed items for cache manager
  - Assistance with accountability records
  - Inventory update
  - Maintain T-card system
  - Verify records on tool status
  - Support communications
  - Refuel and maintenance on generators
  - Check and troubleshoot antennas
  - Retrieve needed items for Communications personnel

- Miscellaneous duties as needed:
  - Scrounge patrol'
  - Small tool repair
  - Maintain motor pool
  - Safety upkeep around BoO
  - Anything else that needs to be done

FEMA US&R RESPONSE SYSTEM
LOGISTICS SPECIALIST TRAINING 10/98
BASE/CAMP MANAGER
BASE OF OPS MANAGEMENT
- Predictable chores that need to be done twice daily:
  - Latrine duty
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  - Cleaning up hand washing area
  - Remove bags of trash from individual containers and place into dumpster
  - Policing the BoO for litter
  - Food preparation
  - Replenishing potable water

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FEMA US&R RESPONSE SYSTEM
LOGISTICS SPECIALIST TRAINING 10/98
BASE/CAMP MANAGER
BASE OF OPS MANAGEMENT
- Daily duties of unknown frequency:
  - Support cache manager
  - Clean, refuel and maintenance of tools
  - Retrieving needed items for cache manager
  - Assistance with accountability records
  - Inventory update
  - Maintain T-card system
  - Verify records on tool status
  - Support communications
  - Refuel and maintenance on generators
  - Check and troubleshoot antennas
  - Retrieve needed items for Communications personnel
  - Maintain motor pool
  - Safety upkeep around BoO

VIEW GRAPH V D - 11

FEMA US&R RESPONSE SYSTEM
LOGISTICS SPECIALIST TRAINING 10/98
BASE/CAMP MANAGER
BASE OF OPS MANAGEMENT
- Miscellaneous duties as needed:
  - Scrounge patrol
  - Small tool repair
  - Anything else that needs to be done

V. BASE/CAMP MANAGER
D. BASE OF OPS MANAGEMENT

Base of Operations Management Plan (continued)

- We then evaluated available personnel and compared these numbers with the tasks which needed to be performed.
  - There were 28 personnel per 12-hour shift. When one subtracts the time for briefings, sleeping, eating and personal hygiene, we have about one hour per person per shift available for BoO management activities.
  - We also figured that about eight of the 28 personnel would not be available because of other responsibilities. That left 20 workers available.
  - One method for performing the BoO management duties could be to take one hour away from the 20 on-duty personnel. If this is insufficient to complete the work, we could take one hour away from the off-duty shift.
  - Other personnel resources may be on-duty personnel with no current assignment, injured or light-duty personnel and outside resources that become available.

- We then had to figure out how to assign personnel to tasks. As a starting point, we came up with the following:

Personnel Task Assignment

We planned on briefing everyone on the importance of cleaning up after themselves to minimize housekeeping problems. Team managers are responsible for assigning and overseeing daily chores. The tasks identified previously were divided into two categories:

- Fixed
  - Clean camp and latrine
  - Prepare food, replenish water
  - Trash and litter pickup

- Labor Pool
  - Cache manager support
  - Communications support
  - Miscellaneous duties

FEMA US&R RESPONSE SYSTEM
LOGISTICS SPECIALIST TRAINING 10/98
BASE/CAMP MANAGER

BASE OF OPS MANAGEMENT

- Available personnel compared to the numbers of tasks to be performed.
  - There were 28 personnel per 12-hour shift. We have about one hour per person per shift for BoO management activities.
  - Eight of the 28 personnel not available because of other responsibilities. That left 20 workers available.
  - One method for performing the BoO management duties could be to take one hour away from the 20 on-duty personnel.
  - Other personnel resources may be on-duty personnel with no current assignment and outside resources that become available.

FEMA US&R RESPONSE SYSTEM
LOGISTICS SPECIALIST TRAINING 10/98
BASE/CAMP MANAGER

BASE OF OPS MANAGEMENT
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Task Assignments

- Fixed
  - Clean camp and latrine
  - Prepare food, replenish water
  - Trash and litter pickup
- Labor Pool
  - Cache manager support
  - Communications support
  - Miscellaneous duties

V. BASE/CAMP MANAGER
D. BASE OF OPS MANAGEMENT

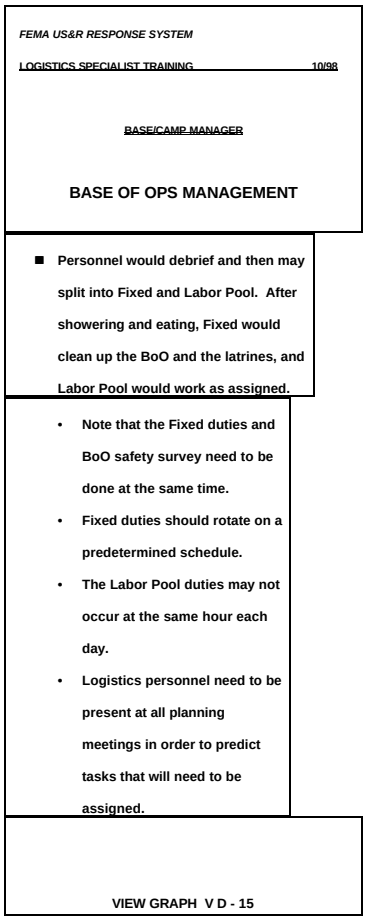
Personnel Task Assignment (continued)

- At shift change, the outgoing shift would be divided between Fixed and Labor Pool. They would eat, with Fixed personnel also preparing food for the incoming shift (personnel who were returning to the BoO after their 12-hour shift). The Fixed team leader would perform the safety survey of the BoO. The Labor Pool would work as assigned. When completed, all outgoing personnel would report to the briefing and be transported to the Rescue site.

- While every attempt should be made not to assign BoO management duties to personnel coming off a 12-hour work shift, this may be necessary in some cases. If this occurs, these personnel would debrief and then split into Fixed and Labor Pool. After showering and eating, Fixed would clean up the BoO and the latrines, and Labor Pool would work as assigned.
  - Note that the Fixed duties and BoO safety survey need to be done at the same time on a regular schedule.
  - Fixed duties should rotate on a predetermined schedule.
  - The Labor Pool duties may not occur at the same hour each day. Assignments can be made at the briefing and debriefing.
  - Logistics personnel need to be present at all planning meetings and briefing and debriefing sessions in order to predict tasks that will need to be assigned.

Power Needs in the BoO

- As BoO components are set up and become operational, the Logistics BoO Security OIC must ensure that the light and power needs for each component are met.



V. BASE/CAMP MANAGER
D. BASE OF OPS MANAGEMENT

Power Needs in the BoO (continued)

- In most cases, BoO electrical power needs will be met through the use of generators, which are part of the task force tools and equipment cache. Electrical power in the BoO should be sufficient to:
  - Allow personnel to fulfill their mission responsibilities. This may include heating.
  - Illuminate the BoO at night to minimize tripping hazards, provide security and identify safety hazards.

- Task force personnel need to be reminded to use the available electrical power wisely. Task force personnel will work no closer than three feet from electrical equipment.

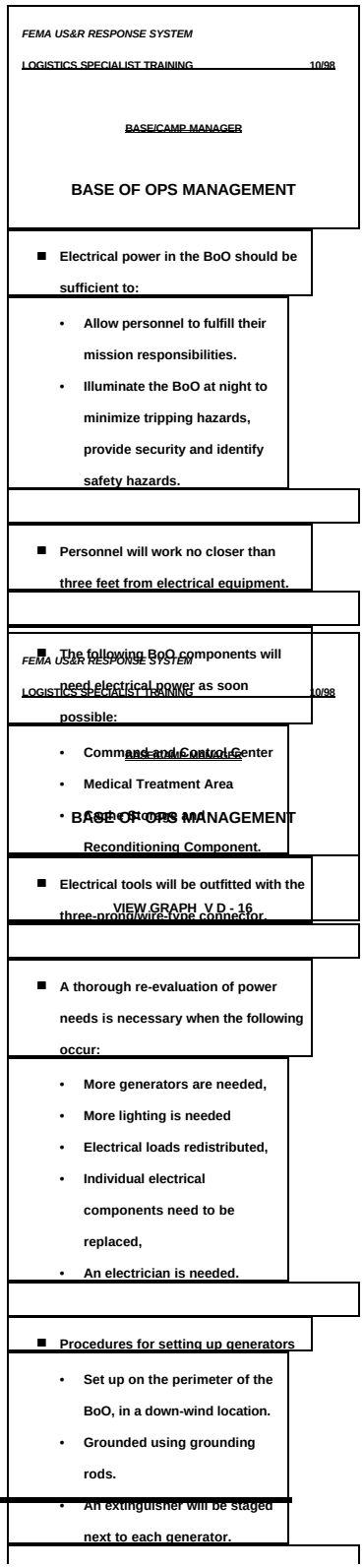
- The following BoO components will need electrical power as soon as they become operational:
  - Command and Control Center
  - Medical Treatment Area
  - Cache Storage and Reconditioning Component.

- As personnel become available to assist, electrical power can be extended to the Food Preparation and Feeding Areas and to perimeter lighting to meet security needs.

- Electrical tools will be outfitted with the three-prong/wire-type connector.

- A thorough re-evaluation of BoO electrical power needs is necessary when any of the following occur:
  - Additional generators are needed,
  - More lighting is needed without a change in circuits,
  - Electrical loads have been redistributed,
  - Individual electrical components need to be replaced,
  - A safety engineer or electrician is needed.

- Procedures for setting up portable generators
  - All generators should be set up on the perimeter of the BoO, in a down-wind location.
  - All generators will be grounded using grounding rods. The grounding rod will be inspected daily.
  - An extinguisher will be staged next to each generator.



V. BASE/CAMP MANAGER
D. BASE OF OPS MANAGEMENT

Power Needs in the BoO (continued)

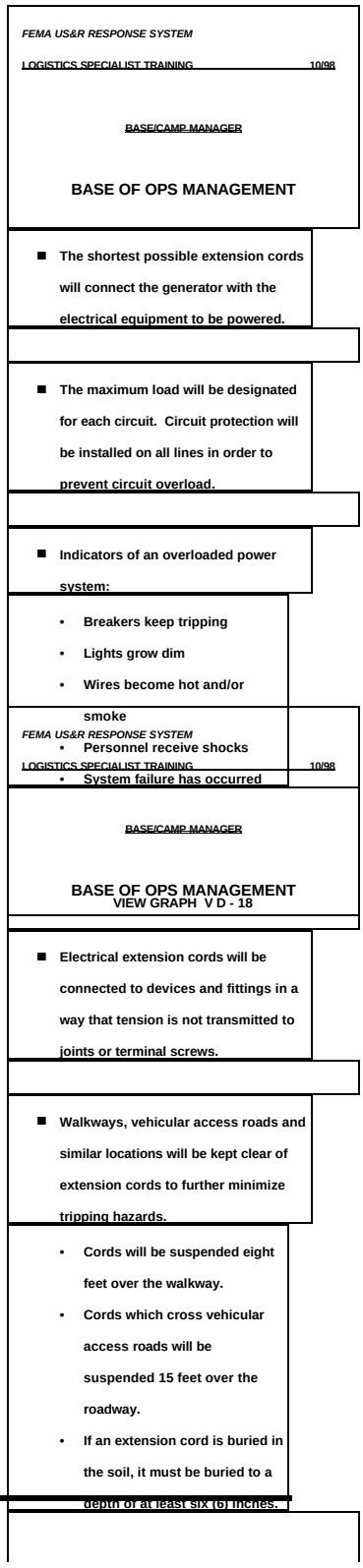
- The shortest possible extension cords will connect the generator with the electrical equipment to be powered. This is to reduce electrical loads and to minimize tripping hazards.

- The maximum load will be designated for each circuit. Circuit protection will be installed on all lines in order to prevent circuit overload.

- Indicators of an overloaded power system:
  - Breakers keep tripping
  - Lights grow dim and become bright when electrical components of the circuit are turned off
  - Inadequate electrical wires become hot and/or smoke
  - Task force personnel have received electrical shocks
  - Task force personnel complain about dim lighting
  - System failure has occurred

- Electrical extension cords will be connected to devices and fittings in a way that tension is not transmitted to joints or terminal screws. This will be accomplished by:
  - A knot in the cord at the connection
  - Securing the joint with tape
  - Fabricating a special fitting for that purpose

- Walkways, vehicular access roads and similar locations will be kept clear of extension cords to further minimize tripping hazards. If it is necessary to place an extension cord across these locations, the following safety measures will be used:
  - Any extension cords which cross walkways will be suspended eight feet over the walkway.
  - Any extension cords which cross vehicular access roads will be suspended 15 feet over the roadway, or will be protected by a bridge made of heavy boards on either side of and over the cord.
  - If an extension cord is buried in the soil, it must be buried to a depth of at least six (6) inches.
  - If crushed rock is used to protect an extension cord, the segment of the cord which passes through the rock will be placed in a pipe, culvert, or other casing material.



V. BASE/CAMP MANAGER
D. BASE OF OPS MANAGEMENT

Power Needs in the BoO (continued)

- Large-capacity generators may be available from the FEMA Push Package through the US Army Corps of Engineers Prime Power Team. (*Information attached.*)

Required Lighting for the BoO

- Illumination of the BoO has three primary functions:
  - Enable task force personnel to maintain 24-hour-per-day operations,
  - Minimize safety hazards at night
  - Provide security at night

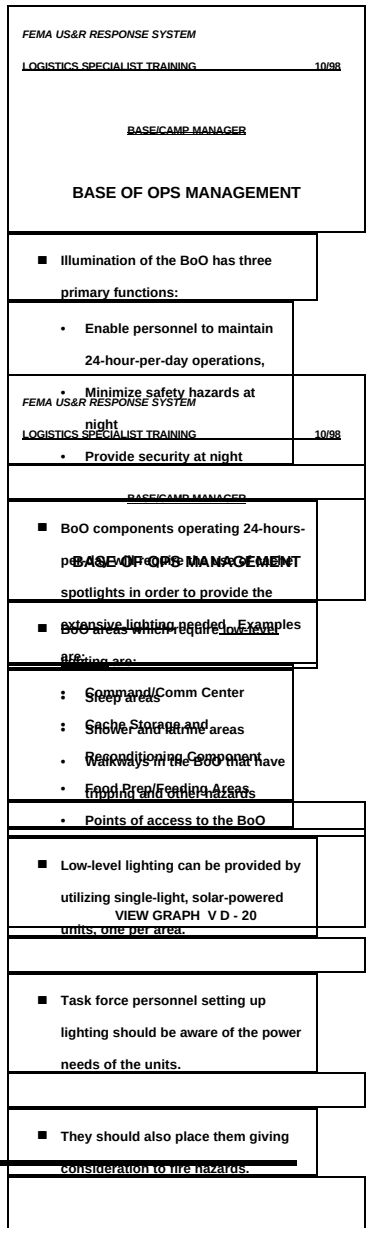
- BoO components operating 24-hours-per-day will require the use of cache spotlights in order to provide the extensive lighting needed. Examples are:
  - Command and Communications Center
  - Cache Storage and Reconditioning Component
  - Food Preparation and Feeding Areas
  - Points of access to the BoO

- BoO areas which require low-level lighting are:
  - Sleep areas
  - Shower and latrine areas
  - Walkways in the BoO that have tripping and other hazards

- Low-level lighting can be provided by utilizing single-light, solar-powered units, one per area.

- Task force personnel setting up lighting should be aware of the power needs of the units.

- They should also place them giving consideration to fire hazards.



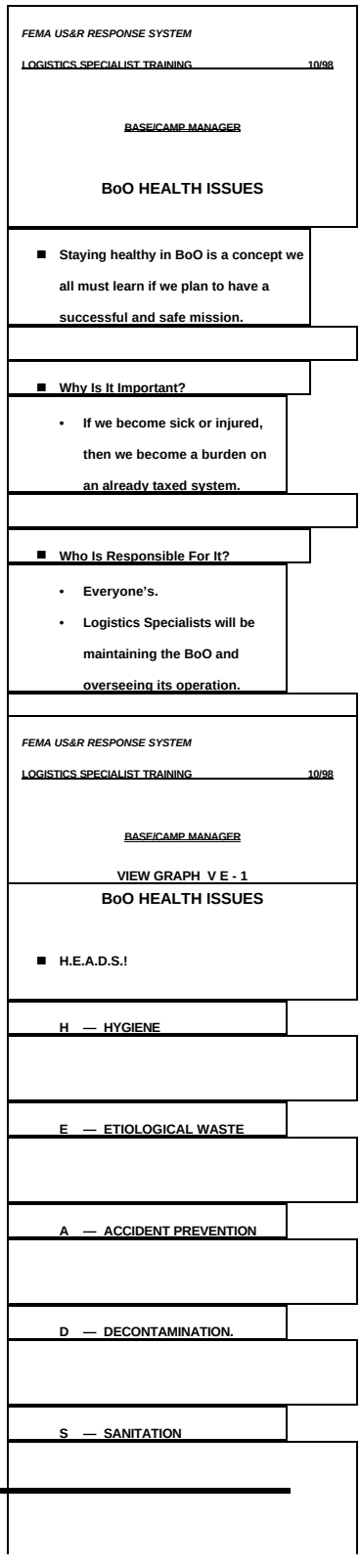
V. BASE/CAMP MANAGER
E. BASE OF OPS HEALTH ISSUES

- Concept
  - Staying healthy in BoO is a concept we all must learn if we plan to have a successful and safe mission. Our goal should be to go home the same way we arrived, as one group without illness or injury. If we accept this concept, these goals can be easily obtained.

- Why Is It Important?
  - If we become sick or injured, then we become a burden on an already taxed system. We were interjected into this situation to assist with our special skills and resources. If we become incapacitated due to illness or injury, we can no longer help those whom we were sent to assist, and we also start to affect our own task force resources and personnel.

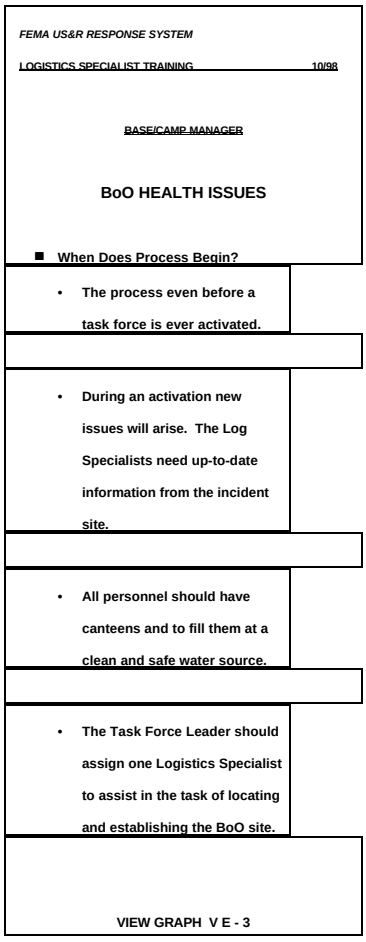
- Who Is Responsible For It?
  - It is everyone's responsibility to work with this concept of "STAYING HEALTHY IN BoO". As a Logistics Specialist, you will be maintaining the BoO and overseeing its operation. You must work within these guidelines presented to ensure the health and safety of your task force personnel.

- Breaking Down the Working Definition to Our Acronym, H.E.A.D.S.!
  - **H** - Stands for HYGIENE, which is a system of principles for the preservation of health, and the prevention of disease. It encompasses sanitary practices and cleanliness.
  - **E -** Stands for ETIOLOGICAL WASTE, which is described as waste which could cause disease.
  - **A -** Stands for ACCIDENT PREVENTION, which is the practice of looking for and correcting conditions which are unsafe and likely to cause injury.
  - **D -** Stands for DECONTAMINATION, which is the practice of ridding harmful or polluting substances.
  - **S -** Stands for SANITATION, which is the practice of effecting healthful and hygienic conditions by use of hygienic measures such as drainage, ventilation, pure water supply, drainage and disposal of sewage, etc.



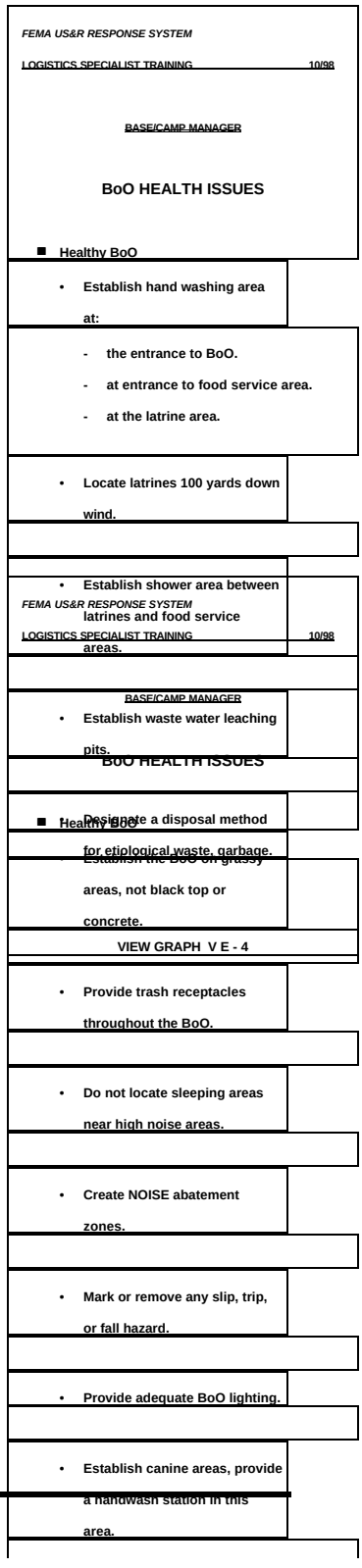
V. BASE/CAMP MANAGER
E. BASE OF OPS HEALTH ISSUES

- When Does This "Staying Healthy in BoO" Process Begin?
  - The process, surprisingly, occurs every day, even before a task force is ever activated. As a Logistics Specialist you closely monitor the storage practices and expiration dates on the food stuffs and MREs, you also continually monitor whatever pre-packaged form of water you have on hand so as to ensure its safety to the task force personnel. We also as Logistics Specialists maintain and ensure that the cache is properly equipped to handle the hygiene and sanitation issues which could arise during an activation, including hand washing, showers, latrines, decon issues, and etiological waste.
  - During an activation new issues will arise. It is very important that the Logistics Specialists are briefed with the most up-to-date information and intelligence from the incident site (is this a single site disaster, what is the status of the local infrastructure, is there any idea where the task force is going to BoO, weather conditions, etc.). This will help the Logistics Specialist best prepare the task force for the mission ahead. The open lines of communication, with the most up-to-date information flowing, allows the Logistics Specialist to adjust for extra needed cache or special-circumstance cache items.
  - All personnel assigned to the mission should have canteens and be directed at the assembly point to fill these canteens at a clean and safe water source. This will provide a hydration means during this phase of the mission. During its briefing at the assembly point, the task force should get a general safety and an aircraft safety briefing. This helps remind all personnel of the required safety equipment needed and the safety practices to be followed on the aircraft and while engaged in this phase of the mission.
  - At the point of arrival it is important that the Task Force Leader assign at least one Logistics Specialist to assist in the task of locating and establishing the BoO site. This is important because the Logistics Specialist will be the BoO manager, and as such will have received training in BoO needs, requirements, and concepts.



V. BASE/CAMP MANAGER
E. BASE OF OPS HEALTH ISSUES

- Once a BoO site has been established, it is important to start laying out the integral areas of the BoO. The following are points to consider for the "HEALTHY BoO"
  - Establish a decon and hand washing area at the entrance to BoO.
  - Establish hand washing station at entrance to food service area.
  - Establish hand washing station in food prep area.
  - Locate latrines 100 yards down wind and away from food service and sleeping areas, and at least 100 feet away from any ground water source. If chemical latrines are used, the distance can be reduced to 100 feet down wind and away from food service and sleeping areas.
  - Establish a hand washing station at the latrine area.
  - Establish shower area between latrines and sleeping/food service areas.
  - Establish waste water leaching pits for food prep, hand washing, and shower areas.
  - Designate a disposal method for etiological waste, garbage.
  - Establish the BoO on grassy areas, not black top or concrete areas, which will absorb and reflect the sun's heat, or hold the winter chill.
  - Provide trash receptacles at various locations throughout the BoO.
  - Do not locate sleeping areas near high noise production areas, such as roadways, operating generators, command post, maintenance areas, or work sites.
  - Shield generators and other high noise production equipment/areas to create some NOISE abatement zones.
  - Mark or remove any slip, trip, or fall hazard.
  - Provide adequate BoO lighting for night operations and safety.
  - Establish canine areas, provide a handwash station in this area.
  - Establish hand washing station at the medical area.
  - Establish BoO work details among task force personnel.



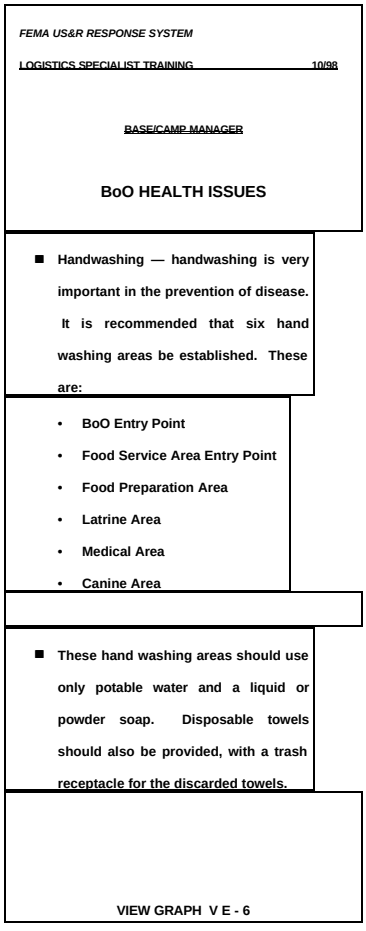
V. BASE/CAMP MANAGER
E. BASE OF OPS HEALTH ISSUES

Putting the Plan Into Action

- While the recon teams are assessing the incident you, the Logistics Specialist, will be leading the development of the BoO. It is important to establish work teams with job specific assignments, i.e. tent set-up, latrine set-up, BoO lighting, establishment of hand washing stations, etc. This eliminates confusion, duplication of effort, and wasting of time. It is a good idea to incorporate these same type of activities into your task force training schedule, so that team members may become familiar with the equipment carried in the cache, its set-up, and what exactly would be expected of personnel during this phase of the response. task force personnel must understand that you just don't arrive at the Point of Arrival and expect to perform your specialty function, eat, and then sleep. It takes all task force personnel to assist in the development and day-to-day BoO operation, including preforming specific chores to establish and maintain a "Healthy BoO" environment.

- Handwashing — handwashing is very important in the prevention of disease. It is recommended that six hand washing areas be established. These areas are:
  - BoO Entry Point
  - Food Service Area Entry Point
  - Food Preparation Area
  - Latrine Area
  - Medical Area
  - Canine Area

- These hand washing areas should use only potable water and a liquid or powder soap. Disposable towels should also be provided, with a trash receptacle for the discarded towels. If the hand washing stations are not a sealed or self contained unit, gray water run-off must be considered, and a drainage pit must be dug. The drainage pit for a hand washing station should be 3 feet deep by 2 feet wide, and filled with a gravel or sand material to eliminate the possibility of creating a mud hole. Know what equipment you carry in your cache for hand washing stations, and know how it works. Work closely with medical team personnel to monitor and maintain the hand washing stations.



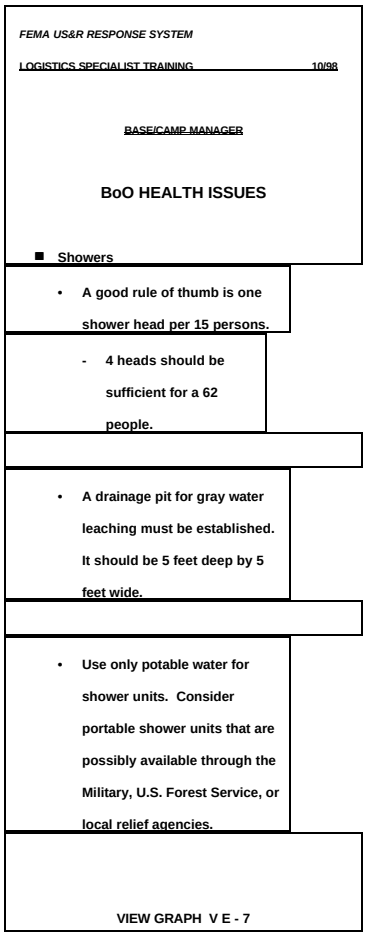
V. BASE/CAMP MANAGER
E. BASE OF OPS HEALTH ISSUES

Showers

- Showers can be a very effective and necessary tool. Their use can enhance morale, minimize poison ivy and other allergic skin reactions, and reduce diseases associated with poor personal hygiene. A good rule of thumb is one shower head per 20 persons. With that in mind, and considering split operational periods 4 shower heads should be sufficient for a 62-person task force. The shower area should be set up between the latrine and sleeping areas, about 100 feet and upwind from the latrines and at least 100 feet from the sleeping and food service areas. The site should also be at least 100 feet from any natural body of water.

- A drainage pit for gray water leaching must be established. It should be dug 5 feet deep by 5 feet wide. This should leach about 150 gallons per foot,depending on soil type. If possible gravel or sand material should be placed in this drainage pit to reduce the possibility of a mud hole, which could attract insects. It is important to establish a shower area appropriate to your needs. Know the shower equipment that you carry in your cache, how it is assembled, what water sources are required to make it work, is it heated, what is the GPM flowed, how it drains, etc. Check with local authorities first.

- Use only potable water for shower units. Allow task force personnel to examine, assemble, and experience the cache's shower equipment prior to an activation. Consider portable shower units that are possibly available through the Military, U.S. Forest Service, or local relief agencies. Also consider the possibility of a fixed location with facilities available for showers such as a school, college, sports or gym facility, or fire house if the local water supply and infrastructure has not been compromised and the location is within a reasonable travel time from the BoO.



V. BASE/CAMP MANAGER
E. BASE OF OPS HEALTH ISSUES

Latrines

- Latrine establishment is very important and must be dealt with early when putting together a BoO. Establishment of a protected, private latrine area will be very beneficial to morale and the prevention of disease. It is important again to know the cache equipment carried for the establishment of latrine areas. It would benefit the task force if this equipment is examined by task force personnel, so that when an activation occurs this is not something new.

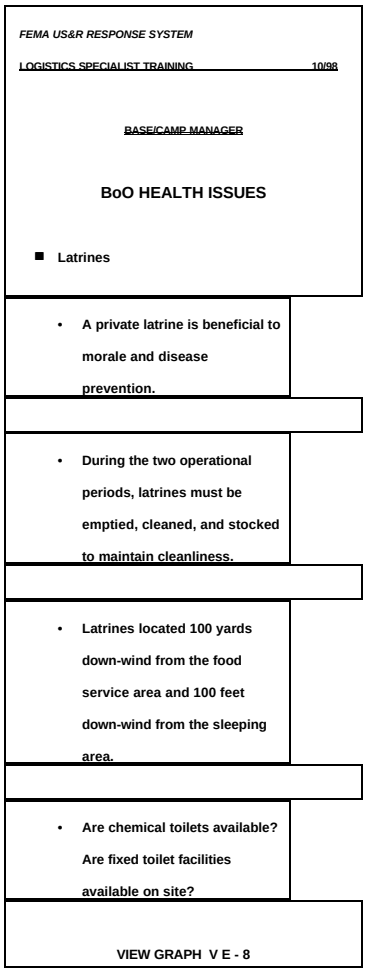
- Once latrines have been established it is important that, during the two BoO operational periods, these latrines are emptied, cleaned, and stocked so as to maintain the highest level of cleanliness.

- It is recommended that the latrines be located 100 yards down-wind from the food service area and 100 feet down-wind from the sleeping area. The latrines should also be at least 100 feet away from any ground water source. The number of latrines for a 62-person, unisex task force is recommended to be between 4 and 6. The benefit of 6, 4 male and 2 female speaks for itself.

- Disposal techniques of latrine waste will be specifically discussed under etiological waste issues. Also consider the following: are chemical toilets available and can they be serviced (pumped) in your area in during this phase of the emergency? Are fixed toilet facilities available on site? Has the water/sewage system in the affected area been compromised?

Etiological Waste

- Etiological waste is described as waste which could cause disease. It is estimated that waste production amounts to about 100 pounds per person per day. This includes both solid and liquid waste, including that from showers,handwashing and food preparation. There four types of etiological waste that have been identified for removal from BoO.



V. BASE/CAMP MANAGER
E. BASE OF OPS HEALTH ISSUES

Etiological Waste (continued)

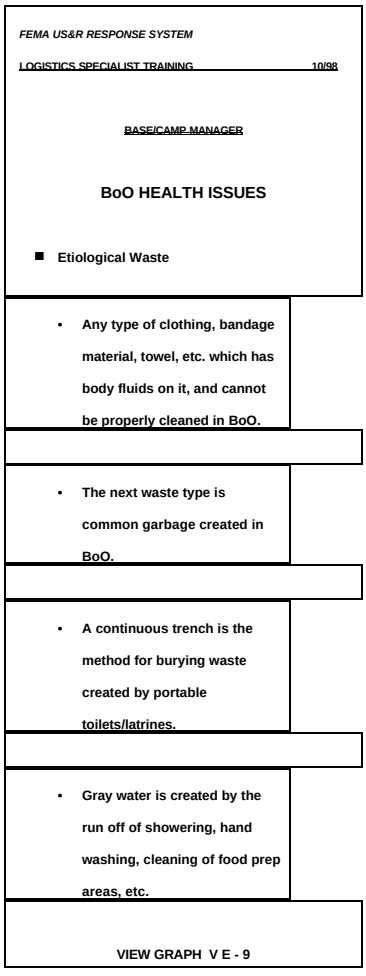
- The first is Bio-Hazardous waste. This is any type of clothing, bandage material, towel, etc. which has body fluids on it, and which cannot be easily or properly cleaned in BoO. These items should be properly secured in red,marked Bio-Hazard bags and placed in a secure area for proper disposal at a later time when established by the authority having jurisdiction.

- The next waste type is common garbage created in BoO. There are several options here.
  - The first would be to use a commercial trash service if available, but probably this would be unlikely in the response phase of an incident.
  - Next to be considered is burning the trash in a drum or can. Weather and other environmental/scene conditions might make this impractical.
  - The last choice would be burial. This requires locating an area about 250 feet away from BoO and 100 feet from any natural body of water. A continuous trench 2 feet wide by 4 feet deep should be used. The length is determined by use. As the trench extends, the dirt covers the first deposits.

- The continuous trench would also be the method of choice for burying waste created by our third recognized source, that of the portable toilets/latrines. The same distances would apply.

- Last but not least is the disposal of gray water. Gray water is created by the run off of showering, hand washing, cleaning of food prep areas, and decon. These identified areas need to have an established drainage/leaching pit. These pits can vary in size depending on the amount (gallons) of gray water to be leached . In ideal conditions sand or gravel materials should be used to line these pits so as not to create any mud holes which could attract insects. Know the equipment in your cache; it could have a big impact on your gray water disposal.

- Remember to mark all of your different disposal areas well so that there is no question to task force personnel what goes where. Also include these areas on your BoO layout diagram. Work closely with the medical team to provide the best disposal practices possible and to curb the risk of disease.



V. BASE/CAMP MANAGER
E. BASE OF OPS HEALTH ISSUES

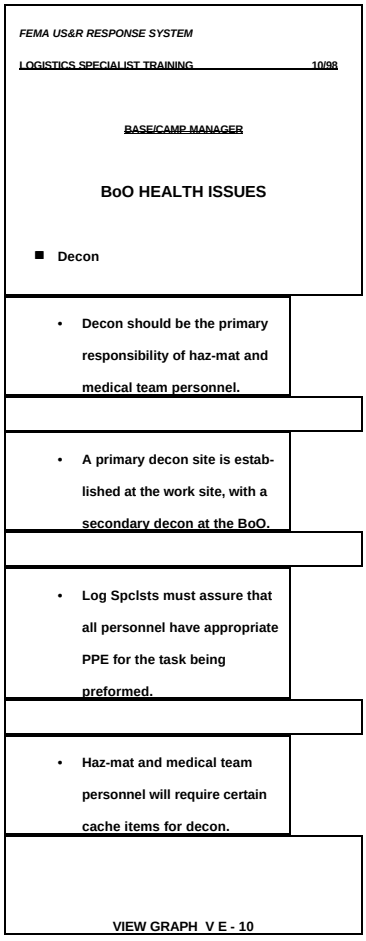
Decon

- Decontamination is a task which should be accomplished prior to entering the BoO, thus keeping the BoO free of hazardous contaminants. Decon should be the primary responsibility of haz-mat and medical team personnel. A primary decon site should be established at the mission work site, with a secondary decon site at the entrance to BoO.

- It is this secondary decon site that will be addressed here. At this secondary decon area, all returning task force personnel should be met by haz mat and medical team personnel and checked for possible contamination being ,brought into the BoO. If appropriate contaminated clothing will be removed and properly bagged. Boots and contaminated tools will be cleaned. The task force personnel will then go through a hand washing station before entering BoO.

- As a Logistics Specialist it is your responsibility to assure that all task force personnel have the appropriate personal protective equipment (PPE) for the task being preformed. It is imperative to have the proper gloves, mask, Tyvex suits, and boot protection available in all sizes so that task force personnel can preform the job as safely as possible. To properly equip task force personnel for the mission site assignment, it is important that you talk with the Task Force Leaders and haz-mat, and medical team personnel so as to anticipate any special needs or problems with PPE carried in cache or not in cache. Identify possible hazards that could be encountered (asbestos, body fluids, hazardous materials) and then determine the best possible level of PPE for task force personnel. The proper PPE on the mission site makes decon at BoO a much easier task.

- Decon practices will be driven by the hazards faced by task force personnel. Haz-mat and medical team personnel will require certain cache items for the decon procedures to be used; as a Logistics Specialist, communications is the best tool for you to assist in and anticipate the needs of this important task.



V. BASE/CAMP MANAGER
E. BASE OF OPS HEALTH ISSUES

Accident Prevention

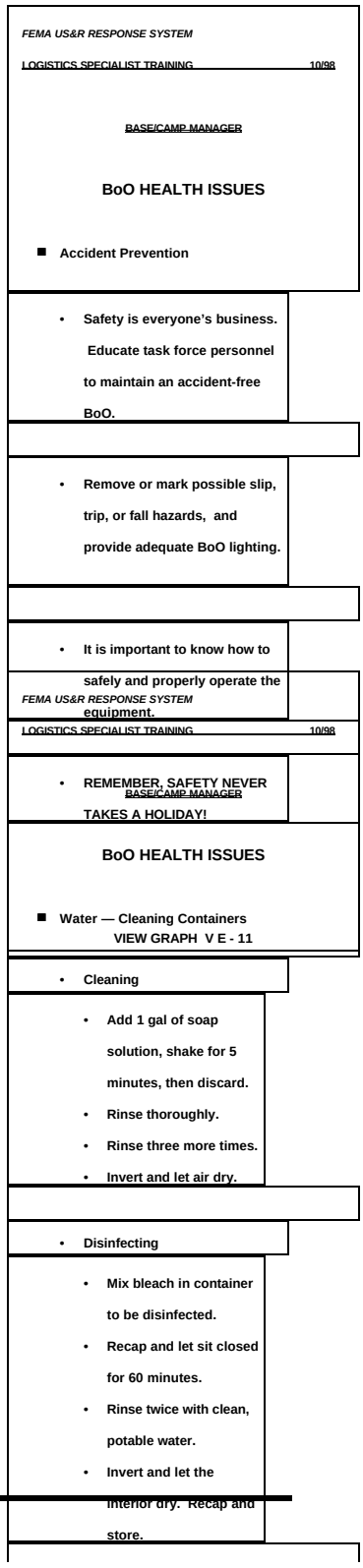
- Safety is everyone's business. Educate task force personnel to maintain an accident-free BoO. This can be accomplished by removing or marking possible slip, trip, or fall hazards, by providing adequate BoO lighting for night operations, by following proper practices for the use and storage of flammable liquids, and by educating task force personnel about the cache equipment. It is important to know how to safely and properly operate the equipment, know the equipment's working limitations, and provide maintenance and upkeep to prevent any mechanical failures which could result in injuries.
  REMEMBER, SAFETY NEVER TAKES A HOLIDAY!

Water

- Water is essential to good health. Knowing this, we must assure the availability of safe, potable water to our task force personnel. This is a joint and continuing effort between the logistics and medical teams. It starts with properly cleaned, disinfected, and stored water-storage containers. The following procedures are recommended for the cleaning and disinfecting 5 gal.water storage containers.

- Cleaning
  - Add 1 gallon of soap solution (made from dish washing soap), shake vigorously for 5 minutes, then discard solution.
  - Rinse the container thoroughly with warm water (120*F), then discard the solution.
  - Rinse container three more times with warm water.
  - Invert container and let air dry.

- Disinfecting
  - Mix a 100 PPM solution of chlorine bleach. This is done by mixing 5 tablespoons full of liquid bleach into 5 gallons of water. This mixture is mixed in container to be disinfected.
  - Recap this container. Let it sit closed for 60 minutes.
  - Rinse the container twice with clean, potable water.
  - Invert the container and let the interior dry. Recap and store.



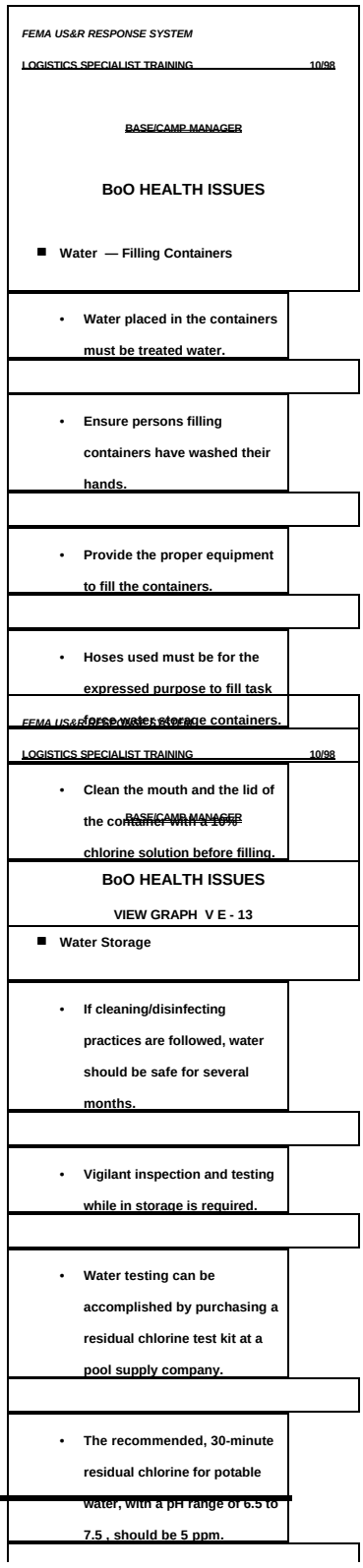
V. BASE/CAMP MANAGER
E. BASE OF OPS HEALTH ISSUES

Water (continued)

- The process continues with the proper filling of these water storage containers using appropriate filling equipment, procedures, and a designated safe water source. The following are recommendations for this part of the process.
  - Establish your potable water source. Water placed in the containers must be treated water. Most domestic water supply systems are fine, but you should check the residual chlorine in your water source to ensure that there is sufficient residual chlorine to kill the bacteria as the water stands over time.
  - Ensure that persons filling the containers have washed their hands prior to beginning this task. Make sure they understand the importance of this.
  - Provide the proper equipment to fill the containers. This equipment could include a PVC-piped multi outlet fill station, or a section of white (garden style) hose purchased from an RV or camping supply store. Do not use the hose used to fill fire apparatus or wash cars. The hose used must be for the expressed purpose to fill task force water storage containers. Do not allow the hose to rest on the floor or come in contact with dirty surfaces. Clean the mouth and the lid of the container with a 10% chlorine solution before filling.

- The next phase of the water situation is storage, and testing. If the above practices are followed, water should be safe in its containers for several months, but this will only be known by a vigilant inspection and testing of the water while in storage.

- The next set of recommendations cover water testing,and alternative water disinfectant methods.
  - Water testing can be accomplished by purchasing a residual chlorine test kit at a pool supply company. The recommended, 30-minute residual chlorine for potable water, with a pH range of 6.5 to 7.5 and having a water temperature at or above 68 degrees F, should be 5 ppm. If the pH is out of the above range or the water temperature is below 68 degrees F the residual chlorine should be at 10 ppm. The important value is the residual chlorine. The minimum value is 2-3 ppm of residual chlorine in a sample.



V. BASE/CAMP MANAGER
E. BASE OF OPS HEALTH ISSUES

Water (continued)

- Potable water testing frequency is as follows;

THREAT LEVEL	TEST FREQUENCY
No known threat	Weekly
Slight threat	Daily
Medium threat	Twice daily
Severe threat	Four times daily
Imminent threat	Hourly
Known contamination	Hourly, and before issue of each batch of water

- Ordinary liquid household chlorine bleach is an excellent disinfectant and will destroy bacteria in water if used in sufficient quantities. The amount needed depends on the amount of organic contamination in the water, the pH, the temperature of the water, and whether or not the container/tank is covered. Chlorine will kill pathogenic bacteria, but it will not kill bacteria in the spore state. Chlorine is broken down as it kills bacteria. Between this breakdown and the evaporation of chlorine, the ppm are reduced. There is a bacteria called "slime bacteria " which grows in water that has been stored for long periods of time. If this bacteria is present, a slime film will be present on the surface of the water. Filtering and the use of more chlorine will take care of this problem. Never draw water directly from a stream for personal use. Contaminates are high in open waters and there is absolutely no protection against dangerous bacteria or viruses.

- A bottle of iodine tabs can be issued to each task force member. The tab(s) are placed into the canteen filled with water. The canteen is closed and left for at least 30 minutes. The canteen should be shaken (wearing of the canteen will do this). Test the 30 minute residual chlorine. The number of tabs used is dependant on the number needed to achieve the 30 minute residual chlorine of 5 ppm (normally one or two tabs).

FEMA US&R RESPONSE SYSTEM
LOGISTICS SPECIALIST TRAINING 10/98

BASE CAMP MANAGER

BoO HEALTH ISSUES

- Water Testing

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FEMA US&R RESPONSE SYSTEM
LOGISTICS SPECIALIST TRAINING 10/98

BASE/CAMP MANAGER

BoO HEALTH ISSUES

- Water VIEW GRAPH V.E - 15

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V. BASE/CAMP MANAGER
E. BASE OF OPS HEALTH ISSUES

Water (continued)

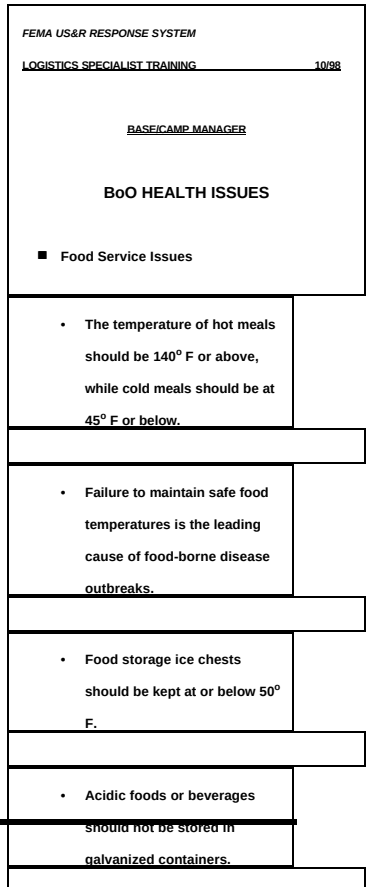
- Boiling is a good method to disinfect small quantities of water. Bring the water to a rolling boil for 10 minutes; when the water is cooled, keep it covered and in a clean container.

■ Remember, when at BoO all potable water must be obtained from a safe source or steps must be taken to disinfect it. Work closely with the authority having jurisdiction, the military, or relief agencies to assure this. Never accept questionable loads of water, always test it yourself to assure quality. Question and inspect tankers used to transport and supply water to BoO to assure the highest quality of water. Also consider the use of commercial bottled water if available.

Food Service Issues

■ The temperature of hot meals should be 140^{o} F or above, while cold meals should be at 45^{o} For below.Failure to maintain safe food temperatures is the leading cause of food-borne disease outbreaks. Food containing enough microorganisms or toxins to cause food borne disease may not have any change in odor, taste or smell. Any food served between 46^{o} F and 139^{o} F is in the DANGER ZONE for served food products. Three hours is the maximum time food can be in this danger zone. Most of this time will be during the food preparation. This time is cumulative. The use of insulated food containers can keep hot food in the safe temperature range for three to four hours. Food storage ice chests should be kept at or below 50^{o} F.

■ Acidic foods or beverages should not be stored in galvanized containers. The acid will dissolve the zinc and cause heavy metal poisoning.



V. BASE/CAMP MANAGER
E. BASE OF OPS HEALTH ISSUES

Food Service Issues (continued)

- All utensils should be scraped free of food, then washed in hot soapy water of 120 to 150° F. They should next be rinsed in a different container of hot water. The utensil in then sanitized in a third container of boiling water for ten seconds. The utensil should then be allowed to air dry, and stored in a dry,clean container protected from dust, insects and animals. If hot water is not available, a 250 ppm chlorine solution can be used. This can be made by mixing 7 oz. of liquid bleach in 5 gallons of water.

- Vehicles used to transport food should be clean and enclosed if possible. The transporting vehicle should not have been used to transport trash, garbage,patients, or petroleum products without being properly cleaned and sanitized.

- Find or train certified food handlers within the task force. With the help of the medical team, maintain the highest quality of food service preparation for task force personnel. Assure that the task force personnel are briefed by the medical team on the dangers of food and water contamination. Educate task force personnel not to accept food while away from the BoO;this food might be a nice gesture but its safety cannot be assured, unless approved by the medical team managers.