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THE ENVIRONMENT AND DEPLOYMENT: UNIT DEPLOYMENT AND SUSTAINMENT CHECKLIST

A soldier's guide to being prepared to deal with environmental concerns during the unit's deployment and sustaining an environmentally safe base camp.



HEADQUARTERS, DEPARTMENT OF THE ARMY

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PURPOSE

This graphic training aid (GTA) will assist soldiers in planning for deployment. Environmental-protection measures at the home station may not be available when deployed. The deployment location is not likely to be developed and may be very primitive. The key is to plan ahead for deployment to prevent and respond to hazardous material (HM) and hazardous waste (HW) accidents if they occur.

Lack of action and preparedness can have major adverse effects on the environment, human health, and success of the mission. Protecting the environment goes beyond the protection of water and fish—it could mean saving your life and the lives of your soldiers.

DEPLOYMENT

NOTE: For more detailed information, refer to FM 3-100.4, Chapter 5.

During deployment, the environmental program must last the mission's duration. During movement, have plastic bags, spill kits, and spill response tools available. Conduct leak checks during halts or as required by the overseas environmental baseline guidance document (OEBGD), unless final governing standards (FGS) are available for that specific host nation (HN). If available, the FGS takes precedence.

When at the deployment site, you may have to set up environmental-protection measures for HM and HW areas, vehicle fueling and maintenance areas, parking areas, and HW collection points.

Fueling and Maintenance Areas

- Use drip pans, and empty them regularly in designated HW collection areas to help minimize oil spills from drips. If needed, create field expedient method drip pans by using a meal ready-to-eat (MRE) box lined with a plastic liner.
- Develop a well-designed fuel point that includes a spill kit and a secondary containment.
- Use personal protective equipment (PPE), to include goggles and gloves, when refueling. The containment, when designed and used properly, prevents drips, spills, and leaks from seeping into the ground and groundwater.
- Check unit standing operating procedures (SOPs) for specific requirements.

Parking Areas

Park vehicles on a paved surface. If this is not possible, improvise and take steps to contain any drips and spills. Each drip adds up and increases the Army's cleanup costs after the mission.

HW Collection Points

Locate the HW collection point near the generation point. Always locate the collection point a safe distance from places and equipment that could be easily damaged by fire or explosion. Locate it away from sleeping, eating, recreation, and tactical operation center facilities. Locate it near service roads for large vehicles that need access to remove HW. Locate an area with a secondary containment, or construct a secondary containment on terrain free of roots, rocks, or other obstacles. Locate it where there is overhead cover.

Secondary Containment

All liquid HM and HW should have a secondary containment to catch spills, drips, and leaks before they cause contamination to the environment. A properly designed and installed secondary containment system is beneficial to containment procedures and assists in quick deployment. To effectively contain a release, the secondary containment should—

- Hold 10 percent of the total HM and HW stored or 110 percent of the largest container.
- Have a seamless, ultraviolet (UV)-resistant plastic liner and sand and/or pallets placed in drum storage areas to protect the liner.
- Provide overhead cover to reduce the amount of storm water entering the containment area, thereby reducing the likelihood of contaminants spreading or seeping into the environment.

Keeping HM and HW areas clean and orderly will help reduce accidents in the storage area and ease spill cleanups.

HM Areas

After HW collection points are established, set up the HM supply and storage points using the same guidelines as for HW storage. Locate HM areas away from living areas, bunkers, ammunition storage, fence lines, and dining facilities, but near the areas that will be using them. Proper location reduces the tactical risk of an adversary using the chemicals against your unit.

Material Safety Data Sheets (MSDS)

Every HM substance must be accompanied by an MSDS. Keep the MSDS with the shipping container, if possible. Use the MSDS—not knowing the hazard can cost you your life. Fire, explosion, and toxic fumes can result from not knowing how to properly store and transport HMs.

The MSDS details the most important information about the HM substance you are dealing with. It contains information about the chemical name, required storage conditions, explosive or flammable characteristics, health safety (to include PPE), environmental safety, recommended cleanup measures, and the shelf life of the material. MSDSs are available on the following internet websites: <http://msds.pdc.cornell.edu/msdsrch.asp> and www.msdssearch.com/msdssearch.htm.

SUSTAINMENT

Use lessons learned from other units to assist in learning how to maintain a base camp for the duration of the deployment. Listed below are some examples of sustainment lessons learned from outside continental United States (OCONUS).

- Lack of HN facilities available for HW disposal. The deploying unit will have to develop HW storage sites and may have to plan on returning their HW back to the continental United States (CONUS) for disposal.
- Learning the procedures and requirements for HW disposal in the HN. Establish turn-in and disposal procedures with the HN. Know the HN environmental law or FGS.
- Loss of training and knowledge due to personnel turnover. Troop rotation and changing points of contact (POCs) leads to the loss of historical knowledge or training of the area. Reviewing after-action reports (AARs) and lessons learned may help reduce the loss of knowledge.
- Developing environmental SOPs from scratch is needed. A sample SOP is located in FM 3-100.4 if the unit has not established one before deployment.
- Planning solid waste disposal procedures. Solid waste disposal is not available in all HNs. Plan disposal procedures according to the HN environmental law or FGS.
- Pack required resources to establish a fuel point that meets HN's requirements. Limited resources are available in some HNs, although fuel handlers are familiar with basic procedures.

- Cleaning up or consolidating existing HN HW. Should United States (US) dollars be used? Can we avoid using the area? Is this a safety factor for US personnel? Lessons learned and preparedness when deploying to the HN may answer these questions.

Maintain a contamination free base camp following initial deployment by applying the following concepts:

- **Monitoring.** Perform regular inspections of the common HM and HW areas to ensure that environmental-protection measures are properly applied.
- **Housekeeping.** Perform inspections, and ensure that environmental-protection measures are in place and that HM and HW areas are kept clean and orderly. Proper housekeeping is the key to maintaining a contamination-free base camp.
- **Checking.** Use the C-H-E-C-K system as a guideline checklist (refer to Table 1).
 - **C**ontainment. Ensure that secondary containment is used and in good condition. Empty water from the secondary containment on a regular basis, and properly dispose of it at the HW collection point.
 - **H**M and **H**W locations. Choose appropriate HM and HW locations. Erect warning signs, and keep the areas clean and orderly
 - **E**nvironmental documentation. Maintain an MSDS for each HM, and update the unit SOP and spill response plan regularly.
 - **C**ontainers. Check the condition of containers, and keep containers of incompatible materials separated. Keep lids and bungs closed when containers are not in use.
 - **K**its. Place spill, first aid, and emergency response kits near HM and HW areas. Ensure that PPE fits and that replacement items are available for the operation.

The following checklist provides additional ideas on what to monitor while deployed. A detailed checklist is in FM 3-100.4, Appendix H.

Table 1. Guideline Checklist

HM and HW Areas Checklist		
Containment		Contain drips under the vehicles and from the refueling nozzle by properly placing drip pans.
		Ensure that petroleum, oil, and lubricants (POL) and HW areas have a secondary containment that is in good condition.
		Empty water in the secondary containment area, and properly dispose of it as HW.
HM and HW locations		Locate the HM and HW away from sleeping, eating, and tactical operation facilities.
		Post warning signs, and ensure that they can be read at a distance of at least 50 feet.
		Keep HM and HW locations clean and orderly. Eliminate any hazards that might cause slips, trips, and falls.
Environmental documentation		Maintain MSDSs for each HM, and keep spill response plans and unit SOPs handy.
		Label and date waste accumulation containers.
		Keep an inventory of incoming and outgoing materials. Keep HM rotated (first in, first out [FIFO]).
		Maintain and update spill response plans and unit SOPs.
Containers		Ensure that containers are in good condition.
		Ensure that lids and bungs are kept closed when not in use.
		Keep containers of incompatible materials stored separately.
		Check containers for leaks.
		Properly dispose of HW when containers are full (3 to 4 inches from the top of a 55-gallon drum).
Kits		Check PPE, dry sweep, prevention tools, spill kits, and first aid kits.
		Order new PPE and spill kits, as needed.
		Keep spill response equipment in good condition, and ensure that it is accessible.

NOTE: Check the unit SOP for more reminders on what to keep tabs on while deployed.