

## CHAPTER 17.

# HAZARDOUS MATERIALS AND WASTE

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### 17.1 AFFECTED ENVIRONMENT

This Section provides a summary of federal, Department of Defense (DoD), and local Commonwealth of the Northern Mariana Islands (CNMI) laws and regulations related to hazardous materials and waste that must be complied with by the DoD regardless of whether any increase in military activity occurs. In addition, this Section discusses the relevant affected environment or present conditions on Tinian, prior to any possible increased military activity.

The potential impacts hazardous materials and waste have on human health and environment is largely dependent upon their types, quantities, toxicities, and management practices. There is cause for concern if the use of these substances in some fashion violates applicable federal, local, or DoD laws and/or regulations. There is also cause for concern if the use of these substances increases risks to human health or the environment. This chapter describes current conditions on the United States (U.S.) territory of Tinian resulting from past and present use of these substances. In addition, this chapter discusses how these existing conditions could be altered by the proposed increase in military activities. The current DoD region of influence on Tinian addressed in this chapter for hazardous materials and wastes consists of the areas of Tinian Military Leased Area (MLA).

Hazardous substances are controlled in the U.S. primarily by laws and regulations administered by the U.S. Environmental Protection Agency (USEPA), the U.S. Occupational Safety and Health Administration (OSHA), and the U.S. Department of Transportation (DOT). Each agency incorporates hazardous substance controls and safeguards according to its unique Congressional mandate. USEPA regulations focus on the protection of human health and the environment. OSHA regulations primarily protect employee and workplace health and safety. DOT regulations promote the safe transportation of hazardous substances used in commerce.

All DoD lands are required to comply with the laws and regulations administered by the USEPA, DOT, and OSHA, as well as all other applicable federal, territorial, DoD laws and regulations, and Executive Orders (e.g., Executive Orders 12088, 13101, and 13148). Major federal environmental requirements associated with the management of hazardous materials and waste are discussed in detail in Volume 2, Chapter 17 and therefore, not repeated here.

The CNMI oversees and administers these regulations through the CNMI Division of Environmental Quality (DEQ). It is noteworthy that the CNMI DEQ has not yet adopted the Military Munitions Rule established under Resource Conservation and Recovery Act (RCRA) (Volume 2, Chapter 17).

The CNMI DEQ Hazardous and Solid Waste Management Branch regulate hazardous waste generated within the CNMI. In 1984, the CNMI DEQ adopted the federal hazardous waste regulations under RCRA and the hazardous and solid waste amendments. The CNMI does not have any hazardous waste regulations that are more stringent than USEPA regulations.

The *Harmful Substance Clean up Regulations* were adopted under the authority of the CNMI Environmental Protection Act, (*Public Law 3-23; 2 CMC §3101 et seq. [as amended by Public Law 11-103]; 1 CMC §2646-2649; P.L. 11-108*). These regulations establish administrative processes and standards to identify, investigate, and clean up facilities where harmful substances are located.

The CNMI DEQ's Toxic Waste Management branch protects public health and the environment through the enforcement and ongoing inspections of hazardous waste and emergency response. The CNMI DEQ regulates hazardous and toxic materials through Title 65 DEQ §65-50, *Hazardous Waste Management Regulations*.

The Oil Pollution Act preserves local authority to establish regulations governing oil spill prevention and responses. Statutory petroleum, oil, and lubricants (POL) management authorities for the CNMI are the CNMI DEQ Above & Underground Storage Tank and Pesticide Management (AUPM) Branch. The AUPM is responsible for regulating storage tank Spill Prevention, Control and Countermeasures (SPCCs) as well as used oil and pesticides.

The AUPM branch regulates these activities based upon the CNMI DEQ's Memorandum of Understanding with USEPA Region 9. The Memorandum of Understanding provides for the CNMI DEQ to take the lead when conducting and enforcing facility response plan (FRP)/SPCC requirements and specifies that the CNMI DEQ report their findings and recommendations quarterly to the USEPA.

All DoD operations within Tinian are required to comply with the CNMI DEQ as well as applicable federal and DoD laws and regulations.

### **17.1.1 Definition of Resource**

The Defense Reutilization and Marketing Office (DRMO) arranges for the cataloging, storing, shipping, and disposal of hazardous substances generated from military activities in the CNMI. The DRMO maintains hazardous substance documentation and contracts with licensed contractors for the disposal of these materials at permitted facilities in accordance with all applicable federal, local, and DoD laws and regulations.

#### 17.1.1.1 Hazardous Materials Management

##### DoD Hazardous Materials Management

The DoD has various guidance documents and policy that sets specific requirements for the storage, use, and handling of hazardous materials. This guidance and policy is described in Volume 2, Chapter 17 and therefore not repeated here.

All applicable guidance and policy must be complied with for all DoD operations within the CNMI.

##### CNMI Hazardous Materials Management

The CNMI DEQ's AUPM branch protects human health and the environment by preventing the release of harmful substances through enforcement of local and federal environmental laws and regulations.

This branch is responsible for permitting, inspecting, and monitoring storage tank installation and operation. AUPM is also responsible for the authorization of onsite commercial oil operations, including storage, and disposal of used oil through the use of an approved used oil burner unit and disposal at permitted facilities. In addition, the AUPM regulates the importation, sale, distribution and application of pesticides in the CNMI.

#### 17.1.1.2 Toxic Substances Management

##### DoD Toxic Substances Management

Toxic substances that may be present relative to DoD operations on Tinian include, but are not limited to: asbestos containing materials (ACM), lead-based paint (LBP), polychlorinated biphenyls (PCB), and radon. LBP and PCBs originating in the CNMI are first transported to Guam, then off Guam by licensed

disposal contractors for subsequent disposal at permitted facilities in accordance with federal, state, and local laws and regulations. ACM is disposed of at federal facilities located on Guam. Volume 2, Chapter 17 further discusses DoD management practices relative to ACM, LBP, PCBs, and radon.

#### CNMI Toxic Substances Management

The CNMI DEQ Toxic Waste Management branch is responsible for implementing regulations for ACM, LBP, PCBs, and radon control and abatement for Tinian. DoD operations must comply with applicable local, federal and DoD laws and regulations (CNMI DEQ 2008).

##### 17.1.1.3 Hazardous Waste Generation and Disposal

#### DoD Hazardous Waste Management

Volume 2, Chapter 17 describes various hazardous waste minimization, recycling, and use-reduction practices implemented by all DoD operations. In general, most hazardous waste generation on Tinian would take place as a result of DoD training exercises. Once hazardous waste is generated, it is transported to Guam in accordance with DOT regulations to DRMO facilities. Once on Guam, the DRMO arranges for the subsequent transfer and disposal of the hazardous waste off-island at licensed hazardous waste facilities.

For example, occasionally, small amounts of used oil are collected from these Tinian military training exercises as a result of unexpected vehicle repair or other circumstances. Once received on Guam, this oil is tested for hazardous characteristics to determine whether it should be classified and handled as hazardous waste. In addition, lithium batteries are used to power most field equipment. These batteries are generally returned to the U.S. mainland for recycling. If these batteries are not recycled, then they are classified and handled as hazardous waste and are disposed of as appropriate at permitted facilities off-island.

#### CNMI Hazardous Waste Management

Tinian-based activities generate hazardous waste from a multitude of waste streams. The CNMI DEQ imposes regulations to control the generation and disposal of hazardous waste. The CNMI DEQ's Toxic Waste Management branch protects human health and the environment through the enforcement and ongoing inspections of hazardous waste. The CNMI DEQ Toxic Waste Management branch is responsible for regulating businesses that engage or manage hazardous wastes (e.g., auto/heavy equipment shops, dry cleaning shops, print or photo shops) and responds to oil/chemical spills on land or water. DoD operations must comply with applicable local, federal and DoD laws and regulations.

##### 17.1.1.4 Contaminated Sites

#### Active DoD Hazardous Waste Site

Past DoD activities have resulted in the presence of toxic and hazardous waste contamination. In response, the USEPA, DoD, and the CNMI have established mitigation and cleanup activities under a variety of cleanup programs. These programs are described in Volume 2, Chapter 17. Table 17.1-1 lists the active DoD hazardous waste site in the Tinian that could be impacted by expanded training operations.

**Table 17.1-1. Active DoD Hazardous Waste Site on Tinian**

<i>Site</i>	<i>Description/Materials Disposed</i>	<i>Status</i>
<b>Tinian</b>		
Tinian Mortar Range	<p>The former Tinian Mortar Range is located within the Exclusive Military Use Area (EMUA) on the island of Tinian in the CNMIs. The EMUA is land leased by the Navy commonly known as the MLA. The MLA on Tinian is 15,992 acres (ac) (6,475 hectares [ha]) that are divided into two land parcels, namely the northern portion of the island (7,577 ac (3,068 ha) also known as the EMUA) and the Leaseback Area (LBA) in the central portion of the island that consists of 8,415 ac (3,507 ha).</p> <p>The former Tinian Mortar Range is located in the northeastern portion of Tinian and is comprised of about 97 ac (39.3 ha) within the EMUA. Currently the EMUA is used by the Navy, Air Force, Marines, and Guam Army National Guard for non-live-fire military field maneuvers and logistical support exercises. For example, this training involves helicopter insertions/extractions, rapid runway repair, airmobile landings, cargo drops, navigation, and airfield seizure and defense.</p> <p>The Mortar Range is now closed, but was used for land-based training from 1945 to 1994. Ordnance known to be on the Range includes rifle grenades, small arms, and mortars. The former Tinian Mortar Range is being addressed as part of the Navy Munitions Response Program when in 1994, the presence of 40 millimeter (mm) grenades and 60 mm/81 mm mortars were discovered, along with .30 and .50 caliber small arms ammunition. The former Tinian Mortar Range is now identified as a “no training area”.</p> <p>Exact quantities of munitions used during training exercises at the Tinian Mortar Range are not known. The entire site has been subdivided into two levels of Munitions and Explosives of Concern (MEC); namely known MEC areas and suspect MEC areas.</p> <p>Access to the former Tinian Mortar Range is limited to authorized military and civilian personnel only. There are no buildings, facilities, or infrastructure on the former Mortar Range. No environmental samples have been collected from the former Range. However, based upon types of MEC known to be present, potential munitions constituents would include metals, explosives compounds, and other chemical compounds.</p>	Formal clearance of MEC at the site has not been conducted. Site access and visitation is limited, however due to the presence of Unexploded Ordnance (UXO), the former Range is considered a Category 6 (high priority) site and as such is determined to require remedial action.

### CNMI DEQ Brownfields Program

Under the Brownfields Program, several projects have been set up to meet the program’s requirements. These projects include: the development of environmental screening levels project, Brownfields site survey and inventory project, and Brownfields inventory database. If a Brownfields site is known or suspected to contain MEC, development of that site may be prohibited or may proceed only with extreme caution and with the proper safety measures in place.

The CNMI DEQ uses environmental screening levels to assist in identifying and prioritizing heavily contaminated sites. The environmental screening levels have been established for chemicals commonly found in soil and groundwater where releases of hazardous substances have occurred.

## **17.2 ENVIRONMENTAL CONSEQUENCES**

### **17.2.1 Approach to Analysis**

#### **17.2.1.1 Methodology**

This section describes potential hazardous materials and waste impacts and potential mitigation measures as they relate to the proposed increased DoD training operations at the Tinian MLA. Specifically, these impacts were assessed for the human health as well as various media (i.e., soils, surface water, groundwater, air, and biota) based upon various potential actions that include:

- Transportation to and within Tinian
- Minor Construction
- DoD operations

#### **17.2.1.2 Determination of Significance**

The determination of significance is based upon existing hazardous substance management practices, potential mitigation measures, and expected or potential impacts and environmental consequences with the planned actions. This determination evaluated the overall ability to mitigate or control environmental impacts and consequences to soils, surface water, groundwater, air, and biota. This determination considers current conditions and potential consequences relative to the anticipated ability of the hazardous substance management infrastructure system to accommodate added hazardous substance demand on the overall system. Specifically, for hazardous substances to be considered a significant impact, the following would have to occur:

- Leaks, spills, or releases of hazardous substances to environmental media (i.e., soils, surface water, groundwater, air, and/or biota) resulting in unacceptable risks to the environment.
- Violation of applicable federal, state, or local laws or regulations regarding the transportation, storage, handling, use, or disposal of hazardous substances.

#### **17.2.1.3 Issues Identified during Public Scoping Process**

As part of the analysis, concerns related to hazardous materials and waste that were mentioned by the public, including regulatory stakeholders, during the public scoping meetings were addressed. A general account of these comments includes the following:

- Address management practices for hazardous substances including hazardous wastes, toxic substances, hazardous materials, and ordnance.
- Describe the potential overall impacts of hazardous substances from construction and operation of proposed projects.
- Identify the projected hazardous waste types and volumes.
- Identify expected hazardous substance storage, disposal, and management plans.
- Evaluate measures to mitigate generation of hazardous waste including pollution prevention.
- Discuss how hazardous substances on land and from ships would be managed.
- Discuss the potential for impacts to environmental media from spills, accidents, and/or releases of hazardous substances.

- Identify existing installation restoration sites.

## 17.2.2 Alternative 1 (Preferred Alternative)

### 17.2.2.1 Transportation to and within Tinian

This subsection describes potential environmental consequences and potential mitigation related to the establishment of expanded military training areas on Tinian. This includes the transport of all necessary supplies, materials, equipment, expendable, and non-expendable resources needed to perform the expanded training mission. In addition, this analysis considers the transport of these hazardous substances to Tinian and the routine transfer and use of hazardous substances within various DoD on-island training areas.

#### Hazardous Materials

The proposed action on Tinian would result in the transport/transfer of more hazardous materials. It is expected that the largest increases of hazardous materials would occur from the use of POL. This includes gasoline, diesel, oil, grease, kerosene, and other related products. On Okinawa, approximately 32,000 pounds (lbs) (14,515 kilograms [kg]) of hazardous materials are annually arranged for disposal by DRMO from Marine activities. Training missions on Tinian are estimated to result in 20% of that total or about 6,400 lbs (14,606 kg) per year (DRMO Okinawa 2009).

However, BMPs and SOPs would be used to:

- Prevent, contain, and/or clean up spills and leaks to protect the human health and environment.
- Provide personnel training and operational protocol and procedures to protect human health and environment.
- Ensure DRMO's ability to properly arrange for and coordinate the disposal of anticipated hazardous materials.
- Protect overall human health, welfare, and the environment.

Due to the projected increase in the volume of hazardous materials, Alternative 1 could result in significant impacts to human health and the environment (i.e., soils, surface water, groundwater, air, and biota). However, the increase in hazardous materials would be handled and disposed per applicable BMPs and SOPs therefore, the increase in volume would not result in significant impacts. BMPs and SOPs (see Volume 7) that would be used include:

- Update/implement Hazardous Material Management Programs (HMMPs)
- Update/implement Facility Response Plans
- Update/implement SPCC plans (training, spill containment and control procedures, clean up, notifications, etc.). Also, ensure personnel are trained in accordance with spill prevention, control, and cleanup methods
- Implement aggressive hazardous materials minimization plans that substitute hazardous materials for non-hazardous materials as applicable
- Ensure DoD personnel are trained as to proper labeling, container, storage, staging, and transportation requirements for hazardous materials
- As necessary, expand DRMO's sufficient hazardous materials storage, transportation, and disposal capacity prior to any expected increases
- Verify through surveillances and inspections full compliance with federal, local, and DoD laws and regulations and implement corrective actions as necessary

Table 17.2-1 summarizes potential effects, impacts, and potential mitigation measures associated with hazardous materials transport to and within Tinian.

**Table 17.2-1. Hazardous Materials Transport/Transfer Consequences and Mitigation**

<i>Potential Activity (Cause)</i>	<i>Potential Effect</i>	<i>Potential Impacts</i>	<i>Potential Mitigation Measures</i>
Hazardous materials transport to Tinian and transfer within Tinian.	<ul style="list-style-type: none"> <li>Increased transport of hazardous materials to Tinian</li> <li>Increased hazardous materials transfer and use within Tinian</li> </ul>	<ul style="list-style-type: none"> <li>Spill or release impacts during transport/transfer between DoD locations</li> <li>Adverse impacts and increased risks to human health and/or the environment including terrestrial and marine ecosystems</li> <li>Increased risk of environmental media contamination</li> </ul>	<ul style="list-style-type: none"> <li>No potential mitigation measures are identified</li> </ul>

#### Toxic Substances

Toxic substances regardless of any DoD expansion include: ACM, LBP, PCBs, and radon. ACM, LBP, and PCBs in the CNMI are transported by licensed transporters and disposed of in accordance with applicable federal, state, and local laws and regulations.

The collection, transportation, and disposal of toxic substances from all DoD operations is arranged for by the DRMO. The management of ACM, LBP, PCBs, and radon are discussed as part of the affected environment section (see Volume 2).

When assessing the transport, transfer, and future use of these toxic substances associated with the proposed DoD expansion, there are not expected to be any significant environmental consequences from ACM, LBP, and PCBs. This is because LBP was banned by the USEPA in 1978 and most uses of PCBs were USEPA-banned in 1979. In addition, ACM and radon gas not already present would not be transported/transferred as a result of these activities. Therefore, no potential mitigation measures are required. Instead, BMPs and SOPs would be implemented as appropriate.

#### Hazardous Waste

Expanded DoD missions on Tinian would result in an increase in the off-island transport and interisland transfer of hazardous waste. Increases in the transport/transfer and use of pesticides, herbicides, solvents, adhesives, lubricants, corrosive liquids, aerosols, and other hazardous wastes are expected. On Okinawa, approximately 644,000 lbs (292,727 kg) of hazardous waste is annually arranged for, and disposed by DRMO from Marine activities. Training missions on Tinian are estimated to result in 20% of that total or about 128,800 lbs (58,423 kg) of hazardous waste per year (DRMO Okinawa 2009).

However, BMPs and SOPs would be used to:

- Prevent, contain, and/or clean up spills and leaks to protect the human health and environment.

- Provide personnel training and operational protocol and procedures to protect human health and environment.
- Ensure DRMO's ability to properly arrange for and coordinate the disposal of anticipated hazardous waste.
- Protect overall human health, welfare, and the environment.

Due to the projected increase in the volume of hazardous waste, Alternative 1 could result in significant impacts to human health and the environment (i.e., soils, surface water, groundwater, air, and biota). However, the increase in hazardous waste would be handled and disposed per applicable BMPs and SOPs therefore, the increase in volume would not result in significant impacts. BMPs and SOPs (see Volume 7) that would be used include:

- Update/implement HWMPs
- Update/implement Facility Response Plans
- Update/implement SPCC plans (training, spill containment and control procedures, clean up, notifications, etc.) Also, ensure personnel are trained in accordance with spill prevention, control, and cleanup methods
- Ensure DoD personnel are trained as to proper labeling, container, storage, staging, and transportation requirements for hazardous waste
- Implement aggressive hazardous waste minimization plans that substitute hazardous waste for non-hazardous waste as applicable
- As necessary, expand DRMO's sufficient hazardous waste storage, transportation, and disposal capacity prior to any expected increases
- Verify through surveillances and inspections full compliance with federal, local, and DoD laws and regulations and implement corrective actions as necessary

Table 17.2-2 summarizes potential hazardous waste transport/transfer effects, impacts, and mitigation.

**Table 17.2-2. Hazardous Waste Transport/Transfer Consequences and Mitigation**

<i>Potential Activity (Cause)</i>	<i>Potential Effect</i>	<i>Potential Impacts</i>	<i>Potential Mitigation Measures</i>
Hazardous waste transport to Tinian and transfer within Tinian	<ul style="list-style-type: none"> <li>• Possible increased transport of hazardous waste to Tinian</li> <li>• Increased hazardous waste transfer and use within Tinian</li> </ul>	<ul style="list-style-type: none"> <li>• Spill or release impacts during transport/transfer between DoD locations</li> <li>• Adverse impacts and increased risks to human health and/or the environment including terrestrial and marine ecosystems</li> <li>• Increased risk of environmental media contamination</li> </ul>	<ul style="list-style-type: none"> <li>• No potential mitigation measures are identified</li> </ul>

#### 17.2.2.2 Minor Construction Activities

Minor construction activities would be required to expand existing DoD training operations on Tinian. This subsection analyzes possible impacts of this expansion.

Anticipated construction activities under this alternative include site preparation, site grading, trenching and excavation, road improvements, installation of building/structures, landscaping, and other related infrastructure actions.

#### Hazardous Materials

Proposed construction activities would result in the use and disposal of more hazardous materials. It is expected that the most notable increases of hazardous materials would occur for the use of POL for heavy construction equipment, construction vehicles, generators, and other construction activities. Construction activities on Tinian are estimated to result in approximately 1,280 lbs (581 kg) of hazardous materials per year, or approximately 4% of the known Okinawa annual total (DRMO Okinawa 2009).

However, BMPs and SOPs would be used to:

- Prevent, contain, and/or clean up spills and leaks to protect the human health and environment.
- Provide personnel training and operational protocol and procedures to protect human health and environment.
- Ensure DRMO's ability to properly arrange for and coordinate the disposal of anticipated hazardous materials.
- Protect overall human health, welfare, and the environment.

Due to the projected increase in the volume of hazardous materials, Alternative 1 could result in significant impacts to human health and the environment (i.e., soils, surface water, groundwater, air, and biota). However, the increase in hazardous materials would be handled and disposed per applicable BMPs and SOPs therefore, the increase in volume would not result in significant impacts. BMPs and SOPs (see Volume 7) that would be used include:

- Update/implement HMMPs.
- Update/implement Facility Response plans.
- Update/implement SPCC plans (training, spill containment and control procedures, clean up, notifications, etc.).
- Ensure DoD and construction subcontractor personnel are trained as to proper labeling, container, storage, staging, and transportation requirements for hazardous materials. Also, ensure personnel are trained in accordance with spill prevention, control, and cleanup methods.
- Implement aggressive hazardous materials minimization plans that substitute hazardous materials for non-hazardous materials as applicable.
- As necessary, expand DRMO's sufficient hazardous materials storage, transportation, and disposal capacity prior to any expected increases.
- Verify through surveillances and inspections that construction contractors fully implement federal, local, and DoD regulations including the use, storage, treatment, and disposal of hazardous materials. Also verify that proper erosion control methods are used during construction activities. Implement corrective actions as necessary.
- Minimize the risk of uncontrolled spills and releases through industry accepted methods for spill prevention, containment, control, and abatement.
- Minimize the use of contaminated sites for new construction. When new construction occurs on sites where contamination has been identified, ensure that the risk of human exposure to contaminated media is minimized via the use of a site-specific health and safety plan, engineering and administrative controls, and appropriate personnel protective equipment.

Table 17.2-3 summarizes potential hazardous materials effects, impacts, and mitigation of expected construction activities.

**Table 17.2-3. Hazardous Material Construction Consequences and Mitigation**

<i>Potential Activity (Cause)</i>	<i>Potential Effect</i>	<i>Potential Impacts</i>	<i>Potential Mitigation Measures</i>
Hazardous materials use during construction activities	<ul style="list-style-type: none"> <li>Increased hazardous materials storage, use, handling, generation, and disposal</li> <li>Increased fueling and POL operations</li> <li>Possible use of contaminated site footprint(s) for new construction projects</li> </ul>	<ul style="list-style-type: none"> <li>Spill or release impacts during construction activities</li> <li>Adverse impacts and increased risks to human health and/or the environment including terrestrial and marine ecosystems</li> <li>Violations of applicable federal, state, local, or DoD laws and regulations during construction and demolition operations</li> <li>Increased risk of environmental media contamination.</li> <li>Increased construction site erosion runoff</li> </ul>	<ul style="list-style-type: none"> <li>No potential mitigation measures are identified</li> </ul>

#### Toxic Substances

There are not expected to be any significant environmental consequences from ACM, LBP, and PCBs. This is because LBP was banned by the USEPA in 1978 and most uses of PCBs were USEPA-banned in 1979. In addition, ACM would not be used to construct proposed new facilities on Tinian. If radon zones are present on Tinian, it is possible that new facilities and/or structures could be constructed in these areas. Radon resistant construction techniques would be used and DoD would periodically test facilities constructed in known radon zones to verify that no unacceptable radon gas buildup occurs. As appropriate, radon mitigation measures would be installed.

#### Hazardous Waste

Proposed construction activities would result in an increase in the use of hazardous waste. Construction activities are anticipated to increase the use of adhesives, lubricants, corrosive liquids, and aerosols. Construction activities on Tinian are estimated to result in approximately 25,760 lbs (11,685 kg) of hazardous waste, or 4% of the known annual Okinawa total (DRMO Okinawa 2009).

However, BMPs and SOPs would be used to:

- Prevent, contain, and/or clean up spills and leaks to protect the human health and environment.
- Provide personnel training and operational protocol and procedures to protect human health and environment.

- Ensure DRMO's ability to properly arrange for and coordinate the disposal of anticipated hazardous waste.
- Protect overall human health, welfare, and the environment.

Due to the projected increase in the volume of hazardous waste, Alternative 1 could result in significant impacts to human health and the environment (i.e., soils, surface water, groundwater, air, and biota). However, the increase in hazardous waste would be handled and disposed per applicable BMPs and SOPs therefore, the increase in volume would not result in significant impacts. BMPs and SOPs (see Volume 7) that would be used include:

- Update/implement HWMPs.
- Update/implement Facility Response plans.
- Update/implement SPCC plans (training, spill containment and control procedures, clean up, notifications, etc.).
- Ensure DoD and construction subcontractor personnel are trained as to proper labeling, container, storage, staging, and transportation requirements for hazardous waste. Also, ensure they are trained in accordance with spill prevention, control, and cleanup methods.
- Implement aggressive hazardous waste minimization plans that substitute hazardous waste for non-hazardous or less toxic waste as applicable.
- As necessary, expand DRMO's sufficient hazardous waste storage, transportation, and disposal capacity prior to any expected increases.
- Verify through surveillances and inspections that construction contractors fully implement federal, local, and DoD laws and regulations and implement corrective actions as necessary.
- Minimize the risk of uncontrolled spills and releases through industry accepted methods for spill prevention, containment, control, and abatement.
- Minimize the use of contaminated sites for new construction. When new construction occurs on sites where contamination has been identified, ensure that the risk of human exposure to contaminated media is minimized via the use of a site-specific health and safety plan, engineering and administrative controls, and personnel protective equipment.

Table 17.2-4 summarizes hazardous waste potential impacts associated with construction activities.

**Table 17.2-4. Hazardous Waste Construction Consequences and Mitigation**

<i>Potential Activity (Cause)</i>	<i>Potential Effect</i>	<i>Potential Impacts</i>	<i>Potential Mitigation Measures</i>
Hazardous waste use during construction activities	<ul style="list-style-type: none"> <li>• Increased hazardous waste storage, use, handling, generation, and disposal</li> <li>• Possible use of contaminated site footprint(s) for new construction projects</li> </ul>	<ul style="list-style-type: none"> <li>• Spill or release impacts during construction activities</li> <li>• Increased requirement for off-island hazardous waste disposal</li> <li>• Adverse impacts and increased risks to human health and/or the environment including terrestrial and marine ecosystems</li> <li>• Violations of applicable federal, state, local, or DoD regulations during construction and demolition operations</li> <li>• Changes in hazardous waste generator status</li> <li>• Increased risk of environmental media contamination</li> </ul>	<ul style="list-style-type: none"> <li>• No potential mitigation measures are identified</li> </ul>

### 17.2.2.3 DoD Operations

There are various DoD-related operations as a result of the proposed military expansion. For the purpose of this analysis, these operations have been divided to the following categories:

- General Activities – administrative and support functions associated with the DoD expansion
- Range Operations – Firing range activities and range maneuver exercises

#### General Activities

This subsection discusses the potential impacts related to general infrastructure activities associated with the proposed training expansion mission.

#### *Hazardous Materials*

Increases in the use of hazardous materials are judged be minimal as a result of these general activities. General activities on Tinian are estimated to result in approximately 640 lbs (290 kg) of hazardous materials per year, or approximately 2% of the annual Okinawa total (DRMO Okinawa 2009).

Consequently, there are negligible impacts and no potential mitigation measures are required. Instead, BMPs and SOPs (see Volume 7) would be implemented. These would include:

- Update/implement HMMPs
- Update/implement Facility Response plans
- Update/implement SPCC plans. Also, ensure personnel are trained in accordance with spill prevention, control, and cleanup methods
- Implement aggressive hazardous materials minimization plans that use non-hazardous materials as applicable
- Ensure DoD personnel are trained as to proper labeling, container, storage, staging, and transportation requirements for hazardous materials
- Verify through surveillances and inspections that construction contractors fully implement federal, local, and DoD laws and regulations and implement corrective actions as necessary
- As necessary, expand DRMO's sufficient hazardous materials storage, transportation, and disposal capacity prior to any expected increases

Due to the projected increase in the volume of hazardous materials, Alternative 1 could result in impacts to human health and the environment (i.e., soils, surface water, groundwater, air, and biota). However, the increase in hazardous materials would be handled and disposed per applicable BMPs and SOPs. Therefore, the increase in volume would result in less than significant impacts.

Table 17.2-5 presents a summary of hazardous materials anticipated consequences and mitigation measures.

**Table 17.2-5. Hazardous Materials General Activities Consequences and Mitigation**

<i>Potential Activity (Cause)</i>	<i>Potential Effect</i>	<i>Potential Impacts</i>	<i>Potential Mitigation Measures</i>
Hazardous materials associated with general activities	<ul style="list-style-type: none"> <li>• Negligible increases of hazardous materials usage</li> </ul>	<ul style="list-style-type: none"> <li>• Minor spill or release impacts.</li> <li>• Slight adverse impacts and increased risks to human health and/or the environment.</li> </ul>	<ul style="list-style-type: none"> <li>• No potential mitigation measures are identified</li> </ul>

#### *Toxic Substances*

ACM, LBP, and PCBs are not expected to result in additional impacts. This is because LBP was banned by the USEPA in 1978 and most uses of PCBs were USEPA-banned in 1979. In addition, ACM would not be used in new facilities on Tinian.

It is possible that new facilities and/or structures may encounter radon intrusion. Radon resistant construction techniques would be used and DoD would periodically test facilities constructed in known radon zones to verify that no unacceptable radon gas buildup occurs. As appropriate, radon mitigation measures would be installed.

#### *Hazardous Waste*

Expected increases in the use of hazardous wastes are judged to be negligible as a result of these general activities. General activities on Tinian are estimated to result in approximately 1% of the known Okinawa annual total or about 6,440 lbs (2,921 kg) of hazardous waste per year.

Consequently, no appreciable impacts or potential mitigation measures would be required. Instead, BMPs and SOPs would be implemented as appropriate (see Volume 7).

### Range Operations

DoD has historically conducted live-firing, ordnance testing, and training exercises to ensure military readiness. These munitions-related activities have resulted in the presence of unexploded ordnance (UXO), Discarded Military Munitions (DMM), and Munitions Constituents (MC). UXO, DMM, MC, and other material potentially presenting an explosive hazard are all collectively referred to as MEC. Volume 3, Chapter 2 describes these potential range operations, including types and quantities of MEC expected to be used.

### *Hazardous Materials*

Activities associated with firing range operations would undoubtedly result in hazardous materials in the form of MEC. This is because UXO, DMM, MC, and material potentially presenting an explosive hazard all have the potential to contain high explosives and explosives constituents. Furthermore, firing range activities would result in the use of military transport vehicles and aircraft, hence resulting in an increase in the usage of fuels and POL. Firing range operations on Tinian are estimated to result in approximately 14% of the known Okinawa total or about 4,480 lbs (2,032 kg) of hazardous materials per year (DRMO Okinawa 2009).

However, BMPs and SOPs (see Volume 7) would be implemented to control potential impacts from the hazardous materials. These would include:

- Update/implement HMMPs
- Update/implement Facility Response plans
- Update/implement SPCC plans. Also, ensure personnel are trained in accordance with spill prevention, control, and cleanup methods
- Implement aggressive hazardous materials minimization plans that maximize the use non-hazardous materials as appropriate.
- Ensure DoD personnel are trained as to proper labeling, container, storage, staging, and transportation requirements for hazardous materials.
- As necessary, expand DRMO's sufficient hazardous materials storage, transportation, and disposal capacity prior to any expected increases
- Implement routine firing range clearance operations to mitigate MEC depositions on the firing ranges (e.g., removing expended rounds from the ranges periodically and transporting them to an appropriate recycling contractor or smelter in accordance with appropriate regulations)
- Implement land use controls, fencing, signage, and other means to ensure no unauthorized access to the firing ranges
- Implement public awareness education seminars and workshops regarding the dangers of MEC, the importance of staying off firing ranges, and what to do if you observe what may be MEC

Due to the projected increase in the volume of hazardous materials, Alternative 1 could result in impacts to human health and the environment (i.e., soils, surface water, groundwater, air, and biota). However, the increase in hazardous materials would be handled and disposed per applicable BMPs and SOPs. Therefore, the increase in volume would result in less than significant impacts.

Table 17.2-6 presents potential impacts and mitigation measures for these hazardous materials.

**Table 17.2-6. Hazardous Materials Firing Range Operations Consequences and Mitigation**

<i>Potential Activity (Cause)</i>	<i>Potential Effect</i>	<i>Potential Impacts</i>	<i>Potential Mitigation Measures</i>
Hazardous materials associated with firing range operations	<ul style="list-style-type: none"> <li>Increases of hazardous materials usage</li> <li>Increased MEC disposition within firing ranges</li> </ul>	<ul style="list-style-type: none"> <li>Minor spill or release impacts</li> <li>Adverse impacts and increased risks to human health and/or the environment from MEC, fuels, and POLs</li> </ul>	<ul style="list-style-type: none"> <li>No potential mitigation measures are identified</li> </ul>

#### *Toxic Substances*

Activities associated with firing range operations would not result in environmental consequences from toxic substances (i.e., ACM, LBP, PCBs, or radon); therefore, no potential mitigation measures would be required. Instead, BMPs and SOPs would be implemented (see Volume 7).

#### *Hazardous Waste*

Military munitions that are used for their intended purposes are not considered waste per the Military Munitions Rule [MMR (40 Code of Federal Regulations 266.202)]. In general, military munitions become subject to RCRA transportation, storage, and disposal requirements (i.e., judged not to have been used for their “intended purposes”) when:

- Transported off-range for storage
- Reclaimed and/or treated for disposal
- Buried or land filled on- or off-range
- Munitions land off-range and are not immediately rendered safe or retrieved.

MEC at closed ranges are classified as solid waste and would likely be subject to RCRA Subtitle C hazardous waste disposal requirements as well. As long as the proposed firing ranges on Tinian remain on “active” or “inactive” status, then the MEC on those ranges would be considered as used for their “intended purposes” and subject to the MMR exception to Subtitle C of RCRA (i.e., likely not classified as a hazardous waste). Volume 2, Chapter 17 contains an in depth discussion of the MMR.

In addition to increased MEC, there may be slightly increased usage of other hazardous wastes as a result of expanded firing range operations. Specific increased hazardous waste used and generated could include: solvents, corrosive or toxic liquids, aerosols, pesticides, and herbicides. These hazardous wastes would be used for vehicle and aircraft maintenance, as well as range maintenance and operations activities. These operations on Tinian are estimated to result in approximately 14% of the known Okinawa total or about 90,160 lbs (40,896 kg) of hazardous waste per year (DRMO Okinawa 2009).

However, BMPs and SOPs would be used to:

- Prevent, contain, and/or clean up spills and leaks to protect the human health and environment.
- Provide personnel training and operational protocol and procedures to protect human health and environment.
- Ensure DRMO’s ability to properly arrange for and coordinate the disposal of anticipated hazardous waste.
- Protect overall human health, welfare, and the environment.

Due to the projected increase in the volume of hazardous waste, Alternative 1 could result in significant impacts to human health and the environment (i.e., soils, surface water, groundwater, air, and biota). However, the increase in hazardous waste would be handled and disposed per applicable BMPs and SOPs therefore, the increase in volume would not result in significant impacts. BMPs and SOPs (see Volume 7) that would be used include:

- Update/implement HWMPs
- Update/implement Facility Response plans
- Update/implement SPCC plans (training, spill containment and control procedures, clean up, notifications, etc.)
- Ensure DoD personnel are trained as to proper labeling, container, storage, staging, and transportation requirements for hazardous wastes. Also, ensure they are trained in accordance with spill prevention, control, and cleanup methods
- Implement aggressive hazardous waste minimization plans that substitute hazardous waste for non-hazardous or less toxic waste as applicable
- As necessary, expand DRMO's sufficient hazardous waste storage, transportation, and disposal capacity prior to any expected increases
- Verify through surveillances and inspections that federal, local, and DoD laws and regulations are being observed and implement corrective actions as necessary
- Minimize the risk of uncontrolled spills and releases through industry accepted methods for spill prevention, containment, control, and abatement
- Implement routine firing range clearance operations to mitigate MEC depositions
- Implement land use controls, fencing, signage, and other means to ensure no unauthorized access to the firing ranges
- Implement public awareness education seminars and workshops regarding the dangers of MEC, the importance of staying off firing ranges, and what to do if you observe what may be MEC

Table 17.2-7 presents possible impacts and mitigation measures for firing range operations.

**Table 17.2-7. Hazardous Waste Firing Range Consequences and Mitigation**

<i>Potential Activity (Cause)</i>	<i>Potential Effect</i>	<i>Potential Impacts</i>	<i>Potential Mitigation Measures</i>
Hazardous waste generated from firing range operations	<ul style="list-style-type: none"> <li>Increased hazardous waste storage, use, handling, generation, and disposal</li> </ul>	<ul style="list-style-type: none"> <li>Minor spill or release impacts from firing range vehicular traffic</li> <li>Increased requirement for off-island hazardous waste disposal</li> <li>Adverse impacts and increased risks to human health and/or the environment including terrestrial and marine ecosystems</li> <li>Violations of applicable federal, state, local, or DoD regulations during firing range operations</li> <li>Changes in hazardous waste generator status</li> <li>Increased risks of environmental media contamination</li> <li>MEC being classified as hazardous waste as a result of closing firing ranges</li> </ul>	<ul style="list-style-type: none"> <li>No potential mitigation measures are identified</li> </ul>

#### 17.2.2.4 Summary of Alternative 1 Impacts

Due to the projected increase in the volume of hazardous waste, Alternative 1 could result in significant impacts to human health and the environment (i.e., soils, surface water, groundwater, air, and biota). However, the increase in hazardous waste would be handled and disposed per applicable regulations (see Volume 8, Chapters 2 and 3) and BMPs (see Volume 7) therefore, the increase in volume would not result in significant impacts (Table 17.2-8).

**Table 17.2-8. Summary of Alternative 1 Impacts**

<i>Area</i>	<i>Project Activities</i>	<i>Project Specific Impacts</i>
Tinian	Construction	Less than significant adverse impacts to soils, surface water, groundwater, air, and/or biota related to construction activities
	Operation	Less than significant adverse impacts to soils, surface water, groundwater, air, and/or biota related to operation activities

#### 17.2.2.5 Alternative 1 BMPs and SOPs

BMPs and SOPs (see Volume 7) for Alternative 1 would include:

- Update/implement HMMP's and HWMP's.
- Update/implement Facility Response plans
- Update/implement SPCC plans (training, spill containment and control procedures, clean up, notifications, etc.).
- Ensure DoD personnel are trained as to proper labeling, container, storage, staging, and transportation requirements for hazardous substances. Also, ensure they are trained in accordance with spill prevention, control, and cleanup methods.
- Perform all vehicle maintenance activities off-range at existing DoD maintenance shops

- Implement aggressive hazardous waste minimization plans that substitute hazardous waste for non-hazardous or less toxic waste as applicable and use LEEDS criteria.
- Ensure DRMO's ability to properly arrange for and coordinate the disposal of anticipated hazardous materials.
- Verify through surveillances and inspections that federal, local, and DoD laws and regulations are being observed and implement corrective actions as necessary.
- Minimize the risk of uncontrolled spills and releases through industry accepted methods for spill prevention, containment, control, and abatement.
- Implement routine firing range clearance operations to mitigate MEC depositions.
- Implement land use controls, fencing, signage, and other means to ensure no unauthorized access to the firing ranges.
- Implement public awareness education seminars and workshops regarding the dangers of MEC, the importance of staying off firing ranges, and what to do if you observe what may be MEC.
- Minimize the use of contaminated sites for new construction. When new construction occurs on sites where contamination has been identified, ensure that the risk of human exposure to contaminated media is minimized via the use of a site-specific health and safety plan, engineering and administrative controls, and personal protective equipment (PPE).

### 17.2.3 Alternative 2

#### 17.2.3.1 Tinian

Alternative 2 environmental consequences would be nearly identical to those of Alternative 1. The various proposed alternatives involve conducting DoD training operations at varying geographic areas. The usage/generation of hazardous materials, toxic substances, and hazardous waste is primarily a function of the magnitude of DoD activities, not the geographic areas where potential operations would be based. Therefore, this chapter's potential environmental consequences and related mitigation measures do not vary from alternative to alternative.

#### 17.2.3.2 Summary of Alternative 2 Impacts

Table 17.2-9 summarizes Alternative 2 impacts.

**Table 17.2-9. Summary of Alternative 2 Impacts**

<i>Area</i>	<i>Project Activities</i>	<i>Project Specific Impacts</i>
Tinian	Construction	Less than significant adverse impacts to soils, surface water, groundwater, air, and/or biota related to construction activities
	Operation	Less than significant adverse impacts to soils, surface water, groundwater, air, and/or biota related to operation activities

#### 17.2.3.3 Alternative 2 BMPs and SOPs

BMPs and SOPs (see Volume 7) for Alternative 2 would include:

- Update/implement HMMP's and HWMP's.
- Update/implement Facility Response plans.
- Update/implement SPCC plans (training, spill containment and control procedures, clean up, notifications, etc.).

- Ensure DoD personnel are trained as to proper labeling, container, storage, staging, and transportation requirements for hazardous substances. Also, ensure they are trained in accordance with spill prevention, control, and cleanup methods.
- Perform all vehicle maintenance activities off-range at existing DoD maintenance shops.
- Implement aggressive hazardous waste minimization plans that substitute hazardous waste for non-hazardous or less toxic waste as applicable and use LEEDS criteria.
- Ensure DRMO's ability to properly arrange for and coordinate the disposal of anticipated hazardous materials.
- Verify through surveillances and inspections that federal, local, and DoD laws and regulations are being observed and implement corrective actions as necessary.
- Minimize the risk of uncontrolled spills and releases through industry accepted methods for spill prevention, containment, control, and abatement.
- Implement routine firing range clearance operations to mitigate MEC depositions.
- Implement land use controls, fencing, signage, and other means to ensure no unauthorized access to the firing ranges.
- Implement public awareness education seminars and workshops regarding the dangers of MEC, the importance of staying off firing ranges, and what to do if you observe what may be MEC.
- Minimize the use of contaminated sites for new construction. When new construction occurs on sites where contamination has been identified, ensure that the risk of human exposure to contaminated media is minimized via the use of a site-specific health and safety plan, engineering and administrative controls, and PPE.

#### 17.2.4 Alternative 3

##### 17.2.4.1 Tinian

Alternative 3 environmental consequences would be nearly identical to those of Alternative 1.

##### 17.2.4.2 Summary of Alternative 3 Impacts

Table 17.2-10 summarizes Alternative 3 impacts.

**Table 17.2-10. Summary of Alternative 3 Impacts**

<i>Area</i>	<i>Project Activities</i>	<i>Project Specific Impacts</i>
Tinian	Construction	Less than significant adverse impacts to soils, surface water, groundwater, air, and/or biota related to construction activities
	Operation	Less than significant adverse impacts to soils, surface water, groundwater, air, and/or biota related to operation activities

##### 17.2.4.3 Alternative 3 BMPs and SOPs

BMPs and SOPs for Alternative 3 would include:

- Develop/implement HMMP's and HWMP's.
- Update/implement Facility Response plans.
- Develop/implement SPCC plans (training, spill containment and control procedures, clean up, notifications, etc.).

- Ensure DoD personnel are trained as to proper labeling, container, storage, staging, and transportation requirements for hazardous substances. Also, ensure they are trained in accordance with spill prevention, control, and cleanup methods.
- Perform all vehicle maintenance activities off-range at existing DoD maintenance shops.
- Implement aggressive hazardous waste minimization plans that substitute hazardous waste for non-hazardous or less toxic waste as applicable and use LEEDS criteria.
- Ensure DRMO's ability to properly arrange for and coordinate the disposal of anticipated hazardous materials.
- Verify through surveillances and inspections that federal, local, and DoD laws and regulations are being observed and implement corrective actions as necessary.
- Minimize the risk of uncontrolled spills and releases through industry accepted methods for spill prevention, containment, control, and abatement.
- Implement routine firing range clearance operations to mitigate MEC depositions.
- Implement land use controls, fencing, signage, and other means to ensure no unauthorized access to the firing ranges.
- Implement public awareness education seminars and workshops regarding the dangers of MEC, the importance of staying off firing ranges, and what to do if you observe what may be MEC.
- Minimize the use of contaminated sites for new construction. When new construction occurs on sites where contamination has been identified, ensure that the risk of human exposure to contaminated media is minimized via the use of site-specific health and safety plan, engineering and administrative controls, and PPE.

### **17.2.5 No-Action Alternative**

Under the no-action alternative, military units would remain in Japan and would not conduct any operations at Tinian. No construction, training, or operations associated with the military relocation would occur and the Marine Corps would not meet readiness, mission and international treaty obligations. Therefore, implementation of the no-action alternative would retain existing conditions, and there would be no impacts associated with the proposed action and alternatives. Under the no-action alternative none of the proposed DoD expansion activities would be implemented on Tinian. Implementation of the no-action alternative would not meet the mission, readiness, national security and international treaty obligations of the Marine Corps.

### **17.2.6 Summary of Potential Impacts**

Table 17.2-11 summarizes the potential impacts of each action alternative and the no-action alternative. The resources potentially impacted by hazardous substances are soils, surface water, groundwater, air, and biota.

**Table 17.2-11. Summary of Potential Impacts**

<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 3</i>	<i>No-Action Alternative</i>
<b>Soils, Surface Water, Groundwater, Air, and/or Biota Impacts</b>			
LSI <ul style="list-style-type: none"> <li>• Less than significant adverse impacts are anticipated</li> <li>• As with all operations using hazardous substances, there is a possibility for an inadvertent leak, spill, or release</li> <li>• BMPs and SOPs would keep the frequency and magnitude of the potential leaks, spills, and releases low</li> </ul>	LSI <ul style="list-style-type: none"> <li>• Less than significant adverse impacts are anticipated</li> <li>• As with all operations using hazardous substances, there is a possibility for an inadvertent leak, spill, or release</li> <li>• BMPs and SOPs would keep the frequency and magnitude of the potential leaks, spills, and releases low</li> </ul>	LSI <ul style="list-style-type: none"> <li>• Less than significant adverse impacts are anticipated</li> <li>• As with all operations using hazardous substances, there is a possibility for an inadvertent leak, spill, or release</li> <li>• BMPs and SOPs would keep the frequency and magnitude of the potential leaks, spills, and releases low</li> </ul>	NI <ul style="list-style-type: none"> <li>• No impacts</li> </ul>

*Legend:* LSI = Less than significant impact; NI = No impact.

The potential environmental impacts related to the proposed military training activities on Tinian include increased transportation, handling, use, and disposal of hazardous materials and hazardous wastes. It is expected that the largest increases of hazardous materials would occur from the use of POL/fuels. Expected increases in hazardous waste include solvents, corrosive or toxic liquids, and aerosols.

However, there are various controls in place to prevent unintended releases of these substances. These controls include:

- Spill prevention control and countermeasures plans
- Facility Response plans
- Waste management plans
- Stormwater pollution prevention plans
- Hazardous material/waste management plans (e.g., asbestos management plans and lead-based management plans, etc.)
- Mandatory personnel hazardous material and hazardous waste training
- Waste minimization plans
- Waste labeling, storage, packaging, staging, and transportation procedures
- DoD waste regulations
- Federal and territorial laws and regulations.

Despite expected increases in hazardous materials and hazardous wastes, no significant impacts are anticipated as long as the controls discussed above are properly implemented and related plans and procedures updated and modified as appropriate to meet possible increased demands upon DRMO regarding hazardous substance transportation, handling, storage, use, and disposal.

### **17.2.7 Summary of Potential Mitigation Measures**

No potential mitigation measures are identified. Table 17.2-12 summarizes BMPs and SOPs (also see Volume 7) that would be implemented relative to hazardous substance transportation, construction, and/or operations activities.

**Table 17.2-12. Summary of BMPs and SOPs**

<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 3</i>
<b>Transportation, Construction, and Operations</b>		
<ul style="list-style-type: none"> <li>• Develop/implement HMMP’s and HWMP’s.</li> <li>• Develop/implement SPCC plans (training, spill containment and control procedures, clean up, notifications, etc.).</li> <li>• Ensure DoD personnel are trained as to proper labeling, container, storage, staging, and transportation requirements for hazardous substances. Also, ensure they are trained in accordance with spill prevention, control, and cleanup methods.</li> <li>• Perform all vehicle maintenance activities off-range at existing DoD maintenance shops.</li> <li>• Implement aggressive hazardous waste minimization plans that substitute hazardous waste for non-hazardous or less toxic waste as applicable and use LEEDS criteria.</li>   <li>• As necessary, expand DRMO’s sufficient hazardous materials storage, transportation, and disposal capacity prior to any expected increases.</li> <li>• Verify through surveillances and inspections that federal, local, and DoD laws and regulations are being observed and implement corrective actions as necessary.</li> <li>• Minimize the risk of uncontrolled spills and releases through industry accepted methods for spill prevention, containment, control, and abatement.</li> <li>• Implement routine firing range clearance operations to mitigate MEC depositions.</li> <li>• Implement land use controls, fencing, signage, and other means to ensure no unauthorized access to the firing ranges.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop/implement HMMP’s and HWMP’s.</li> <li>• Develop/implement SPCC plans (training, spill containment and control procedures, clean up, notifications, etc.).</li> <li>• Ensure DoD personnel are trained as to proper labeling, container, storage, staging, and transportation requirements for hazardous substances. Also, ensure they are trained in accordance with spill prevention, control, and cleanup methods.</li> <li>• Perform all vehicle maintenance activities off-range at existing DoD maintenance shops.</li> <li>• Implement aggressive hazardous waste minimization plans that substitute hazardous waste for non-hazardous or less toxic waste as applicable and use LEEDS criteria.</li>   <li>• As necessary, expand DRMO’s sufficient hazardous materials storage, transportation, and disposal capacity prior to any expected increases.</li> <li>• Verify through surveillances and inspections that federal, local, and DoD laws and regulations are being observed and implement corrective actions as necessary.</li> <li>• Minimize the risk of uncontrolled spills and releases through industry accepted methods for spill prevention, containment, control, and abatement.</li> <li>• Implement routine firing range clearance operations to mitigate MEC depositions.</li> <li>• Implement land use controls, fencing, signage, and other means to ensure no unauthorized access to the firing ranges.</li> <li>• Implement public awareness education seminars and</li> </ul>	<ul style="list-style-type: none"> <li>• Develop/implement HMMP’s and HWMP’s.</li> <li>• Develop/implement SPCC plans (training, spill containment and control procedures, clean up, notifications, etc.).</li> <li>• Ensure DoD personnel are trained as to proper labeling, container, storage, staging, and transportation requirements for hazardous substances. Also, ensure they are trained in accordance with spill prevention, control, and cleanup methods.</li> <li>• Perform all vehicle maintenance activities off-range at existing DoD maintenance shops.</li> <li>• Implement aggressive hazardous waste minimization plans that substitute hazardous waste for non-hazardous or less toxic waste as applicable and use LEEDS criteria.</li>   <li>• As necessary, expand DRMO’s sufficient hazardous materials storage, transportation, and disposal capacity prior to any expected increases</li> <li>• Verify through surveillances and inspections that federal, local, and DoD laws and regulations are being observed and implement corrective actions as necessary.</li> <li>• Minimize the risk of uncontrolled spills and releases through industry accepted methods for spill prevention, containment, control, and abatement.</li> <li>• Implement routine firing range clearance operations to mitigate MEC depositions.</li> <li>• Implement land use controls, fencing, signage, and other means to ensure no unauthorized access to the firing ranges.</li> </ul>

<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 3</i>
<ul style="list-style-type: none"> <li>• Implement public awareness education seminars and workshops regarding the dangers of MEC, the importance of staying off firing ranges, and what to do if you observe what may be MEC.</li> <li>• Minimize the use of contaminated sites for new construction. When new construction occurs on sites where contamination has been identified, ensure that the risk of human exposure to contaminated media is minimized via the use of a site-specific health and safety plan, engineering and administrative controls, and PPE.</li> </ul>	<p>workshops regarding the dangers of MEC, the importance of staying off firing ranges, and what to do if you observe what may be MEC.</p> <ul style="list-style-type: none"> <li>• Minimize the use of contaminated sites for new construction. When new construction occurs on sites where contamination has been identified, ensure that the risk of human exposure to contaminated media is minimized via the use of a site-specific health and safety plan, engineering and administrative controls, and PPE.</li> </ul>	<ul style="list-style-type: none"> <li>• Implement public awareness education seminars and workshops regarding the dangers of MEC, the importance of staying off firing ranges, and what to do if you observe what may be MEC.</li> <li>• Minimize the use of contaminated sites for new construction. When new construction occurs on sites where contamination has been identified, ensure that the risk of human exposure to contaminated media is minimized via the use of a site-specific health and safety plan, engineering and administrative controls, and PPE.</li> </ul>