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OCONUS Compliance Assessment Protocols – OEBGD (Air Force and Marine Corps Version)

David A. Krooks

June 2010

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Final report

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Abstract: This environmental compliance assessment manual is based on Department of Defense (DOD) Publication 4715.05-G, *Overseas Environmental Baseline Guidance Document*, 7 May 2007. It is intended for use by the United States Air Force (USAF) and the United States Marine Corps (USMC) in countries that do not have host-nation-specific Final Governing Standards. It should be used in conjunction with a manual based on service-specific requirements.

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FOREWORD

This environmental compliance assessment manual is based on Department of Defense (DOD) Publication 4715.05-G, *Overseas Environmental Baseline Guidance Document*, 7 May 2007. It is intended for use by the United States Air Force (USAF) and the United States Marine Corps (USMC) in countries that do not have host-nation-specific Final Governing Standards. It should be used in conjunction with a manual based on service-specific requirements.

The research was performed for the Headquarters, Air Force Center for Engineering and Environment (HQ AFCEE), under Military Interdepartmental Purchase Request (MIPR) number F2MUA9328GG03, dated 25 March 2010, and for the USMC Installations and Logistics Land Use and Military Construction Branch (LFL) under MIPR 0008810MPFE082, dated 8 March 2010. The HQ AFCEE technical monitor was Ms. Karen Winnie, HQ AFCEE/TDNC, and the USMC Technical Monitor was Maj Ian F. Thompson, LFL.

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CERL is an element of the U.S. Army Engineer Research and Development Center (ERDC), U.S. Army Corps of Engineers. The Director of ERDC is Dr. Jeffery P. Holland, and the Commander and Executive Director is COL Gary E. Johnston.

NOTICE

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MANUAL OBJECTIVES AND ORGANIZATION

The OCONUS Compliance Assessment Protocols (OCAP) OEBGD provides checklists to be used during a USAF or USMC environmental compliance assessment in countries for which no host-nation-specific Final Governing Standards have been developed. This manual and the service-specific supplement together serve as primary auditing tools. Specifically, this version of OCAP-OEBGD is based on (DOD) Publication 4715.05-G, *Overseas Environmental Baseline Guidance Document*, 7 May 2007, and other relevant and OCONUS-applicable DOD documents.

The manual is divided into 13 sections, which contain the specific environmental compliance guidelines and checklists for each of the 13 compliance categories:

- Air Emissions Management
- Cultural Resources Management
- Hazardous Materials Management
- Hazardous Waste Management
- Natural Resources Management
- Other Environmental Issues
- Pesticide Management
- Petroleum, Oil, and Lubricant (POL) Management
- Solid Waste Management
- Storage Tank Management
- Toxic Substances Management
- Wastewater Management
- Water Quality Management.

Comment Form

Comments and questions regarding the OCAP-OEBGD Protocols can be addressed to:

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Please include the following information with your comment(s):

User Name:

Affiliation (installation, command, etc.):

email:

Phone:

FAX:

Page #	Checklist item #	Line #	Comments

The June 2010 manual is based on Department of Defense (DOD) Publication 4715.05-G, *Overseas Environmental Baseline Guidance Document*, 7 May 2007, and affects the following sections:

- Section 1, *Air Emissions Management*
- Section 2, *Cultural Resources Management*
- Section 3, *Hazardous Materials Management*
- Section 4, *Hazardous Waste Management*
- Section 5, *Natural Resources Management*
- Section 6, *Other Environmental Issues*
- Section 7, *Pesticide Management*
- Section 8, *Petroleum, Oils, and Lubricants (POL) Management*
- Section 9, *Solid Waste Management*
- Section 10, *Storage Tank Management*
- Section 11, *Toxic Substances Management*
- Section 12, *Wastewater Management*
- Section 13, *Water Quality Management*

The manual should be carefully reviewed in its entirety. Users should search on the terms “June 2010” (without quotation marks) to navigate to checklist items that have been affected.

SECTION 1

AIR EMISSIONS MANAGEMENT

OEBGD Protocols

June 2010

A. Applicability of this Section

This chapter contains standards for air emissions sources. For ozone-depleting substances/chemicals (ODS/ODC) see the pollution prevention of Section 6, *Other Environmental Issues*. Asbestos management is addressed in Section 11, *Toxic Substances Management*.

B. Source Documents

- *Overseas Environmental Baseline Guidance Document (OEBGD)*, 1 May 2007, Chapters 2 and 7.

C. Key Compliance Requirements

- Installations must not use open burning as the regular method of solid waste disposal.
- Stacks must be designed and constructed to heights that meet specific standards.
- New or substantially modified (N/SM) steam/hot water generating units with a maximum design heat input capacity greater than or equal to 10 MBtu/h and associated emissions controls must meet specific requirements.
- Certain N/SM steam/hot water generating units must have a properly calibrated and maintained continuous emissions monitoring systems (CEMS) to measure the flue gas.
- Commercial and industrial solid waste incinerator (CISWI) units and municipal waste combustion (MWC) units must comply with emission standards and operating limits.
- All N/SM sewage sludge incinerators that burn more than 1 tpd or more than 10 percent sewage sludge must meet additional standards.
- All new and existing medical waste incinerators (MWIs) must be designed and operated in accordance with specific good combustion practices.
- Installations must maintain DOD-owned motor vehicles so as to prevent excessive emissions.
- All vapor cleaning machines (vapor degreasers) must incorporate design and work practices which minimize the direct release of halogenated solvent to the atmosphere.
- All cold cleaning machines (remote reservoir and immersion tanks) must be covered when not in use, and immersion type cold cleaning machines must have either a 1-in. water layer or a freeboard ratio of at least 0.75.
- Emissions from new and existing perchloroethylene (PCE) dry-cleaning machines must be controlled.
- Electroplating and anodizing tanks must comply with one of three specified methods for controlling chromium emissions.

D. Definitions

- *Coal Refuse* - waste products from coal mining, cleaning, and coal preparation operations (e.g., culm, gob) containing coal, matrix material, clay, and other organic and inorganic material (OEBGD 2.2).
- *Cold Cleaning Machine* - any device or piece of equipment that contains and/or uses liquid solvent, into which parts are placed to remove soil and other contaminants from the surfaces of the parts or to dry the parts. Cleaning machines that contain and use heated, nonboiling solvent to clean the parts are classified as cold cleaning machines (OEBGD 2.2).
- *Commercial and Industrial Solid Waste Incinerator (CISWI) Unit* - any combustion device that combusts commercial and industrial waste in an enclosed device using controlled flame combustion without energy recovery that is a distinct operating unit of any commercial or industrial facility (including field-erected, modular, and custom incineration units operating with starved or excess air). CISWI units do NOT include municipal waste combustor units, sewage sludge incinerators, medical waste incinerators, and hazardous waste combustion units (OEBGD 2.2).
- *Existing* - any facility and/or building, source, or project in use or under construction before 1 October 1994, unless it is subsequently substantially modified (OEBGD 1.4.2).
- *Fossil Fuel* - natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such material for the purpose of creating useful heat (OEBGD 2.2).
- *Freeboard Ratio* - the ratio of the solvent cleaning machine freeboard height to the smaller interior dimension (length, width, or diameter) of the solvent cleaning machine (OEBGD 2.2).
- *Incinerator* - any furnace used in the process of burning solid or liquid waste for the purpose of reducing the volume of the waste by removing combustible matter, including equipment with heat recovery systems for either hot water or steam generation (OEBGD 2.2).
- *Motor Vehicle* - any commercially available vehicle that is not adapted to military use which is self-propelled and designed for transporting persons or property on a street or highway, including but not limited to, passenger cars, light duty vehicles, and heavy duty vehicles (OEBGD 2.2).
- *Municipal Solid Waste (MSW)* - any household, commercial/retail, or institutional waste. Household waste includes material discarded from residential dwellings, hotels, motels, and other similar permanent or temporary housing. Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, nonmanufacturing activities at industrial facilities, and other similar establishments or facilities. Institutional waste includes materials discarded by schools, hospitals (nonmedical), nonmanufacturing activities at prisons and government facilities, and other similar establishments or facilities. Household, commercial/retail, and institutional waste does include yard waste and refuse-derived fuel. Household, commercial/retail, and institutional waste does not include used oil; sewage sludge; wood pallets; construction, renovation, and demolition wastes (which include railroad ties and telephone poles); clean wood; industrial process or manufacturing wastes; medical waste; or motor vehicles (including motor vehicle parts or vehicle fluff) (OEBGD 2.2).
- *Municipal Waste Combustion (MWC) Unit* - any equipment that combusts solid, liquid, or gasified municipal solid waste (MSW) including, but not limited to, field-erected MWC units (with or without heat recovery), modular MWC units (starved-air or excess-air), boilers (for example, steam generating units), furnaces (whether suspension-fired, grate-fired, mass-fired, air curtain incinerators, or fluidized bed-fired), and pyrolysis/combustion units. Municipal waste combustion units do NOT include pyrolysis or MWC units located at a plastics or rubber recycling unit, cement kilns that combust MSW, internal combustion engines, gas turbines, or other combustion devices that combust landfill gases collected by landfill gas collection systems (OEBGD 2.2).

- *New Facility* - any facility and/or building, source, or project with a construction start date on, or after, 1 October 1994, or a pre-existing facility that has been substantially modified since 1 October 1994 (OEBGD 1.4.4).
- *Pathological Waste* - waste material consisting of only human or animal remains, anatomical parts, and/or tissue, the bags/containers used to collect and transport the waste material, and animal bedding (if applicable) (OEBGD 2.2).
- *Process Heater* - a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst (OEBGD 2.2).
- *Pyrolysis* - the endothermic gasification of hospital waste and/or medical/infectious waste using external energy (OEBGD 2.2).
- *Stack* - any point in a source covered by criteria contained in OEBGD 2.3.1, 2.3.2, 2.3.3, 2.3.4, or 2.3.5 designed to emit pollutants (OEBGD 2.2).
- *Steam/Hot Water Generating Unit* - a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. This definition does not include nuclear steam generators or process heaters (OEBGD 2.2).
- *Substantially Modified* - any modification to a facility/building the cost of which exceeds \$1 million, regardless of funding source (OEBGD 2.2).
- *Vapor Cleaning Machine* - a batch or in-line solvent cleaning machine that boils liquid solvent generating solvent vapor that is used as a part of the cleaning or drying cycle (OEBGD 2.2).
- *Wood Residue* - bark, sawdust, slabs, chips, shavings, mill trim, and other wood products derived from wood processing and forest management operations (OEBGD 2.2).

E. Records To Review

- Emission monitoring records
- Opacity records
- Instrument calibration and maintenance records
- Reports/complaints concerning air quality
- Documentation of preventive measures or actions
- Results of air sampling at the conclusion of response action
- List of boilers and their sizes

F. Physical Features To Inspect

- All air pollution sources (fuel burners, incinerators, VOC sources, etc.)
- Air pollution monitoring and control devices
- Air emission stacks
- Air intake vents

G. Guidance for Checklist Users

	REFER TO CHECKLIST ITEMS:
Missing Checklist Items/Positive Findings	AE.2.1.WW and AE.2.2.WW
General	AE.5.1.WW and AE.5.2.WW
Nonnuclear Steam-, Heat-, or Power-Generating Units	AE.10.1.WW through AE.10.8.WW
Nonmedical Incinerators	AE.20.1.WW through AE.20.4.WW
Medical Waste Incinerators	AE.25.1.WW and AE.25.2.WW
Motor Vehicles	AE.30.1.WW
Cleaning Machines	AE.40.1.WW through AE.40.3.WW
Dry Cleaning Machines	AE.50.1.WW and AE.50.2.WW
Chromium Electroplating and Chromium Anodizing Tanks	AE.60.1.WW

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT OEBGD Protocols	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>AE.2 MISSING CHECKLIST ITEMS/POSITIVE FINDINGS</p> <p>AE.2.1.WW. Installations must comply with all applicable regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding) [Added September 2000].</p> <p>AE.2.2.WW. Installations should go above and beyond environmental statutory and regulatory compliance (MP) [Added September 2000].</p>	<p>Determine whether any new regulations concerning air emissions management have been issued since the finalization of the manual.</p> <p>Determine whether the installation has activities or facilities that are regulated but not addressed in this checklist.</p> <p>Verify that the installation is in compliance with all applicable and newly issued regulations.</p> <p>Determine whether the installation has gone above and beyond simply complying with environmental requirements.</p> <p>(NOTE: This checklist item is used only to write positive findings.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>AE.5 GENERAL</p> <p>AE.5.1.WW. Installations must not use open burning as the regular method of solid waste disposal (OEBGD 7.3.13) [Moved September 2003; Citation Revised June 2010].</p> <p>AE.5.2.WW. Stacks must be designed and constructed to heights at least equal to the largest H_g calculated from either of two specified criteria (OEBGD 2.3.8) [Added June 2010].</p>	<p>Verify that open burning is not the installation's regular method of solid waste disposal.</p> <p>Verify that, if burning is the disposal method of choice, the installation uses incinerators that meet the air quality standards of OEBGD, Chapter 2.</p> <p>(NOTE: For air quality standards, see the checklist items in this Section, <i>Air Emissions Management</i>.)</p> <p>[Formerly checklist item number SO.10.4.WW.]</p> <p>(NOTE: H_g is the good engineering practice stack height necessary to minimize downwash of stack emissions due to aerodynamic influences from nearby structures.)</p> <p>Verify that stacks are designed and constructed to heights at least equal to the largest H_g calculated from either of the following two criteria:</p> <ul style="list-style-type: none"> - $H_g = H + 1.5L$, where H is the height of the nearby structure measured from the ground level elevation at the base of the stack, and L is the lesser of height or projected width of the nearby structure(s). A structure is determined to be nearby when the stack is located within 5L of the structure envelope but not greater than 0.8 km (0.5 mile). This calculation shall be performed for each structure nearby the stack being studied to determine the greatest H_g. - H_g is the height demonstrated by a fluid model or a field study, which ensures that the emissions from a stack do not result in maximum ground-level concentrations of any air pollutant as a result of atmospheric downwash, wakes, or eddy effects created by the source itself, nearby structures, or nearby terrain features at least 40 percent in excess of the maximum ground-level concentrations of any air pollutant experienced in the absence of such atmospheric downwash, wakes, or eddy effects. <p>(NOTE: For the purposes of the second option, "nearby" means not greater than 0.8 km [0.5 mile], except that the portion of a terrain feature may be considered to be nearby which falls within a distance of up to 10 times the maximum height [H_t] of the feature, not to exceed 2 miles if such feature achieves a height (H_t) 0.8 km from the stack that is at least 40 percent of the good engineering practice stack height determined by the formulae $H_g = H + 1.5L$ or 26 meters, whichever is greater, as measured from the ground-level elevation at the base of the stack.</p> <p>(NOTE: The height of the structure or terrain feature is measured from the ground-level elevation at the base of the stack..)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>AE.10 NONNUCLEAR STEAM-, HEAT-, OR POWER- GENERATING UNITS</p> <p>AE.10.1.WW. N/SM steam/hot water generating units with a maximum design heat input capacity greater than or equal to 10 MBtu/h and associated emissions controls must meet specific requirements (OEBGD 2.3.1.1.1) [Revised September 2000].</p> <p>AE.10.2.WW. N/SM steam/hot water generating units with a maximum design heat input capacity greater than or equal to 10 MBtu/h that combust liquid or solid fossil fuels must meet specific requirements (OEBGD 2.3.1.1.2) [Revised September 2000].</p> <p>AE.10.3.WW. Certain N/SM steam/hot water generating units must have a properly calibrated and maintained CEMS to measure the flue gas (OEBGD 2.3.1.2) [Revised September 2000].</p> <p>AE.10.4.WW. [Deleted September 2000]</p> <p>AE.10.5.WW.</p>	<p>Verify that N/SM steam/hot water generating units with a maximum design heat input capacity greater than or equal to 10 MBtu/h and associated emissions controls, if applicable, are designed to meet the emission standards for specific-sized units shown in OEBGD Table C2.T1.</p> <p>(NOTE: The requirements in OEBGD Table C2.T1 apply at all times, except during periods of start up, shut down, soot blowing, malfunction, or when emergency conditions exist.)</p> <p>Determine whether the unit combusts liquid or solid fossil fuels.</p> <p>Verify that fuel sulfur content (weight percent) and higher heating value are measured and recorded for each new shipment of fuel.</p> <p>Verify that either:</p> <ul style="list-style-type: none"> - the recorded data are used to calculate sulfur dioxide (SO₂) emissions and document compliance with the SO₂ limits using the equation in OEBGD Table C2.T1, or alternatively, - a properly calibrated and maintained CEMS is installed to measure the flue gas for SO₂ and either oxygen (O₂) or carbon dioxide (CO₂). <p>Determine whether the unit is subject to opacity or nitrogen oxide (NO_x) standards in OEBGD Table C2.T1.</p> <p>Verify that the unit has a properly calibrated and maintained CEMS to measure the flue gas as follows:</p> <ul style="list-style-type: none"> - for units with a maximum design heat input capacity greater than 30 MBtu/h: Opacity, except that CEMS is not required where gaseous or distillate fuels are the only fuels combusted - for fossil-fuel fired units with a maximum design heat input capacity greater than 100 MBtu/h: NO_x and either O₂ or CO₂.

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[Deleted September 2000] AE.10.6.WW. [Deleted September 2000] AE.10.7.WW. [Deleted September 2000] AE.10.8.WW. [Deleted September 2000]	

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<p>AE.20 NONMEDICAL INCINERATORS</p> <p>AE.20.1.WW. [Deleted June 2010].</p> <p>AE.20.2.WW. All N/SM sewage sludge incinerators that burn more than 1 tpd or more than 10 percent sewage sludge must meet additional standards (OEBGD 2.3.2.3) [Added September 2000; Citation Revised June 2010].</p> <p>AE.20.3.WW. All CISWI units must comply with the applicable emission standards in OEBGD Table C2.T3. and with the operating limits in OEBGD Table C2.T4 (OEBGD 2.3.2.1) [Added June 2010].</p> <p>AE.20.4.WW. Each MWC unit must comply with the applicable emission standards in OEBGD Table C2.T3. and with the operating limits in OEBGD Table C2.T4 (OEBGD 2.3.2.2) [Added June 2010].</p>	<p>Deleted in consequence of the release of OEBGD dated 1 May 2007.</p> <p>Verify that all N/SM sewage sludge incinerators that burn more than 1 tpd of sewage sludge or more than 10 percent sewage sludge are designed to meet:</p> <ul style="list-style-type: none"> - a particulate emission limit of 0.65 g/kg dry sludge (1.30 lb/ton dry sludge) - an opacity limit of 20 percent at all times, except during periods of start up, shut down, malfunction, or when emergency conditions exist. <p>(NOTE: This requirement does not apply to incinerators combusting hazardous waste or munitions.)</p> <p>Verify that all CISWI units comply with the applicable emission standards in OEBGD Table C2.T3.</p> <p>Verify that all CISWI units comply with the operating limits in OEBGD Table C2.T4.</p> <p>Verify that each MWC unit complies with the applicable emission standards in OEBGD Table C2.T3.</p> <p>Verify that each MWC unit complies with the operating limits in OEBGD Table C2.T4.</p>

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<p>AE.25 MEDICAL WASTE INCINERATORS</p> <p>AE.25.1.WW. All MWIs must be designed and operated in accordance with specific good combustion practices (OEBGD 2.3.2.4.1.1 through 2.3.2.4.1.4) [Added September 2000; Revised June 2010; Citation Revised June 2010].</p> <p>AE.25.2.WW. MWI operators must be trained in accordance with applicable Service requirements (OEBGD 2.3.2.4.1.5) [Added September 2000; Revised June 2010; Citation Revised June 2010].</p>	<p>Verify that all MWIs are designed and operated in accordance with the following good combustion practices:</p> <ul style="list-style-type: none"> - unit design: dual chamber - minimum temperature in primary chamber: 1400-1600 °F [760.0 °C to 871.1 °C] - minimum temperature in secondary chamber: 1800-2200 °F [982.2 °C to 1204.0 °C] - minimum residence time in the secondary chamber: 2 s. <p>(NOTE: These requirements do not apply to any portable units [field deployable], pyrolysis units, or units that burn only pathological, low-level radioactive waste, or chemotherapeutic waste.)</p> <p>(NOTE: See Section 9, <i>Solid Waste Management</i>, for other requirements pertaining to the management of medical waste.)</p> <p>Verify that MWI operators are trained in accordance with applicable Service requirements.</p> <p>(NOTE: These requirements do not apply to any portable units [field deployable], pyrolysis units, or units that burn only pathological, low-level radioactive waste, or chemotherapeutic waste. Existing sources must comply within 5 yr of 15 March 2000.)</p> <p>(NOTE: See Section 9, <i>Solid Waste Management</i>, for other requirements pertaining to the management of medical waste.)</p>

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<p>AE.30 MOTOR VEHICLES</p> <p>AE.30.1.WW. Installations must maintain DOD-owned motor vehicles so as to prevent excessive emissions (OEBGD 2.3.7) [Revised September 2000].</p>	<p>Verify that all vehicles are inspected every 2 yr to ensure that no one has tampered with the factory-installed emission control equipment.</p> <p>Verify that, if available on the local economy, only unleaded gasoline is used in vehicles designed for unleaded gasoline.</p>

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<p>AE.40 CLEANING MACHINES</p> <p>AE.40.1.WW. All vapor cleaning machines (vapor degreasers) must incorporate design and work practices which minimize the direct release of halogenated solvent to the atmosphere (OEBGD 2.3.5.2) [Revised September 2000; Revised June 2010].</p> <p>AE.40.2.WW. All cold cleaning machines (remote reservoir and immersion tanks) must be covered when not in use (OEBGD 2.3.5.1) [Added September 2000; Revised June 2010].</p> <p>AE.40.3.WW. Immersion type cold cleaning machines must have either a 1-in. water layer or a freeboard ratio of at least 0.75 (OEBGD 2.3.5.1) [Added September 2000; Revised June 2010].</p>	<p>Verify that all vapor cleaning machines (vapor degreasers) incorporate design and work practices which minimize the direct release of halogenated solvent to the atmosphere.</p> <p>(NOTE: This requirement applies to solvent cleaning machines that use solvent that contains more than 5 percent by weight of the following:</p> <ul style="list-style-type: none"> - methylene chloride (CAS No. 75-09-2) - perchloroethylene (CAS No. 127-18-4) - trichloroethylene (CAS No. 79-01-6) - 1,1,1-trichloroethane (CAS No. 71-55-6) - carbon tetrachloride (CAS No. 56-23-5) - chloroform (CAS No. 67-66-3), or - any combination of these halogenated solvents.) <p>(NOTE: 1,1,1-trichloroethane is an ODS that will eventually be phased out of existence.)</p> <p>Verify that all cold cleaning machines (remote reservoir and immersion tanks) are covered when not in use.</p> <p>(NOTE: This requirement applies to new and existing solvent cleaning machines that use solvent that contains more than 5 percent by weight of the following:</p> <ul style="list-style-type: none"> - methylene chloride (CAS No. 75-09-2) - perchloroethylene (CAS No. 127-18-4) - trichloroethylene (CAS No. 79-01-6) - 1,1,1-trichloroethane (CAS No. 71-55-6) - carbon tetrachloride (CAS No. 56-23-5) - chloroform (CAS No. 67-66-3), or - any combination of these halogenated solvents.) <p>(NOTE: 1,1,1-trichloroethane is an ODS that will eventually be phased out of existence.)</p> <p>Verify that immersion type cold cleaning machines have either a 1-in. water layer or a freeboard ratio of at least 0.75.</p> <p>(NOTE: This requirement applies to new and existing solvent cleaning machines that use solvent that contains more than 5 percent by weight of the following:</p> <ul style="list-style-type: none"> - methylene chloride (CAS No. 75-09-2) - perchloroethylene (CAS No. 127-18-4) - trichloroethylene (CAS No. 79-01-6) - 1,1,1-trichloroethane (CAS No. 71-55-6) - carbon tetrachloride (CAS No. 56-23-5) - chloroform (CAS No. 67-66-3), or - any combination of these halogenated solvents.)

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	(NOTE: 1,1,1-trichloroethane is an ODS that will eventually be phased out of existence.)

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>AE.50 DRY CLEANING MACHINES</p> <p>AE.50.1.WW. Emissions from certain existing PCE dry-cleaning machines must be controlled (OEBGD 2.3.3.1) [Added September 2000; Revised June 2010].</p> <p>AE.50.2.WW. Emissions from new PCE dry-cleaning systems must be controlled (OEBGD 2.3.3.2) [Added September 2000; Revised June 2010].</p>	<p>Determine whether the installation uses more than 2000 gal/yr of perchloroethylene (PCE) installation-wide in its dry-cleaning operations.</p> <p>Verify that emissions from existing PCE dry-cleaning machines are controlled with a refrigerated condenser, or, if already installed, a carbon absorber.</p> <p>Verify that the temperature of the refrigerated condenser is maintained at 45 °F or less.</p> <p>Verify that dry-cleaning machines and control devices are operated in accordance with manufacturer recommendations.</p> <p>(NOTE: These requirements do not apply to coin-operated machines.)</p> <p>Verify that all new PCE dry-cleaning systems are of the dry-to-dry design with emissions controlled by a refrigerated condenser.</p> <p>Verify that the temperature of the refrigerated condenser is maintained at 45 °F or less.</p> <p>Verify that dry-cleaning machines and control devices are operated in accordance with manufacturer recommendations.</p> <p>(NOTE: These requirements do not apply to coin-operated machines.)</p>

**COMPLIANCE CATEGORY:
AIR EMISSIONS MANAGEMENT
OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>AE.60 CHROMIUM ELECTROPLATING AND CHROMIUM ANODIZING TANKS</p> <p>AE.60.1.WW. Electroplating and anodizing tanks must comply with one of three specified methods for controlling chromium emissions (OEBGD 2.3.4) [Added September 2000; Revised June 2010].</p>	<p>Verify that one of the following methods that is most appropriate to local conditions is implemented:</p> <ul style="list-style-type: none"> - Option 1: Limit chromium emissions in the ventilation exhaust to 0.015 milligrams per dry standard cubic meter (mg/dscm); control devices/methods must be operated according to manufacturer recommendations. - Option 2: Use chemical tank additives to prevent surface tension of the electroplating or anodizing bath from exceeding 45 dynes per centimeter (cm) as measured by a stalagmometer or 35 dynes/cm as measured by a tensiometer; measure the surface tension prior to the first initiation of electric current on a given day and every 4 h thereafter. - Option 3: Limit chromium emissions to the maximum allowable mass emission rate (MAMER). <p>(NOTE: Option 3 is applicable only to hard chrome electroplating tanks equipped with an enclosing hood and ventilated at half the rate or less than that of an open surface tank of the same surface area.)</p> <p>(NOTE: MAMER is calculated using the following equation: $MAMER = ETSA \times K \times 0.015 \text{ mg/dscm}$, where: MAMER = the alternative emission rate for enclosed hard chromium electroplating tanks in mg/hr; ETSA = the hard chromium electroplating tank surface area in ft²; K = a conversion factor, 425 dscm/[ft²-hr]).</p>

SECTION 2

CULTURAL RESOURCES MANAGEMENT

OEBGD Protocols

June 2010

A. Applicability of this Section

This section contains criteria for required plans and programs needed to ensure proper protection and management of historic and cultural resources, such as properties on the World Heritage List or on the host nation's list equivalent to the U.S. National Register of Historic Places.

B. Source Documents

- *Overseas Environmental Baseline Guidance Document (OEBGD)*, 1 May 2007, Chapter 12.

C. Key Compliance Requirements

- Planning for major actions must include consideration of possible effects on historic or cultural resources.
- Installations must preserve and protect certain newly discovered items pending a decision on final disposition by the IC.
- Personnel who perform historic or cultural resource functions must have the required expertise in world, national, and local history and culture.
- After coordination with the host-nation IC or similarly appropriate host-nation authorities and if financially and otherwise practical, installations must establish measures sufficient to protect known cultural property or archeological resources until appropriate mitigation or preservation can be completed.
- ICs must take into account the effect of any action on any property listed on the World Heritage List or on the applicable country's equivalent of the National Register of Historic Places for purposes of avoiding or mitigating any adverse effects.
- Installations must inventory cultural property and resources in areas under DOD control, after coordination with the host-nation installation commander (IC) or similarly appropriate host-nation authorities and if financially and otherwise practical.
- Installations with cultural resources identified on the installation inventory must develop a plan for the protection and preservation of cultural resources and mitigation of any adverse effects, after coordination with the host-nation IC or similarly appropriate host-nation authorities and if financially and otherwise practical.
- Installations must have access to the World Heritage List and the host nation's equivalent of the National Register of Historic Places.

D. Definitions

- *Adverse Effect* - changes that diminish the quality or significant value of historic or cultural resources (OEBGD 12.2).

- *Archeological Resource* - any material remains of prehistoric or historic human life or activities. Such resources include, but are not limited to: pottery, basketry, bottles, weapons, weapon projectiles, tools, structures or portions of structures, pit houses, rock paintings, rock carvings, intaglios, graves, human skeletal materials, or any portion of any of the foregoing items (OEBGD 12.2).
- *Cultural Mitigation* - specific steps designed to lessen the adverse effects of a DOD action on a historic or cultural resource, including (OEBGD 12.2):
 1. limiting the magnitude of the action
 2. relocating the action in whole or in part
 3. repairing, rehabilitating, or restoring the affected resources and/or property
 4. recovering and recording data from cultural properties that may be destroyed or substantially altered.
- *Historic and Cultural Resources Program* - identification, evaluation, documentation, curation, acquisition, protection, rehabilitation, restoration, management, stabilization, maintenance, recording, and reconstruction of historic and cultural resources and any combination of the foregoing (OEBGD 12.2).
- *Historic or Cultural Resource* - physical remains of any prehistoric or historic district, site, building, structure, or object significant in world, national, or local history, architecture, archeology, engineering, or culture. The term includes artifacts, archeological resources, records, and material remains that are related to such a district, site, building, structure, or object, and also includes natural resources (plants, animals, landscape features, etc.) that may be considered important as a part of a country's traditional culture and history. The term also includes any property listed on the World Heritage List or the host nation equivalent of the National Register of Historic Places. Host nation lists of properties should be evaluated to determine if they are equivalent with the National Register of Historic Places prior to application (OEBGD 12.2).
- *Inventory* - to determine the location of historic and cultural resources that may have world, national, or local significance (OEBGD 12.2).
- *Major Action* - an action involving substantial expenditures of time, money, or resources, that affects the environment on a large geographic scale or has substantial environmental effects on a more limited geographic area, and that is substantially different or a significant departure from other actions previously analyzed with respect to environmental considerations and approved, with which the action under consideration may be associated. A deployment of units, ships, aircraft, or mobile military equipment that does not involve significant changes to the physical environment and that does not require additional support facilities that would significantly change the physical environment is not a major action for the purposes of this section (OEBGD, Chapter 17, Definitions).

(NOTE: This definition has been supplied from the October 1992 version of the OEBGD. Though the term 'major action' is still used, its definition was deleted from the March 2000 version of the OEBGD; the term was not added in the May 2007 version.)

- *Material Remains* - physical evidence of human habitation, occupation, use, or activity, including the site, loci, or context in which such evidence is situated, including (OEBGD 12.2):
 1. surface or subsurface structures
 2. surface or subsurface artifact concentrations or scatters
 3. whole or fragmentary tools, implements, containers, weapons, clothing, and ornaments
 4. by-products, waste products, or debris resulting from manufacture or use
 5. organic waste
 6. human remains
 7. rock carvings, rock paintings, and intaglios
 8. rock shelters and caves
 9. all portions of shipwrecks
 10. any portion or piece of any of the foregoing.
- *Preservation* - the act or process of applying measures to sustain the existing form, integrity, and material of a building or structure and the existing form and vegetative cover of a site. It may include initial stabilization work where necessary, as well as ongoing maintenance of the historic building materials (OEBGD 12.2).

- *Protection* - the act or process of applying measures designed to affect the physical condition of a property by safeguarding it from deterioration, loss, attack, or alteration, or to cover or shield the property from danger or injury. In the case of buildings and structures, such treatment is generally temporary and anticipates future historic preservation treatment; in the case of archeological sites, the protective measure may be temporary or permanent (OEBGD 12.2).

E. Records To Review

- Historic Preservation Plan
- Inventories of historic and cultural resources, if any

F. Physical Features To Inspect

- Construction sites
- Sites or landmarks of historic, cultural, or archeological interest

G. Guidance for Checklist Users

	REFER TO CHECKLIST ITEMS:
Missing Checklist Items/Positive Findings	CR.2.1.WW and CR.2.2.WW
General	CR.10.1.WW through CR.10.10.WW
Training	CR.20.1.WW
Inventories and Documents	CR.30.1.WW through CR.30.3.WW

**COMPLIANCE CATEGORY:
CULTURAL RESOURCES MANAGEMENT
OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>CR.2 MISSING CHECKLIST ITEMS/POSITIVE FINDINGS</p> <p>CR.2.1.WW. Installations must comply with all applicable regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding) [Added September 2000].</p> <p>CR.2.2.WW. Installations should go above and beyond environmental statutory and regulatory compliance (MP) [Added September 2000].</p>	<p>Determine whether any new regulations concerning cultural resources management have been issued since the finalization of the manual.</p> <p>Determine whether the installation has activities or facilities that are regulated but not addressed in this checklist.</p> <p>Verify that the installation is in compliance with all applicable and newly issued regulations.</p> <p>Determine whether the installation has gone above and beyond simply complying with environmental requirements.</p> <p>(NOTE: This checklist item is used only to write positive findings.)</p>

**COMPLIANCE CATEGORY:
CULTURAL RESOURCES MANAGEMENT
OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>CR.10 CULTURAL RESOURCES MANAGEMENT</p> <p>CR.10.1.WW. [Moved September 2003].</p> <p>CR.10.2.WW. The IC must ensure that planning for major actions includes consideration of possible effects on cultural or archeological property or resources (OEBGD 12.3.7) [Revised September 2000; Citation Revised June 2010].</p> <p>CR.10.3.WW. ICs have specific responsibilities with regard to properties on the host nation's equivalent of the United States' National Register of Historic Places (16 USC 470a-2, Section 402 and OEBGD 12.3.1).</p> <p>CR.10.4.WW. [Deleted September 2000].</p> <p>CR.10.5.WW. Installations must preserve and protect certain newly discovered items pending a decision on final disposition by the IC (OEBGD 12.3.8) [Revised September 2000; Citation Revised June 2010].</p>	<p>[Moved to CR.30.1.WW.]</p> <p>Verify that the installation's planning for major actions includes consideration of possible effects on historic or cultural resources.</p> <p>Determine whether any Federal undertaking may directly and adversely affect a property that is on the host nation's equivalent of the U.S.'s National Register of Historic Places.</p> <p>Verify that the IC takes into account the effect of any action on any property listed on the World Heritage List or on the applicable country's equivalent of the National Register of Historic Places for purposes of avoiding or mitigating any adverse effects.</p> <p>Verify that the IC informs the Secretary of the relevant service of such property.</p> <p>(NOTE: This notification is to be made so that the Secretary of the relevant service may take into account the effect of the undertaking on such property for purposes of avoiding or mitigating any adverse effects.)</p> <p>Verify that the IC takes the above action prior to the approval of the undertaking.</p> <p>Deleted in the 15 March 2000 version of the OEBGD.</p> <p>Verify that the installation preserves and protects potential historic or cultural resources discovered in the course of a DOD action that have not previously been inventoried.</p> <p>Verify that the installation preserves and protects such items pending a decision on final disposition by the IC.</p> <p>Verify that the decision on final disposition is made by the IC after coordination with the host-nation IC or similarly appropriate host-nation authorities.</p>

**COMPLIANCE CATEGORY:
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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
CR.10.6.WW. [Moved September 2003].	[Moved to CR.30.2.WW.]
CR.10.7.WW. [Moved September 2003].	[Moved to CR.20.1.WW.]
CR.10.8.WW. ICs must establish measures sufficient to protect known historic or cultural resources until appropriate mitigation or preservation can be completed (OEBGD 12.3.5.2, 12.3.5.3, and 12.3.6) [Revised September 2000; Citation Revised June 2010].	<p>Verify that, after coordination with the host-nation IC or similarly appropriate host-nation authorities and if financially and otherwise practical, the installation has established measures sufficient to protect known historic or cultural resources until appropriate mitigation or preservation can be completed.</p> <p>Verify that, after coordination with the host-nation IC or similarly appropriate host-nation authorities and if financially and otherwise practical, the installation has established measures sufficient to protect known archeological resources until appropriate mitigation or preservation can be completed.</p> <p>Verify that the IC has established measures to prevent DOD personnel from disturbing or removing historic or cultural resources without the permission of the host nation.</p>
CR.10.9.WW. [Deleted September 2000].	Deleted due to duplication at CR.10.3.WW.
CR.10.10.WW. [Moved September 2003].	[Moved to CR.30.3.WW.]

**COMPLIANCE CATEGORY:
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OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>CR.20 TRAINING</p> <p>CR.20.1.WW. Personnel who perform historic or cultural resource functions must have the requisite expertise in world, national, and local history and culture (OEBGD 12.3.3) [Revised September 2000; Moved September 2003].</p>	<p>Verify that personnel who perform historic or cultural resource functions have the requisite expertise in world, national, and local history and culture.</p> <p>(NOTE: This training may be in-house, contract, or through consultation with another agency.)</p> <p>Verify that government personnel who direct historic or cultural resource functions have training in historic or cultural resource management.</p> <p>[Moved from CR.10.7.WW.]</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>CR.30 INVENTORIES AND DOCUMENTS</p> <p>CR.30.1.WW. Installations must inventory historic and cultural resources in areas under DOD control (OEBGD 12.3.5.1) [Revised September 2000; Moved September 2003; Citation Revised June 2010].</p> <p>CR.30.2.WW. Installations must, after coordination with the host-nation installation commander or similarly appropriate host nation authorities, prepare, maintain, and implement a cultural resources management plan that meets specific requirements (OEBGD 12.3.4) [Revised September 2000; Moved September 2003; Revised June 2010; Citation Revised June 2010].</p> <p>CR.30.3.WW. Installations must have access to the World Heritage List and the host nation's equivalent of the United States' National Register of Historic Places (OEBGD 12.3.2) [Added September 2000; Moved September 2003].</p>	<p>Verify that, after coordination with the host-nation installation commander (IC) or similarly appropriate host-nation authorities and if financially and otherwise practical, the installation inventories historic and cultural resources in areas under DOD control.</p> <p>Verify that the inventory of historic and cultural resources is developed from a records search and visual survey.</p> <p>[Moved from CR.10.1.WW.]</p> <p>Verify that, after coordination with the host-nation installation commander or similarly appropriate host nation authorities, the installation has prepared and implemented a cultural resources management plan.</p> <p>Verify that the plan contains the information needed to make appropriate decisions about cultural and historic resources identified on the installation inventory.</p> <p>Verify that the plan addresses the mitigation of any adverse effects.</p> <p>Verify that the plan is maintained.</p> <p>[Moved from CR.10.6.WW.]</p> <p>Verify that installation personnel have access to the World Heritage List and the host nation's equivalent of the United States' National Register of Historic Places.</p> <p>[Moved from CR.10.10.WW.]</p>

SECTION 3

HAZARDOUS MATERIALS MANAGEMENT

OEBGD Protocols

June 2010

A. Applicability of this Section

This section contains criteria for the storage, handling, and disposition of hazardous materials. It does not cover solid or hazardous waste, underground storage tanks, petroleum storage, or related spill contingency and emergency response requirements. Each of these topics is addressed in another section of this manual. This document does not cover munitions.

B. Source Documents

- *Overseas Environmental Baseline Guidance Document (OEBGD)*, 1 May 2007, Chapters 5, 6, and 18.

C. Key Compliance Requirements

- All excess hazardous material must be processed through the Defense Reutilization and Marketing Service (DRMS).
- All personnel who use, handle, or store hazardous materials must be trained.
- Installations must, where practical, reduce the use of hazardous materials through resource recovery, recycling, source reduction, acquisition, or other minimization strategies.
- Installations must take specific actions in the event of hazardous substance spills.
- After completion of the initial response, any remaining free product and/or obviously contaminated soil must be appropriately removed and managed.
- All hazardous materials on DOD installations must be labeled and have MSDS either available or in HMIRS.
- Installations must maintain a master listing of all storage facilities for hazardous material and an inventory of all hazardous materials contained therein.
- Each work center must maintain a file of MSDSs for each hazardous material procured, stored, or used at the work center.

D. Definitions

- *Facility Incident Commander (FIC)* - the official who coordinates and directs DOD control and cleanup efforts at the scene of a POL or hazardous substance spill due to DOD activities on or near the installation. This official is designated by the Installation Commander (IC) (OEBGD 18.2).
- *Hazardous Chemical Warning Label* - a label, tag, or marking on a container that is prepared in accordance with Department of Defense Instruction (DODI) 6050.05, *DOD Hazard Communication (HAZCOM) Program*, and that provides the following information (OEBGD 5.2):
 1. identification/name of hazardous chemicals

2. appropriate hazard warnings
 3. the name and address of the manufacturer, importer, or other responsible party.
- *Hazardous Material* - any material that is capable of posing an unreasonable risk to health, safety, or the environment if improperly handled, stored, issued, transported, labeled, or disposed of because it displays a characteristic identified in OEBGD Table C5.T1 or the material is listed in OEBGD Table AP1.T4. Munitions are excluded (OEBGD 5.2).
 - *Hazardous Material Information Resource System (HMIRS)* - the computer-based information system developed to accumulate, maintain, and disseminate important information on hazardous material used by DOD (OEBGD 5.2).
 - *Hazardous Material Shipment* - any movement of hazardous material in a DOD land vehicle either from an installation to a final destination off the installation, or from a point of origin off the installation to a final destination on the installation, in which certification of the shipment is involved (OEBGD 5.2).
 - *Hazardous Substance* - any substance having the potential to do serious harm to human health or the environment if spilled or released in RQ. A listing of these substances and corresponding RQ is contained in OEBGD Table AP1.T4. The term does not include (OEBGD 18.2):
 1. petroleum, including crude petroleum, oil, and lubricant (POL) or any fraction thereof, that is not otherwise specifically listed or designated as a hazardous substance above
 2. natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).
 - *Material Safety Data Sheet (MSDS)* - a form prepared by manufacturers or importers of chemical products to communicate to users the chemical and physical properties and the hazardous effects of a particular product (OEBGD 5.2).
 - *Significant Spill* - an uncontained release to the land or water in excess of any of the following quantities (OEBGD 18.2):
 1. for hazardous waste or hazardous substance identified as a result of inclusion in OEBGD Table AP1.T4 any quantity in excess of the RQ listed therein
 2. for POL or liquid or semi-liquid hazardous material, hazardous waste or hazardous substance, in excess of 400 L (110 gal)
 3. for other solid hazardous material, in excess of 225 kg (500 lb)
 4. for combinations of POL and liquid, semi-liquid, and solid hazardous materials, hazardous waste, or hazardous substance, in excess of 340 kg (750 lb).

(NOTE: If a spill is contained inside an impervious berm, or on a nonporous surface, or inside a building and is not volatilized and is cleaned up, the spill is considered a contained release and is not considered a significant spill.)

E. Records To Review

- Emergency Plan documents
- MSDSs
- Inventory records
- Training records
- Inspection records
- Shipping papers
- Placarding of hazardous materials

F. Physical Features To Inspect

- Hazardous materials storage areas
- Shop activities
- Shipping and receiving area

G. Guidance for Checklist Users

	REFER TO CHECKLIST ITEMS:
Missing Checklist Items/Positive Findings	HM.2.1.WW and HM.2.2.WW
Excess Hazardous Materials	HM.10.1.WW
Training	HM.20.1.WW
Releases	HM.30.1.WW and HM.30.2.WW
General Operating Requirements	HM.40.1.WW through HM.40.4.WW
Documentation	HM.50.1.WW through HM.50.5.WW
Batteries	HM.60.1.WW
Transportation	HM.70.1.WW and HM.70.2.WW

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HAZARDOUS MATERIALS MANAGEMENT
OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>HM.2 MISSING CHECKLIST ITEMS/POSITIVE FINDINGS</p> <p>HM.2.1.WW. Installations must comply with all applicable regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding) [Added September 2000].</p> <p>HM.2.2.WW. Installations should go above and beyond environmental statutory and regulatory compliance (MP) [Added September 2000].</p>	<p>Determine whether any new regulations concerning hazardous materials management have been issued since the finalization of the manual.</p> <p>Determine whether the installation has activities or facilities that are regulated but not addressed in this checklist.</p> <p>Verify that the installation is in compliance with all applicable and newly issued regulations.</p> <p>Determine whether the installation has gone above and beyond simply complying with environmental requirements.</p> <p>(NOTE: This checklist item is used only to write positive findings.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>HM.10 EXCESS HAZARDOUS MATERIALS</p> <p>HM.10.1.WW. All excess hazardous material must be processed through DRMS (OEBGD 5.3.9) [Revised September 2000].</p>	<p>Verify that excess hazardous materials are processed through DRMS in accordance with the procedures in DOD 4160.21-M.</p> <p>(NOTE: This requirement is not intended to prohibit the transfer of usable hazardous material between DOD activities participating in a regional or local pharmacy or program.)</p> <p>(NOTE: The GSA Shelf-life Hotline can provide Federal customers information on shelf-life extension. Hotline staff will need to know the National Stock Number (NSN), batch number, and date of manufacture. The Hotline staff can provide extension information if the item has been tested and its shelf-life has been extended. Telephone: 209-946-6333, Fax: 209-946-6214.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>HM.20 TRAINING</p> <p>HM.20.1.WW. All personnel who use, handle, or store hazardous materials must be trained (OEBGD 5.3.10).</p>	<p>Verify that all personnel who use, handle, or store hazardous materials are trained in accordance with DODI 6050.05, <i>DOD Hazard Communication (HAZCOM) Program</i> and other component instructions.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>nated soil must be appropriately removed and managed (OEBGD 18.3.6) [Added September 2000; Revised September 2003].</p>	<p>mediation for DOD Activities Overseas.”)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>HM.40 GENERAL OPERATING REQUIREMENTS</p> <p>HM.40.1.WW. Installations must, where practical, reduce the use of hazardous materials through resource recovery, recycling, source reduction, acquisition, or other minimization strategies (OEBGD 5.3.8) [Revised September 2000].</p> <p>HM.40.2.WW. All hazardous materials on DOD installations must be labeled and have MSDS either available or in HMIRS (OEBGD 5.3.7) [Revised June 2010].</p> <p>HM.40.3.WW. Installations must prevent the unauthorized entry of persons or livestock into hazardous materials storage areas (OEBGD 5.3.11).</p> <p>HM.40.4.WW. Installations must maintain hazardous materials dispensing areas properly (OEBGD 5.3.2) [Revised June 2010].</p>	<p>Verify that, where practical, the installation reduces the use of hazardous material in accordance with Service guidance through:</p> <ul style="list-style-type: none"> - resource recovery - recycling - source reduction - acquisition - other minimization strategies. <p>Verify that all hazardous materials are labeled with a Hazardous Chemical Warning Label in accordance with DODI 6050.05, <i>DOD Hazard Communication (HAZCOM) Program</i> or the host-nation equivalent.</p> <p>Verify that MSDS information is either available or in HMIRS.</p> <p>(NOTE: These requirements apply throughout the life cycle of the hazardous materials.)</p> <p>Verify that the installation prevents unauthorized entry into hazardous materials storage areas.</p> <p>Verify that drums and containers in hazardous materials dispensing areas are not leaking.</p> <p>Verify that drip pans/absorbent materials are placed under containers as needed in order to collect drips or spills.</p> <p>Verify that container contents are clearly marked.</p> <p>Verify that dispensing areas are located away from catch basins and floor/storm drains.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>HM.50 DOCUMENTATION</p> <p>HM.50.1.WW. Installations must maintain a master listing of all storage locations for hazardous material and an inventory of all hazardous materials contained therein (OEBGD 5.3.4) [Revised September 2000].</p> <p>HM.50.2.WW. Each work center must maintain a file of MSDSs for each hazardous material procured, stored, or used at the work center (OEBGD 5.3.6).</p> <p>HM.50.3.WW. The content of MSDSs must meet specific criteria (OEBGD 5.3.5) [Revised September 2000; Revised June 2010].</p>	<p>Verify that the installation maintains a master listing of all storage locations for hazardous material and an inventory of all hazardous materials contained therein.</p> <p>Verify that each work center maintains a file of MSDSs for each hazardous material procured, stored, or used at the work center.</p> <p>Verify that the MSDSs are in English or the predominant language in the work place and contain at least the following information:</p> <ul style="list-style-type: none"> - the identity used on the label: <ul style="list-style-type: none"> - if the hazardous chemical is a single substance, the chemical and common name of the substance - if the hazardous chemical is a mixture that has been tested as a whole to determine its hazards, the chemical and common name(s) of the ingredients that contribute to these known hazards and the common names(s) of the mixture itself - if the hazardous chemical is a mixture that has not been tested as a whole: <ul style="list-style-type: none"> - the chemical and common name(s) of all ingredients that have been determined to be health hazards and that comprise 1 percent or greater (0.1 percent or greater for carcinogens) of the composition - the chemical and common name(s) of all ingredients that have been determined to be health hazards and that comprise less than 1 percent (0.1 percent for carcinogens) of the mixture, if there is evidence that the ingredient(s) could be released from the mixture in concentrations that would exceed an established OSHA permissible exposure limit (PEL), or could present a health hazard to personnel - the chemical and common name(s) of all ingredients that have been determined to present a physical hazard when present in the mixture - physical and chemical characteristics of the hazardous chemical (such as vapor pressure, flash point, etc.) - physical hazards of the chemical, including the potential for fire, explosion,

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>HM.50.4.WW. MSDSs that are not contained in the HMIRS and those MSDSs prepared for locally purchased items should be incorporated into HMIRS (MP) [Added September 2000; Revised June 2010].</p> <p>HM.50.5.WW. A file of MSDS information not contained in HMIRS should be maintained on-site (MP) [Added September 2000; Revised June 2010].</p>	<p>and reactivity</p> <ul style="list-style-type: none"> - health hazards of the chemical, including signs and symptoms of exposure and any medical conditions that are generally recognized as being aggravated by exposure to the chemical - the primary route(s) of entry (e.g., inhalation, skin absorption, ingestion, etc.) - the appropriate occupational exposure limit recommended by the chemical manufacturer, importer, or employer preparing the MSDS, where available - whether the chemical has been found to be a potential carcinogen - any generally applicable precautions for safe handling and use that are known to the chemical manufacturer, importer or employer preparing the MSDS, including appropriate hygienic practices, protective measures during repair and maintenance of contaminated equipment, and procedures for cleanup of spills and leaks - any generally applicable control measures that are known to the chemical manufacturer, importer or employer preparing the MSDS, such as appropriate engineering controls, work practices, or personal protective equipment - emergency and first aid procedures - date of preparation or last change - name, address, and telephone number of the chemical manufacturer, importer, employer, or other responsible party preparing or distributing the MSDS who can provide additional information on the chemical and appropriate emergency procedures, if necessary. <p>Verify that MSDSs that are not contained in the HMIRS and those MSDSs prepared for locally purchased items are incorporated into HMIRS</p> <p>(NOTE: This MP is suggested at OEBGD 5.3.6).</p> <p>Verify that a file of MSDS information not contained in HMIRS is maintained on-site.</p> <p>(NOTE: This MP is suggested at OEBGD 5.3.6).</p>

**COMPLIANCE CATEGORY:
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**REGULATORY
REQUIREMENTS:**

**REVIEWER CHECKS:
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**HM.60
BATTERIES**

HM.60.1.WW. Lead-acid batteries that are to be recycled must be managed as hazardous material (OEBGD 6.3.8.3).

Verify that lead-acid batteries that are to be recycled are managed as hazardous material.

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>HM.70 TRANSPORTATION</p> <p>HM.70.1.WW. Hazardous materials shipments must meet specific requirements (OEBGD 5.3.3) [Revised September 2000; Revised June 2010].</p> <p>HM.70.2.WW. International shipments of hazardous materials originating from a DOD installation must meet specific standards (OEBGD 5.3.1) [Revised September 2000].</p>	<p>Verify that hazardous materials shipments are accompanied throughout by shipping papers that clearly describe the quantity and identity of the material and include an MSDS.</p> <p>Verify that all drivers of hazardous material shipments are trained on the hazardous material included in the shipment, including:</p> <ul style="list-style-type: none"> - health risks of exposure - physical hazards of the material, including the potential for fire, explosion, and reactivity. <p>Verify that drivers of hazardous material shipments are trained on spill control and emergency notification procedures.</p> <p>Verify that, for any hazardous materials categorized on the basis of OEBGD AP1.1, the shipping papers and briefing for the driver include identification of the material in terms of the nine United Nations (UN) Hazard Classes.</p> <p>Verify that supervisory personnel do a walk-around inspection of the transport vehicles before and after the material is loaded.</p> <p>Verify that all packages are properly labeled (see checklist item HM.40.2.WW.).</p> <p>Determine whether the installation ships hazardous materials internationally.</p> <p>Verify that international maritime transport of hazardous materials originating from DOD installations is in accordance with the International Maritime Dangerous Goods Code and appropriate DOD and component instructions.</p> <p>Verify that, for international air shipments of hazardous material, the installation follows the shipping standards found in the International Civil Aviation Organization Technical Instructions or DOD component guidance.</p> <p>(NOTE: DOD guidance can be found in Air Force Interservice Manual 24-204(I), Army Technical Order 38-250, Naval Supply Publication 505, Marine Corps Order P4030.19I, and Defense Logistics Agency Instruction 4145.3, Defense Contract Management Agency D1, Ch3.4 (HM24), "Preparing Hazardous Materials for Military Air Shipments," 15 April 2007, Incorporating Change 1, 4 May 2007.)</p>

SECTION 4
HAZARDOUS WASTE MANAGEMENT
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A. Applicability of this Section

This section contains criteria for a comprehensive management program to ensure that hazardous waste is identified, stored, transported, treated, disposed of, and recycled in an environmentally sound manner.

B. Source Documents

- *Overseas Environmental Baseline Guidance Document (OEBGD)*, 1 May 2007, Chapter 6 and Chapter 18.

C. Key Compliance Requirements

- Installations must recycle or reuse hazardous waste to the maximum extent practical.
- Installations must use safe and environmentally acceptable methods to identify, store, prevent leakage, and dispose of hazardous waste, to minimize risks to health and the environment.
- Installations must inspect Hazardous Waste Storage Areas (HWSAs) for malfunction, deterioration, operator errors, and discharges.
- Installations must develop a waste analysis plan.
- HWSAs must maintain a hazardous waste profile sheet (HWPS) for each waste stream handled by each HWSA.
- Generators must identify and characterize the wastes generated at their sites.
- Installations must take specific actions in the event of hazardous substance spills.
- After completion of the initial response, any remaining free product and/or obviously contaminated soil must be appropriately removed and managed.
- Installation personnel who handle hazardous waste must meet specific training requirements.
- Generators must maintain an audit trail of hazardous waste from the point of generation to disposal.
- Hazardous Waste Accumulation Point (HWAP) container storage areas must have containment systems.
- When HWAP accumulation limits are reached, the generator must, within 5 working days, make arrangements either to move the hazardous waste to an HWSA or to ship it offsite for treatment or disposal.
- HWAPs must maintain turn-in documents, manifests, and waste analysis/characterization records.
- HWSA container storage areas must have a containment system.
- Specific equipment must be present at each HWSA and must be tested.

- HWSAs must be inspected weekly for leaking containers and for deterioration of containers and the containment system caused by corrosion and other factors
- HWSAs must maintain a hazardous waste log, inspection logs, manifests, and waste analysis/characterization records.
- HWSAs must have a written closure plan.
- All hazardous waste that leaves the installation must be accompanied by an HWPS and a manifest.

D. Definitions

- *Acute Hazardous Waste* - those wastes listed in OEBGD Table AP1.T4 with a USEPA waste number with the designator “P” or those wastes with Hazard Code (H) (OEBGD 6.2).
- *Disposal* - the discharge, deposit, injection, dumping, spilling, leaking, or placing of any hazardous waste into, or on any land or water so that the waste or constituent thereof may enter the environment. Proper disposal effectively mitigates hazards to human health and the environment (OEBGD 6.2).
- *DOD Hazardous Waste Generator* - a generator is considered to be the installation or activity on an installation that produces a regulated hazardous waste (OEBGD 6.2).
- *Elementary Neutralization* – a process of neutralizing a hazardous waste, which is hazardous only because of the corrosivity characteristic. It must be accomplished in a tank, transport vehicle, or container (OEBGD 6.2).
- *Facility Incident Commander (FIC)* - the official who coordinates and directs DOD control and cleanup efforts at the scene of a POL or hazardous substance spill due to DOD activities on or near the installation. This official is designated by the Installation Commander (IC) (OEBGD 18.2).
- *Generator* - See *DOD Hazardous Waste Generator*.
- *Hazardous Constituent* - a chemical compound that is listed by name in OEBGD Table AP1.T4, or possesses a characteristic described in OEBGD Section AP1.1 (OEBGD 6.2).
- *Hazardous Waste* - a discarded material that may be solid, semisolid, liquid, or contained gas and either exhibits a characteristic of a hazardous waste in OEBGD AP1.1 or is listed as a hazardous waste in OEBGD Tables AP1.T1 through AP1.T4. Excluded from this definition are domestic sewage sludge, household wastes, and medical wastes (OEBGD 6.2).
- *Hazardous Waste Accumulation Point (HWAP)* - a shop, site, or other work center where hazardous wastes are accumulated until removed to an HWSA or shipped for treatment or disposal. An HWAP may be used to accumulate no more than 208 L (55 gal) of hazardous waste, or 1 L (1 qt) of acute hazardous waste, from each waste stream. The HWAP must be at or near the point of generation and under the control of the operator (OEBGD 6.2).
- *Hazardous Waste Fuel* - hazardous wastes burned for energy recovery. Fuel produced from hazardous waste by processing, blending, or other treatment is also hazardous waste fuel (OEBGD 6.2).
- *Hazardous Waste Generation* - any act or process that produces hazardous waste as defined in OEBGD (OEBGD 6.2).
- *Hazardous Waste Log* - a listing of hazardous waste deposited and removed from a HWSA. Information such as the waste type, volume, location, and storage removal dates should be recorded (OEBGD 6.2).

- *Hazardous Waste Profile Sheet (HWPS)* - a document that identifies and characterizes the waste by providing user's knowledge of the waste and/or lab analysis, and details the physical, chemical, and other descriptive properties or processes that created the hazardous waste (OEBGD 6.2).
- *Hazardous Waste Storage Area (HWSA)* - one or more locations on a DOD installation where hazardous waste is collected prior to shipment for treatment or disposal. A HWSA may store more than 55 gal of a hazardous waste stream and more than 1 qt of an acute hazardous waste stream (OEBGD 6.2).
- *Hazardous Waste Storage Area Manager* - a person or agency on the installation assigned the operational responsibility for receiving, storing, inspecting, and general management of the installation's HWSA or HWSA program (OEBGD 6.2).
- *Land Disposal* - placement in or on the land, including, but not limited to, land treatment facilities, surface impoundments, underground injection wells, salt dome formations, salt bed formations, underground mines, or caves (OEBGD 6.2).
- *Treatment* - any method, technique, or process, excluding elementary neutralization, designed to change the physical, chemical, or biological characteristics or composition of any hazardous waste so as to render such waste nonhazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume (OEBGD 6.2).
- *Unique Identification Number* - a number assigned to generators of hazardous waste to identify the generator and used to assist in tracking the waste from point of generation to ultimate disposal. The number could be the Unit Identification Code (UIC) or the DOD Activity Address Code (DODAAC); the executive agent should specify the method for determining the unique identification number in the final governing standards (OEBGD 6.2).
- *Used Oil Burned for Energy Recovery* - used oil that is burned for energy recovery is termed used oil fuel. Used oil fuel includes any fuel produced from used oil by processing, blending, or other treatment. "Used oil" means any oil or other waste petroleum, oil, and lubricant (POL) product that has been refined from crude oil, or is a synthetic oil, has been used, and as a result of such use, is contaminated by physical or chemical impurities. Although used oil may exhibit the characteristics of reactivity, toxicity, ignitability, or corrosivity, it is still considered used oil, unless it has been mixed with hazardous waste. Used oil mixed with hazardous waste is a hazardous waste and will be managed as such (OEBGD 6.2).

E. Records To Review

- Generators:
 - Hazardous waste manifests
 - Manifest exception reports
 - Personnel training documentation
 - Contingency plan
 - Notifications of hazardous waste oil fuel marketing or blending activity
 - Hazardous waste disposal turn-in document (DD Form 1348-1)
- HWSAs (in addition to the above records):
 - Unmanifested waste reports
 - Facility audit reports (inspection log)
 - Waste analysis plan(s)
 - Operating record
 - Groundwater monitoring records and annual reports
 - Closure/post-closure plans
 - Closure/post-closure notices (where applicable)

F. Physical Features To Inspect

- Disposal sites
- Generating areas
- Accumulation points
- Incinerators
- Vehicles used for transport
- Storage facilities (including drums)

G. Guidance for Checklist Users

	REFER TO CHECKLIST ITEMS:
Missing Checklist Items/Positive Findings	HW.2.1.WW and HW.2.2.WW
All Installations	
General	HW.10.1.WW through HW.10.4.WW
Plans/Surveys	HW.20.1.WW through HW.20.4.WW
Waste Identification	HW.30.1.WW
Releases	HW.35.1.WW and HW.35.2.WW
Training	HW.40.1.WW through HW.40.4.WW
Hazardous Waste Generators	
Operating Procedures	HW.50.1.WW through HW.50.5.WW
Specific Wastes	HW.60.1.WW through HW.60.4.WW
Hazardous Waste Accumulation Points	
Design Requirements	HW.70.1.WW through HW.70.4.WW
Operating Procedures	HW.80.1.WW through HW.80.4.WW
Containers	HW.90.1.WW
Documentation	HW.100.1.WW
Hazardous Waste Storage Areas	
Design Requirements	HW.110.1.WW through HW.110.8.WW
Operating Procedures	HW.120.1.WW through HW.120.9.WW
Containers	HW.130.1.WW
Documentation	HW.140.1.WW through HW.140.3.WW
Closure	HW.150.1.WW
Transportation of Hazardous Waste	HW.160.1.WW through HW.160.4.WW
Hazardous Waste Disposal	
General	HW.170.1.WW through HW.170.5.WW
Land Disposal	HW.180.1.WW
Incinerators	HW.190.1.WW through HW.190.3.WW

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>HW.2 MISSING CHECKLIST ITEMS/POSITIVE FINDINGS</p> <p>HW.2.1.WW. Installations must comply with all applicable regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding) [Added September 2000].</p> <p>HW.2.2.WW. Installations should go above and beyond environmental statutory and regulatory compliance (MP) [Added September 2000].</p>	<p>Determine whether any new regulations concerning hazardous waste management have been issued since the finalization of the manual.</p> <p>Determine whether the installation has activities or facilities that are regulated but not addressed in this checklist.</p> <p>Verify that the installation is in compliance with all applicable and newly issued regulations.</p> <p>Determine whether the installation has gone above and beyond simply complying with environmental requirements.</p> <p>(NOTE: This checklist item is used only to write positive findings.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>HW.10 ALL INSTALLATIONS: General</p> <p>HW.10.1.WW. Installations must recycle or reuse hazardous waste to the maximum extent practical (OEBGD 6.3.10.5).</p> <p>HW.10.2.WW. Installations must use safe and environmentally acceptable methods to identify, store, prevent leakage, and dispose of hazardous waste, to minimize risks to health and the environment (OEBGD 6.3.10.5).</p> <p>HW.10.3.WW. [Revised September 2000; Moved September 2003].</p> <p>HW.10.4.WW. Host-nation facilities that store, treat, or dispose of DOD-generated waste must be evaluated and approved by the host nation (OEBGD 6.3.10.4) [Moved March 2004].</p>	<p>Verify that hazardous waste is recycled or reused to the maximum extent practical.</p> <p>Verify that the installation uses safe and environmentally acceptable methods to identify, store, prevent leakage, and dispose of hazardous waste, to minimize risks to health and the environment.</p> <p>[Moved to HW.120.9.WW]</p> <p>Verify that all host-nation facilities the installation uses to dispose of DOD-generated waste are evaluated and approved by the host nation. (NOTE: This evaluation and approval may consist of having a valid permit or host-nation equivalent for the hazardous waste which will be handled.)</p> <p>[Formerly checklist item number HW.170.4.WW.]</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>HW.20 ALL INSTALLATIONS: Plans/Surveys</p> <p>HW.20.1.WW. Installations must develop a waste analysis plan (OEBGD 6.3.3.3.1) [Revised September 2000].</p> <p>HW.20.2.WW. [Moved March 2004].</p> <p>HW.20.3.WW. Each installation must have a contingency plan that describes actions to be taken to contain and clean up spills and releases of hazardous waste (OEBGD 6.3.6) [Revised September 2000].</p> <p>HW.20.4.WW. The contingency plan should be available in both English and the language of the host nation (MP) [Added September 2000].</p>	<p>Verify that the HWSA manager, in conjunction with the installation(s) served, has developed a plan to determine how and when wastes are to be analyzed.</p> <p>Verify that the plan includes:</p> <ul style="list-style-type: none"> - procedures for characterizing and verification testing of both onsite and off-site hazardous waste - testing parameters and the rationale for selecting them - frequency of analysis - test and sampling methods. <p>Moved to HW.140.3.WW as part of the implementation of common OCONUS topic headings.</p> <p>Verify that the installation has a contingency plan that describes actions to be taken to contain and clean up spills and releases of hazardous waste.</p> <p>Verify that a current copy of the contingency plan is maintained at each HWSA and each HWAP.</p> <p>(NOTE: HWAPs need maintain only those portions of the contingency plan which are pertinent to their facilities and operation.)</p> <p>Verify that a current copy of the plan has been submitted to all police departments, fire departments, hospitals, and emergency response teams upon which the plan relies to provide emergency services.</p> <p>(NOTE: See Section 8, <i>Petroleum, Oils, and Lubricants (POL) Management</i>, for further details on the contents of the spill plan.)</p> <p>Verify that contingency plans are available in both English and the language of the host nation.</p> <p>(NOTE: This MP is suggested at OEBGD 6.3.6.2.2.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>HW.30 ALL INSTALLATIONS: Waste Identification</p> <p>HW.30.1.WW. Generators must identify and characterize the wastes generated at their sites (OEBGD 6.3.1.1 and 6.3.1.2).</p>	<p>Determine whether the installation generates, transports, treats, stores, or disposes of any hazardous waste.</p> <p>Verify that the generators identify and characterize their wastes.</p> <p>(NOTE: Used oil must also be characterized.)</p> <p>(NOTE: Wastes may be identified and characterized on the basis of knowledge of the materials and processes that generated the wastes, or through laboratory analysis of the waste.)</p> <p>Verify that wastes have been identified according to the inherent hazardous characteristics associated with the wastes in terms of:</p> <ul style="list-style-type: none"> - physical properties (solid, liquid, contained gases) - chemical properties (chemical constituents, technical or chemical name) - other descriptive properties (ignitable, corrosive, reactive, toxic). <p>(NOTE: The properties defining the characteristics should be measurable by standardized and available testing procedures.)</p> <p>Verify that an HWPS is used to identify each hazardous waste stream.</p>

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**REGULATORY
REQUIREMENTS:**

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**HW.35
RELEASES**

HW.35.1.WW. Installations must take specific actions in the event of hazardous substance spills (OEBGD 18.3.4.2 through 18.3.4.5) [Added September 2000].

Verify that any significant spill is reported to the FIC immediately.

Verify that immediate action is taken to eliminate the source and contain the spill.

Verify that the FIC notifies the appropriate In-Theater Component Commander and/or Defense Agency and the Executive Agent immediately when any of the following occurs:

- a spill occurs inside a DOD installation and cannot be contained within any required berm or containment
- a spill exceeds 410 L (110 gal) of POL
- a water resource has been polluted
- the FIC has determined that the spill is significant.

Verify that a written follow-up report is submitted in any of the above instances.

Verify that, when a significant spill occurs inside the installation and cannot be contained within its boundaries, the following are notified immediately:

- the appropriate In-Theater Component Commander and/or Defense Agency
- the Executive Agent
- host-nation authorities.

Verify that, when a significant spill threatens the local host-nation drinking water resource, the following are notified immediately:

- the appropriate In-Theater Component Commander and/or Defense Agency
- the Executive Agent
- host-nation authorities.

Verify that, when a significant spill occurs outside of the installation, the person in charge at the scene immediately notifies the following and obtains necessary assistance:

- the appropriate In-Theater Component Commander and/or Defense Agency
- the Executive Agent
- host-nation authorities.

Verify that the person in charge also notifies local fire departments and obtains necessary assistance.

HW.35.2.WW. After completion of the initial response, any remaining free product and/or obviously contami-

Verify that, after completion of the initial response, any remaining free product and/or obviously contaminated soil is appropriately removed and managed.

(NOTE: Further action will be governed by DODI 4715.8, "Environmental Re-

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nated soil must be appropriately removed and managed (OEBGD 18.3.6) [Added September 2000].

mediation for DOD Activities Overseas.”)

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**REGULATORY
REQUIREMENTS:**

**REVIEWER CHECKS:
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**HW.40
TRAINING**

HW.40.1.WW. Personnel and their supervisors who are assigned duties involving actual or potential exposure to hazardous waste must meet specific training requirements (OEBGD 6.3.9.1 through 6.3.9.3) [Revised September 2000].

Verify that personnel and their supervisors who are assigned duties involving actual or potential exposure to hazardous waste successfully complete an appropriate training program prior to assuming those duties.

Verify that the training program is conducted by qualified trainers who have completed an instructor training program in the subject, have comparable academic credentials, or experience.

Verify that the training program includes sufficient information to enable personnel to perform their assigned duties and comply fully with pertinent hazardous waste requirements.

Verify that the program is designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, equipment, and systems.

Verify that training for personnel whose duties include hazardous waste handling and management addresses the following in particular:

- emergency procedures (response to fire/explosion/spills; use of communications/alarm systems; body and equipment cleanup)
- handling and storage of drums and containers
- safe use of hazardous waste equipment
- proper sampling procedures
- protection of personnel, including:
 - personal protective equipment (PPE)
 - safety and health hazards
 - hazard communication
 - worker exposure
- recordkeeping
- security
- inspections
- contingency plans
- storage requirements
- transportation requirements.

Verify that personnel who are assigned to duties involving actual or potential exposure to hazardous waste after 15 March 2000, work under direct supervision until training is completed.

(NOTE: Additional guidance is contained in DODI 6050.05, "DOD Hazard Communication [HAZCOM] Program.")

Verify that annual refresher hazardous waste training is provided.

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<p>HW.40.2.WW. All hazardous waste training for each individual assigned duties involving actual or potential exposure to hazardous waste must be documented (OEBGD 6.3.9.4).</p> <p>HW.40.3.WW. Personnel assigned HWAP duty must successfully complete appropriate hazardous waste training necessary to perform their assigned duties (OEBGD 6.3.2.5) [Added September 2000].</p> <p>HW.40.4.WW. Personnel assigned HWSA duty must successfully complete appropriate hazardous waste training necessary to perform their assigned duties (OEBGD 6.3.3.9) [Added September 2000].</p>	<p>(NOTE: Hazardous Waste Operations and Emergency Response [HAZWOPER] training may fulfill the requirements of this checklist item, depending on the duties of the individual.)</p> <p>Verify that all hazardous waste training for each individual assigned duties involving actual or potential exposure to hazardous waste is documented.</p> <p>Verify that updated training records are kept by the HWSA manager or the responsible installation office.</p> <p>Verify that training records are retained for at least 3 yr after termination of duty of these personnel.</p> <p>Verify that personnel assigned HWAP duty successfully complete appropriate hazardous waste training necessary to perform their assigned duties.</p> <p>Verify that, at a minimum, this training includes pertinent waste handling and emergency response procedures.</p> <p>Verify that personnel assigned HWSA duty successfully complete an appropriate hazardous waste training program in accordance with the training requirements of OEBGD 6.3.9.</p> <p>(NOTE: See checklist items HW.40.1.WW and HW.40.2.WW.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>HW.50 HAZARDOUS WASTE GENERATORS: Operating Procedures</p> <p>HW.50.1.WW. Each generator must use a unique identification number for all recordkeeping, reports, and manifests for hazardous waste (OEBGD 6.3.1.3).</p> <p>HW.50.2.WW. Generators must maintain an audit trail of hazardous waste from the point of generation to disposal (OEBGD 6.3.1.4.3).</p> <p>HW.50.3.WW. Generators must update HWPSs as needed to reflect new waste streams or process modifications (OEBGD 6.3.1.2).</p> <p>HW.50.4.WW. DOD generators of hazardous waste must not treat hazardous waste at the point of generation (OEBGD 6.3.10.9) [Added September 2000].</p> <p>HW.50.5.WW. Generating activities must provide identification of incoming waste on the HWPS to the HWSA manager (OEBGD 6.3.3.3.3)</p>	<p>Verify that each generator uses a unique identification number for all recordkeeping, reports, and manifests for hazardous wastes.</p> <p>Verify that generators maintain an audit trail of hazardous waste from the point of generation to disposal.</p> <p>Verify that generators using the Defense Reutilization and Marketing Service (DRMS) disposal services have a signed copy of the manifest from the initial DRMS recipient of the waste.</p> <p>Verify that, if a generator uses a hazardous waste management and/or disposal program of a DOD component with a different unique identification number, it obtains a signed copy of the manifest from the receiving component.</p> <p>Verify that activities that dispose of their wastes outside of the DRMS system have developed their own manifest tracking system to provide an audit trail from point of generation to ultimate disposal.</p> <p>Verify that the generator updates the HWPS as needed to reflect any new waste streams or process modifications that change the character of the hazardous waste stream being handled at the storage area.</p> <p>Verify that generators of hazardous waste do not treat hazardous waste at the point of generation. (NOTE: Elementary neutralization at the point of generation is not prohibited.)</p> <p>(NOTE: This prohibition does not preclude installations from treating hazardous waste in accordance with the provisions of OEBGD C6.3.10.7 [incinerators] and C6.3.10.8 [other treatment technologies that may be implemented in consultation with the EEA].)</p> <p>Verify that generating activities provide identification of incoming waste on the HWPS to the HWSA manager.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
[Added September 2000].	

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>HW.60 HAZARDOUS WASTE GENERATORS: Specific Wastes</p> <p>HW.60.1.WW. Hazardous waste must not be used for dust suppression or road treatment (OEBGD 6.3.8.2).</p> <p>HW.60.2.WW. Installations must manage lead-acid batteries that are not recycled as hazardous waste (OEBGD 6.3.8.3).</p> <p>HW.60.3.WW. Mercury, nickel-cadmium, lithium, and lead-acid batteries must be treated prior to disposal (OEBGD 6.3.10.8.5).</p> <p>HW.60.4.WW. Treatment residues of wastes categorized as hazardous must be managed as hazardous waste (OEBGD 6.3.10.8.1 through 6.3.10.8.4) [Revised September 2000].</p>	<p>Verify that neither used oil, hazardous waste, nor used oil contaminated with any hazardous waste is used for dust suppression or road treatment.</p> <p>Determine whether the installation has lead-acid batteries that have exhausted their life cycle and are not recycled.</p> <p>Verify that such batteries are managed as hazardous waste.</p> <p>Verify that mercury, nickel-cadmium, lithium, and lead-acid batteries are being treated prior to disposal to stabilize, fix, or recover heavy metals and neutralize any corrosives.</p> <p>(NOTE: This requirement applies to the treatment residues of all wastes categorized as hazardous on the basis of OEBGD Appendix 1.)</p> <p>Verify that treatment residues from the following technologies are managed as hazardous waste, if they are characterized as hazardous:</p> <ul style="list-style-type: none"> - for organics: <ul style="list-style-type: none"> - incineration - fuel substitution where the units are operated so that destruction of hazardous constituents is efficient, and hazardous emissions are no greater than those produced by incineration - biodegradation - recovery - chemical degradation - for heavy metals: <ul style="list-style-type: none"> - stabilization or fixation - recovery - for reactives: <ul style="list-style-type: none"> - treatments that change the chemical or physical composition of a material so that it no longer exhibits the characteristic of reactivity - for corrosives: <ul style="list-style-type: none"> - neutralization of corrosives to a pH value between 6.0 and 9.0 - recovery - incineration - chemical or electrolytic oxidation - chemical reduction

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<p>HW.70 HAZARDOUS WASTE ACCUMULATION POINTS: Design Requirements</p> <p>HW.70.1.WW. HWAPs must meet specific design standards (OEBGD 6.2.6, 6.3.2.1, and 6.3.2.2) [Revised September 2000; Revised June 2010].</p> <p>HW.70.2.WW. Each HWAP must have warning signs appropriate to the waste being accumulated at the OEBGD 6.3.2.1) [Revised September 2000].</p> <p>HW.70.3.WW. HWAP container storage areas must have a containment system (OEBGD 6.3.4.2, implementing 6.3.2.3) [Revised September 2000].</p> <p>HW.70.4.WW. HWAPs that have containers holding ignitable or reactive waste must be</p>	<p>Verify that the HWAP is both:</p> <ul style="list-style-type: none"> - at or near the point of generation - under the control of the operator. <p>Verify that no more than 208 L (55 gal) of hazardous waste or 1 L (1 qt) of acute hazardous waste from each waste stream is accumulated there.</p> <p>(NOTE: Wastes intended to be recycled or used for energy recovery [for example, used oil or antifreeze] are exempt from the 208-L [55-gal]/1-L [1-qt] volume accumulation limits, but they must be transported off-site to a final destination facility within one year. See checklist item HW.80.1.WW.)</p> <p>Verify that each HWAP is designed and operated to provide appropriate segregation for different waste streams, including those that are chemically incompatible.</p> <p>(NOTE: See Appendix 4-1 for a list of incompatible wastes.)</p> <p>Verify that each HWAP has warning signs (National Fire Protection Association or appropriate international sign) appropriate to the waste being accumulated at the site.</p> <p>Verify that the container storage area has a secondary containment system that has sufficient capacity to contain 10 percent of the volume of stored containers or the volume of the largest container, whichever is greater.</p> <p>Verify that the secondary containment is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed.</p> <p>(NOTE: Storage areas that store containers holding only wastes that do not contain free liquids need not have such a containment system, provided that the storage area is sloped or otherwise designed and operated to drain and remove liquid from precipitation, or the containers are elevated or otherwise protected from contact with accumulated liquid.)</p> <p>Verify that containers which hold ignitable or reactive waste are at least 15 m (50 ft) inside the installation boundary.</p>

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located at least 15 m (50 ft) inside the installation boundary (OEBGD 6.3.4.3, implementing 6.3.2.3).

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<p>HW.80 HAZARDOUS WASTE ACCUMULATION POINTS: Operating Procedures</p> <p>HW.80.1.WW. When HWAP accumulation limits are reached, the generator must make arrangements either to move the hazardous waste to an HWSA or to ship it offsite for treatment or disposal (OEBGD 6.3.2.2) [Revised September 2000; Revised September 2008].</p> <p>HW.80.2.WW. [Deleted September 2000].</p> <p>HW.80.3.WW. HWAPs must handle incompatible wastes in accordance with specific requirements (OEBGD 6.3.4.4, implementing 6.3.2.3).</p> <p>HW.80.4.WW. The management of rainwater captured in secondary containment areas at HWAPs must meet specific requirements (OEBGD 6.3.4.2.4, implementing 6.3.2.3) [Added September</p>	<p>Verify that, when the HWAP accumulation limits are reached, the generator makes arrangements either to move the hazardous waste to an HWSA or to ship it offsite for treatment or disposal.</p> <p>Verify that these arrangements are made within 5 working days of reaching the HWAP accumulation limits.</p> <p>(NOTE: Accumulation limits for HWAPs are: 208 L (55 gal) of hazardous waste or 1 L (1 qt) of acute hazardous waste.)</p> <p>(NOTE: Wastes intended to be recycled or used for energy recovery [for example, used oil or antifreeze] are exempt from the 208-L [55-gal]/1-L [1-qt] volume accumulation limits.)</p> <p>Verify that wastes intended to be recycled or used for energy recovery are transported off-site to a final destination facility within one year.</p> <p>Verify that arrangements include submission of all appropriate turn-in documents to initiate the removal (e.g., DD Form 1348-1A) to appropriate authorities responsible for removing the hazardous waste.</p> <p>Per OEBGD 6.3.2.3, HWAPs are no longer subject to weekly inspections.</p> <p>Verify that incompatible wastes and materials are not placed in the same container.</p> <p>Verify that hazardous waste is not placed in an unwashed container that previously held an incompatible waste or material.</p> <p>Verify that storage containers holding a hazardous waste that is incompatible with any waste or other materials stored nearby in containers, piles, open tanks, or surface impoundments, are separated from the other materials or protected from them by means of a dike, berm, wall, or other device.</p> <p>Verify that rainwater captured in secondary containment areas at HWAPs is inspected and/or tested prior to release.</p> <p>Verify that the inspection or testing is reasonably capable of detecting contamination by the hazardous waste in the containers.</p> <p>Verify that contaminated water is treated as hazardous waste until determined</p>

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<p>HW.90 HAZARDOUS WASTE ACCUMULATION POINTS: Containers</p> <p>HW.90.1.WW. Container handling and storage at HWAPs must meet specific requirements (OEBGD 6.3.4.1, implementing 6.3.2.3) [Revised September 2000].</p>	<p>Verify that containers are in good condition and free from severe rusting, bulging, or structural defects.</p> <p>Verify that containers, including overpack containers, are compatible with the materials stored.</p> <p>Verify that containers are kept closed, except when they need to be opened to add or remove waste.</p> <p>Verify that containers are not opened, handled, or stored in a manner that could cause a rupture or a leak.</p> <p>Verify that containers of flammable liquids are grounded when transferring flammable liquids from one container to another.</p> <p>Verify that containers are marked with a hazardous waste marking and a label indicating the hazard class of the contents (flammable, corrosive, etc.).</p>

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<p>HW.100 HAZARDOUS WASTE ACCUMULATION POINTS: Documentation</p> <p>HW.100.1.WW. HWAPs must maintain specific records and retain them for specific periods of time (OEBGD 6.3.5.1, 6.3.5.5, and 6.3.5.6, implementing OEBGD 6.3.2.4 and 6.3.5.7) [Revised September 2000].</p>	<p>Verify that the HWAP maintains turn-in documents, e.g., DD 1348-1(A) or manifests, and retains them for 3 yr.</p> <p>Verify that the HWAP maintains manifests of incoming and outgoing hazardous wastes and retains them for a period of 3 yr.</p> <p>Verify that the HWAP maintains waste analysis/characterization records and retains them until 3 yr after closure.</p>

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<p>HW.110 HAZARDOUS WASTE STORAGE AREAS: Design Requirements</p> <p>HW.110.1.WW. All HWSAs must be located so as to minimize the risk of a release due to seismic activity, floods, or other natural events (OEBGD 6.3.3.1) [Revised September 2000].</p> <p>HW.110.2.WW. HWSAs that have containers holding ignitable or reactive waste must be located at least 15 m (50 ft) inside the installation boundary (OEBGD 6.3.4.3).</p> <p>HW.110.3.WW. HWSAs must meet specific security requirements (OEBGD 6.3.3.4.1 and 6.3.3.4.2).</p> <p>HW.110.4.WW. HWSAs must have signs that meet specific requirements (OEBGD 6.3.3.4.3 and 6.3.3.10.2) [Revised September 2000].</p>	<p>Verify that all HWSAs are (to the maximum extent possible) located so as to minimize the risks of release due to seismic activity, floods, or other natural events.</p> <p>Verify that, for facilities located where such risks may be encountered, the installation spill plan addresses the risk.</p> <p>Verify that containers which hold ignitable or reactive waste are at least 15 m (50 ft) from the installation boundary.</p> <p>Verify that the installation prevents the unknowing entry, and minimizes the possibility of unauthorized entry, of people or livestock onto HWSA grounds.</p> <p>Verify that the HWSA security system consists of either:</p> <ul style="list-style-type: none"> - a 24-h surveillance system (e.g., television monitors, surveillance by guards) that continuously monitors and controls entry - an artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff) that completely surrounds the area, combined with a means to control entrance at all times (e.g., an attendant, television monitors, locked gate, or controlled roadway access). <p>Verify that a sign is posted with the legend DANGER UNAUTHORIZED PERSONNEL KEEP OUT at each entrance and at other locations in sufficient numbers to be seen from any approach to the HWSA.</p> <p>Verify that signs are legible from at least 25 ft [8 m].</p> <p>Verify that the legend is written in English and in any other language predominant in the area surrounding the installation.</p> <p>(NOTE: Existing signs with a legend other than DANGER UNAUTHORIZED PERSONNEL KEEP OUT may be used if the legend indicates that only authorized personnel are allowed to enter, and that entry can be dangerous.)</p> <p>Verify that NO SMOKING signs or appropriate icons are conspicuously placed wherever there is a hazard from ignitable or reactive waste.</p>

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<p>HW.110.5.WW. Aisle space at each HWSA must allow unobstructed movement (OEBGD 6.3.3.5).</p> <p>HW.110.6.WW. HWSA container storage areas must have a containment system (OEBGD 6.3.4.2).</p> <p>HW.110.7.WW. Specific equipment must be present at each HWSA and must be tested (OEBGD 6.3.3.7).</p> <p>HW.110.8.WW. HWSAs must be designed, constructed, maintained, and op-</p>	<p>Verify that, in areas where access by non-English-speaking persons is expected, the NO SMOKING legend is written in English and in any other language predominant in the area.</p> <p>Verify that sufficient aisle space is maintained to allow unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the facility operation.</p> <p>Verify that containers do not obstruct any exit.</p> <p>Verify that the container storage area has a secondary containment system that has sufficient capacity to contain 10 percent of the volume of stored containers or the volume of the largest container, whichever is greater.</p> <p>Verify that the HWSA is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed.</p> <p>(NOTE: Storage areas that store containers holding only wastes that do not contain free liquids need not have such a containment system, provided that the storage area is sloped or otherwise designed and operated to drain and remove liquid from precipitation, or the containers are elevated or otherwise protected from contact with accumulated liquid.)</p> <p>Verify that the following equipment is easily accessible to personnel in HWSAs and in working condition:</p> <ul style="list-style-type: none"> - an internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to HWSA personnel - a device, such as an intrinsically safe telephone (immediately available at the scene of operations) or hand-held two-way radio, capable of summoning emergency assistance from base security, fire departments, or emergency response teams - portable fire extinguishers, fire control equipment appropriate to the material in storage (including special extinguishing equipment as needed, such as that using foam, inert gas, or dry chemicals) - spill control equipment - decontamination equipment - water at adequate volume and pressure to supply water hose streams, foam producing equipment, automatic sprinklers, or water spray systems - readily available PPE appropriate to the materials stored - eyewash and shower facilities. <p>Verify that all HWSA communications alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, is maintained to ensure its proper operation in time of emergency.</p> <p>Verify that the HWSA is designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned release of hazardous waste or hazardous waste constituents to air, soil, groundwater, or surface water</p>

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erated with specific goals in mind (OEBGD 6.3.3.2).	that could threaten human health or the environment.

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<p>HW.120 HAZARDOUS WASTE STORAGE AREAS: Operating Procedures</p> <p>HW.120.1.WW. HWSAs must be inspected weekly for leaking containers and for deterioration of containers and the containment system caused by corrosion and other factors (OEBGD 6.3.4.1.5).</p> <p>HW.120.2.WW. The storage of ignitable, reactive, or incompatible wastes at HWSAs must not threaten human health or the environment (OEBGD 6.3.3.10).</p> <p>HW.120.3.WW. HWSAs must handle incompatible wastes in accordance with specific requirements (OEBGD 6.3.4.4).</p> <p>HW.120.4.WW. [Deleted September 2000].</p>	<p>Verify that a weekly inspection is performed.</p> <p>Verify that secondary containment systems are inspected for defects and emptied of accumulated releases or retained storm water.</p> <p>Verify that the storage of ignitable, reactive, or incompatible wastes is accomplished so as to prevent threats to human health or the environment.</p> <p>Verify that the HWSA manager takes precautions to prevent accidental ignition or reaction of ignitable or reactive wastes.</p> <p>Verify that ignitable and reactive wastes are separated and protected from sources of ignition or reaction.</p> <p>(NOTE: Sources of ignition or reaction include, but are not limited to, open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat.)</p> <p>Verify that, while ignitable or reactive waste is being handled, smoking and open flames are confined to specially designated areas.</p> <p>Verify that water reactive waste is not stored in the same area as flammable and combustible liquids.</p> <p>Verify that incompatible wastes and materials are not placed in the same container.</p> <p>Verify that hazardous waste is not placed in an unwashed container that previously held an incompatible waste or material.</p> <p>Verify that storage containers holding a hazardous waste that is incompatible with any waste or other materials stored nearby in containers, piles, open tanks, or surface impoundments are separated from the other materials or protected from them by means of a dike, berm, wall, or other device.</p> <p>The requirement for periodic verification testing of the hazardous waste in storage has been deleted.</p>

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<p>HW.120.5.WW. Prior to accepting waste from a generator, the HWSA manager must follow specific procedures (OEBGD 6.3.3.3.3).</p>	<p>Verify that, prior to accepting waste from generators, the HWSA manager:</p> <ul style="list-style-type: none"> - inspects the waste to ensure that it matches the description provided - ensures that no waste is accepted for storage unless an HWPS is provided or is available and properly referenced - requests a new HWPS from the generator if there is reason to believe that the process generating the waste has changed - analyzes waste shipments to see if they match the waste description on the accompanying manifest and documents - rejects shipments that do not match the accompanying waste descriptions, unless the generator provides an accurate description.
<p>HW.120.6.WW. Hazardous waste should not be stored longer than 1 yr in an HWSA (MP) [Added September 2000].</p>	<p>Verify that hazardous waste is not stored longer than 1 yr in an HWSA. (NOTE: This MP is suggested at OEBGD 6.3.3.2.)</p>
<p>HW.120.7.WW. Access to communications or alarm systems must be maintained at HWSAs (OEBGD 6.3.3.6) [Added September 2000].</p>	<p>Verify that, whenever hazardous waste is being poured, mixed, or otherwise handled at HWSAs, all personnel involved in the operation have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another person.</p> <p>Verify that, if there is only one person on duty at the HWSA premises, that person has immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance.</p>
<p>HW.120.8.WW. The management of rainwater captured in secondary containment areas at HWSAs must meet specific requirements (OEBGD 6.3.4.2.4) [Added September 2000].</p>	<p>Verify that rainwater captured in secondary containment areas at HWSAs is inspected and/or tested prior to release.</p> <p>Verify that the inspection or testing is reasonably capable of detecting contamination by the hazardous waste in the containers.</p> <p>Verify that contaminated water is treated as hazardous waste until determined otherwise.</p>
<p>HW.120.9.WW. Installations must inspect HWSAs for malfunction, deterioration, operator errors, and discharges (OEBGD 6.3.3.8) [Revised September 2000; Moved September 2003].</p>	<p>Verify that inspections are conducted according to a written schedule that is kept at the HWSA and at a sufficient frequency to identify problems in time to correct them before they harm human health or the environment.</p> <p>Verify that the schedule identifies the type of problems (e.g., malfunctions or deterioration) that are to be looked for during the inspection (e.g., inoperative sump pump, leaking fitting, eroding dike, etc.).</p> <p>Verify that inspections cover all equipment and areas involved in the storage and handling of hazardous waste, including all containers and container storage areas, tank systems and associated piping, and all monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment</p>

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	<p>(such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.</p> <p>Verify that areas subject to spills, such as loading and unloading areas, are inspected daily when in use.</p> <p>(NOTE: The frequency at which equipment/facilities other than containers are inspected should be based on the rate of possible deterioration of the equipment and probability of an environmental or human health incident if the deterioration or malfunction or any operator error goes undetected between inspections. In addition, containers are inspected weekly by the HWSA manager [see checklist item HW.120.1.WW].)</p> <p>Verify that the installation remedies any deterioration or malfunction of equipment or structures that the inspection reveals on a schedule that ensures that the problem does not lead to an environmental or human health hazard.</p> <p>Verify that, when an imminent hazard is identified or one has already occurred, the installation takes immediate action.</p> <p>Verify that inspections are recorded in an inspection log or summary that is kept for at least 3 yr from the date of inspection and that includes at least:</p> <ul style="list-style-type: none"> - the date and time of inspection - the name of the inspector - notation of the observations made - the date and nature of any repairs or other remedial actions. <p>[Formerly checklist item HW.10.3.WW.]</p>

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<p>HW.130 HAZARDOUS WASTE STORAGE AREAS: Containers</p> <p>HW.130.1.WW. Containers at HWSAs must meet specific standards (OEBGD 6.3.4.1.1 through 6.3.4.1.4) [Revised September 2000].</p>	<p>Verify that containers are in good condition, and free from severe rusting, bulging, or structural defects.</p> <p>Verify that containers, including overpack containers, are compatible with the materials stored.</p> <p>Verify that containers are kept closed, except when they need to be opened to add or remove waste.</p> <p>Verify that containers are not opened, handled, or stored in a manner that could cause a rupture or a leak.</p> <p>Verify that containers are marked with a hazardous waste marking and a label indicating the hazard class of the contents (flammable, corrosive, etc.).</p> <p>Verify that containers of flammable liquid are grounded when transferring flammable liquids from one container to another.</p>

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<p>HW.140 HAZARDOUS WASTE STORAGE AREAS: Documentation</p> <p>HW.140.1.WW. HWSAs must maintain a hazardous waste log, inspection logs, manifests, and waste analysis/characterization records (OEBGD 6.3.5.1 through 6.3.5.6) [Revised September 2000].</p> <p>HW.140.2.WW. HWSAs must have a written closure plan (OEBGD 6.3.3.11.2).</p> <p>HW.140.3.WW. The HWSA must have and keep on file an HWPS for each waste stream that is stored at each HWSA (OEBGD 6.3.3.3.2) [Revised September 2000; Moved March 2004].</p>	<p>Verify that the HWSA maintains a written hazardous waste log that includes the following:</p> <ul style="list-style-type: none"> - name and address of the generator - description and hazard class of the waste - number and types of containers - quantity of hazardous waste - date stored - storage location - disposition data, including dates received, sealed, transported, and transporter used. <p>Verify that the hazardous waste log is available to emergency personnel in the event of a fire or a spill and is maintained until closure of the installation.</p> <p>Verify that the HWSA maintains inspection logs for 3 yr.</p> <p>Verify that the HWSA retains manifests of incoming and outgoing hazardous wastes for 3 yr.</p> <p>Verify that the HWSA retains waste analysis/characterization records until 3 yr after closure of the HWSA.</p> <p>Verify that turn-in documents (e.g., DD 1348-1(A) or manifests) are maintained for 3 yr.</p> <p>Verify that the HWSA has a closure plan that includes:</p> <ul style="list-style-type: none"> - estimates of the storage capacity of hazardous waste - the steps to be taken to remove or decontaminate all waste residues - an estimate of the expected date of closure. <p>Verify that the installation develops a closure plan prior to opening a new HWSA.</p> <p>Verify that the HWSA has and keeps on file an HWPS for each waste stream that it stores.</p> <p>[Formerly checklist item number HW.20.2.WW.]</p>

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<p>HW.150 HAZARDOUS WASTE STORAGE AREAS: Closure</p> <p>HW.150.1.WW. At the closure of an HWSA, all hazardous waste and hazardous waste residues must be removed (OEBGD 6.3.3.11.1).</p>	<p>Verify that, at the closure of an HWSA, hazardous waste and hazardous waste residues, including remaining containers, liners and bases, are removed from the containment system.</p> <p>Verify that the closure is done in a manner which eliminates or minimizes the need for future maintenance or the potential for future releases of hazardous waste.</p> <p>Verify that the HWSA is closed in accordance with the Closure Plan.</p>

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<p>HW.160 TRANSPORTATION OF HAZARDOUS WASTE</p> <p>HW.160.1.WW. When transporting hazardous waste via commercial transportation on host-nation public roads and highways, hazardous waste generators must prepare off-installation hazardous waste shipments in compliance with applicable host-nation transportation regulations (OEBGD 6.3.1.4.1.1) [Revised September 2000].</p> <p>HW.160.2.WW. All hazardous waste that leaves the installation must be accompanied by a manifest (OEBGD 6.3.1.4.2).</p> <p>HW.160.3.WW. Manifests should include specific information (MP) [Revised September 2000].</p> <p>HW.160.4.WW. The transport of hazardous waste via military vehicle on host-nation public roads and highways must meet specific requirements (OEBGD 6.3.1.4.1.2) [Revised September 2000].</p>	<p>Verify that, when transporting hazardous waste via commercial transportation on host-nation public roads and highways, hazardous waste generators prepare off-installation hazardous waste shipments in compliance with applicable host-nation transportation regulations</p> <p>(NOTE: Standards may include requirements for placarding, marking, containerization, and labeling among others.)</p> <p>Verify that hazardous waste designated for international transport is prepared in accordance with applicable international regulations.</p> <p>(NOTE: In the absence of host-nation regulations, international standards must be used.)</p> <p>Verify that all hazardous waste that leaves the installation is accompanied by a manifest.</p> <p>Verify that the installation uses host-nation forms (when applicable).</p> <p>(NOTE: DD Form 1348-1A or DD Form 1348-2 may be used otherwise.)</p> <p>Verify that the manifest includes the following information:</p> <ul style="list-style-type: none"> - generator's name, address, and telephone number - generator's unique identification number - transporter's name, address, and telephone number - destination name, address, and telephone number - description of waste - total quantity of waste - date of shipment - date of receipt. <p>(NOTE: This MP is suggested at OEBGD 6.3.1.4.2)</p> <p>Verify that, when transporting hazardous waste via military vehicle on host-nation public roads and highways, generators ensure compliance with Service regulations for the transport of hazardous materials and, if required by applicable international agreement (i.e., SOFA, basing, etc.), host-nation transportation regulations.</p>

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<p>HW.170 HAZARDOUS WASTE DISPOSAL: General</p> <p>HW.170.1.WW. DOD hazardous waste must normally be disposed of through the DRMS (OEBGD 6.3.10.1) [Revised June 2010].</p> <p>HW.170.2.WW. Hazardous waste must not be disposed of in the host nation unless disposal methods meet applicable final governing standards (OEBGD 6.3.10.2) [Revised September 2000].</p> <p>HW.170.3.WW. [Deleted September 2000].</p> <p>HW.170.4.WW. [Moved March 2004].</p> <p>HW.170.5.WW. Hazardous wastes that are disposed of as solid wastes must be treated prior to disposal so that they no longer exhibit hazardous characteristics (OEBGD 6.3.10.8 and C6.3.10.8.1 through C6.3.10.8.4) [Revised September 2000].</p>	<p>Verify that the installation normally disposes of its DOD hazardous waste through the DRMS.</p> <p>(NOTE: A decision not to use the DRMS for hazardous waste disposal may be made for best accomplishment of the mission, but the decision should be concurred in by the component chain of command to ensure that installation contracts and disposal criteria are at least as protective as the criteria used by the DRMS.)</p> <p>Verify that, if a hazardous waste cannot be disposed of in the host nation in accordance with the provisions of the OEBGD, the waste is then either:</p> <ul style="list-style-type: none"> - retrograded to the United States - transhipped, if permissible under international agreements, to another country for disposal where it can be disposed of in compliance with the applicable FGS (if any). <p>Verify that any transshipment to a country other than the United States has been approved by at least the Deputy Under Secretary of Defense for Environmental Security.</p> <p>(NOTE: The determination whether particular DOD-generated hazardous waste may be disposed of in the host nation is made by the DOD EA for that nation, in coordination with the Unified Combatant Commander, the Director of the Defense Logistics Agency, or other relevant DOD components, and the Chief of the U.S. Diplomatic Mission.)</p> <p>Deleted as a result of OEBGD revision.</p> <p>Moved to HW.10.4.WW as part of the implementation of common OCONUS topic headings.</p> <p>Verify that wastes that are categorized as hazardous on the basis of OEBGD Section AP1.1 are disposed of as solid wastes only if they no longer exhibit any hazardous characteristics.</p> <p>(NOTE: The following treatment technologies may be used:</p> <ul style="list-style-type: none"> - for organics: <ul style="list-style-type: none"> - incineration - fuel substitution where the units are operated so that destruction of hazardous constituents is efficient, and hazardous emissions are no greater than those produced by incineration

**COMPLIANCE CATEGORY:
HAZARDOUS WASTE MANAGEMENT
OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
	<ul style="list-style-type: none"> - biodegradation - recovery - chemical degradation - for heavy metals: <ul style="list-style-type: none"> - stabilization or fixation - recovery - for reactives: <ul style="list-style-type: none"> - treatments that change the chemical or physical composition of a material so that it no longer exhibits the characteristic of reactivity - for corrosives: <ul style="list-style-type: none"> - neutralization of corrosives to a pH value between 6.0 and 9.0 - recovery - incineration - chemical or electrolytic oxidation - chemical reduction - stabilization. <p>(NOTE: The treatment technologies listed above are provided as baseline treatment/disposal technologies for use in determining suitability of host-nation disposal alternatives. These technologies should not be implemented without consultation with the Environmental EA, or the Unified Combatant Commander, if there is no Environmental EA.)</p>

**COMPLIANCE CATEGORY:
HAZARDOUS WASTE MANAGEMENT
OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>HW.180 HAZARDOUS WASTE DISPOSAL: Land Disposal</p> <p>HW.180.1.WW. Land disposal must meet specific requirements (OEBGD 6.3.10.6).</p>	<p>Verify that there is a reasonable degree of certainty that hazardous constituents will not migrate from the disposal site for as long as the wastes remain hazardous.</p> <p>Verify that the land disposal occurs only in facilities that meet the following criteria:</p> <ul style="list-style-type: none"> - a liner of natural or manmade materials that: <ul style="list-style-type: none"> - restricts the downward or lateral escape of hazardous waste, hazardous constituents, or leachate - has a permeability no greater than 10^{-7} cm/s - a leachate collection system - a groundwater monitoring program capable of determining the facility's impact on the quality of water in the aquifers underlying the facility. <p>(NOTE: The EA may waive these requirements for a particular land disposal facility.)</p>

**COMPLIANCE CATEGORY:
HAZARDOUS WASTE MANAGEMENT
OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>HW.190 HAZARDOUS WASTE DISPOSAL: Incinerators</p> <p>HW.190.1.WW. Incinerators used to dispose of hazardous waste must be licensed or permitted to accept the type of waste being burned (OEBGD 6.3.10.7.1).</p> <p>HW.190.2.WW. Incinerators for hazardous waste must meet specific standards as a prerequisite for licensing, permitting, or approval (OEBGD 6.3.10.7.2).</p> <p>HW.190.3.WW. Hazardous waste incinerators must meet specific operating standards (OEBGD 6.10.7.2.1 and 6.10.7.2.2).</p>	<p>Verify that incinerators used to dispose of hazardous waste are licensed or permitted by a competent host-nation authority or approved by the EA.</p> <p>(NOTE: This requirement applies to incinerators that incinerate hazardous waste, as well as to boilers and industrial furnaces that burn hazardous waste for any recycling purposes.)</p> <p>Verify that incinerators are designed to include appropriate equipment to effectively destroy hazardous constituents and control harmful emissions.</p> <p>Verify that incinerators are operated according to management practices (including proper combustion temperature, waste feed rate, combustion gas velocity, and other relevant criteria) so as to effectively destroy hazardous constituents and control harmful emissions.</p> <p>(NOTE: This requirement applies to incinerators that incinerate hazardous waste, as well as to boilers and industrial furnaces that burn hazardous waste for any recycling purposes.)</p> <p>Verify that incinerators achieve either of the following operating standards:</p> <ul style="list-style-type: none"> - the incinerator must: <ul style="list-style-type: none"> - achieve a destruction and removal efficiency of 99.99 percent for the organic hazardous constituents which represent the greatest degree of difficulty of incineration in each waste or mixture of waste - minimize CO in stack exhaust gas - minimize emission of particulate matter - emit no more than 1.8 kg (4 lb) of hydrogen chloride per hour - the incinerator has demonstrated the ability to effectively destroy the organic hazardous constituents which represent the greatest degree of difficulty of incineration in each waste or mixture of waste to be burned. <p>(NOTE: For example, the latter standard may be met by requiring the incinerator to conduct a trial burn, submit a waste feed analysis and a detailed engineering description of the facility, and provide other information that may be required to enable the competent host-nation authority or the EA to conclude that the incinerator will effectively destroy the principal organic hazardous constituents of each waste to be burned.)</p> <p>(NOTE: This requirement applies to incinerators that incinerate hazardous waste, as well as to boilers and industrial furnaces that burn hazardous waste for any recycling purposes.)</p>

Appendix 4-1

Hazardous Materials/Hazardous Waste Storage Incompatibility Chart

Substances in bold have detailed example lists on the next page.

If the material contains:	It may not be stored with any of the following:
Acid (pH below 2.0)	Caustics (pH above 12.5) Reactive Metals Alcohol Water Aldehydes Halogenated, Nitrated, or Unsaturated Hydrocarbons Reactive Organic Compounds and Solvents Spent Cyanide and Sulfide Solutions Oxidizers
Caustic (pH above 12.5)	Acid (pH below 2.0) Reactive Metals Alcohol Water Aldehydes Halogenated, Nitrated, or Unsaturated Hydrocarbons Reactive Organic Compounds and Solvents
Reactive Metals	Caustics Acids Alcohol Aldehydes Halogenated, Nitrated, or Unsaturated Hydrocarbons Reactive Organic Compounds and Solvents Oxidizers
Reactive Organic Compounds and Solvents	Caustics Acids Reactive Metals
Spent Cyanide and Sulfide Solutions	Acids
Oxidizers	Acetic or Other Organic Acids Concentrated Mineral Acids Reactive Metals Reactive Organic Compounds and Solvents Ignitable [Flammable/Combustible] Wastes*

* “Ignitable” in this context refers to substances with a flashpoint below 140× °F, and includes:
Combustible substances, with a flashpoint below 140× °F
Flammable substances, with a flashpoint below 100× °F.

Some Deadly Combinations

Acids + Oil or Grease = Fire
Flammable Liquids + Hydrogen Peroxide = Fire/Explosion
Acids + Caustics = Heat/Spattering
Aluminum Powder + Ammonium Nitrate = Explosion
Caustics + Epoxies = Extreme Heat
Sodium Cyanide + Sulfuric Acid = Lethal Hydrogen Cyanide
Chlorine Gas + Acetylene = Explosion
Ammonia + Bleach = Noxious Fumes

In general:

Reactives must be segregated from **Ignitables**

Acids must be segregated from **Caustics**

Corrosives should be segregated from **Flammables**

Oxidizers should be segregated from **EVERYTHING**

Many Corrosives are "Water Reactive"

Most **Organic Reactives** must be segregated from **Inorganic Reactives** (metals)

Ignitables (Flammables/Combustibles)	Corrosives	
	Acids	Caustics
Carburetor Cleaners Engine Cleaners Epoxy, Resins, Adhesives, and Rubber Cements Finishes Fuels Lacquers Paints Paint Thinners Paint Wastes Pesticides that contain Solvents (such as Methyl Alcohol, Ethyl Alcohol, Isopropyl Alcohol, Toluene, Xylene). Petroleum Solvents (Dry cleaning Fluid) Solvents: Acetone Benzene Carbon Tetrachloride (Carbon Tet) Ethanol (Ethyl Alcohol) Ethyl Benzene Isopropanol (Isopropyl Alcohol) Kerosene (Fuel Oil #1) Methanol (Wood Alcohol) Methyl Ethyl Ketone (MEK) Petroleum Distillates Tetrahydrofuran (THF) Toluene (Methacide, Methylbenzene, Methylbenzol, Phenylmethane, Toluol, Antisal 1A) White Spirits (White Spirits, Mineral Spirits, Naphtha) Xylene (Xylol) Stains Stripping Agents Varsol Waste Fuels Waste Ink Wax Removers Wood Cleaners	Battery Acids Degreasers and Engine Cleaners Etching Fluids Hydrobromic Acid Hydrochloric Acid (Muriatic Acid) Nitric Acid (<40%) (Aquafortis) Phosphoric Acid Rust Removers Sulfuric Acid (Oil of Vitriol)	Acetylene Sludge Alkaline Battery Acids Alkaline Cleaners Alkaline Degreasers Alkaline Etching Fluids Lime and Water Lime Wastewater Potassium Hydroxide (Caustic Potash) Rust Removers Sodium Hydroxide (Caustic Soda, Soda Lye)
	Reactive Metals	Reactive Organic Compounds and Solutions

Lithium (Batteries) Aluminum Beryllium Calcium Magnesium Sodium Zinc Powder	Alcohols Aldehydes Chromic Acids (from chrome plating, copper stripping and aluminum anodizing) Cyanides (from electro- plating operations) Hypochlorides (from water treatment plants, swimming pools, sani- tizing operations) Organic Peroxides (includ- ing Hydrogen Peroxide) Perchlorates Permanganates Sulfides
<p style="text-align: center;">Oxidizers</p> Chlorine Gas Nitric Acid (>40%), aka Red Fuming Nitric Nitrates (Sodium Nitrate, Ammonium Nitrate) Perchlorates Perchloric Acid Peroxides Calcium Hypochlorite (>60%)	

SECTION 5

NATURAL RESOURCES MANAGEMENT

OEBGD Protocols

June 2010

A. Applicability of this Section

This section establishes criteria for required plans and programs needed to ensure proper protection, enhancement, and management of natural resources and any species (flora or fauna) declared endangered or threatened by either the United States or host-nation governments.

B. Source Documents

- *Overseas Environmental Baseline Guidance Document (OEBGD)*, 1 May 2007, Chapter 13.

C. Key Compliance Requirements

- Installations with significant land or water areas must, after coordination with the host-nation installation commander (IC) or similarly appropriate host-nation authorities, develop natural resources management plans.
- Personnel who perform natural resources functions must have the requisite expertise in the management of their discipline.
- Installations must maintain or have access to specific information related to threatened or endangered species.
- Installations that have land and water areas must take reasonable steps to protect and enhance known endangered or threatened species and host-nation protected species and their habitat.
- Installations must place emphasis on the maintenance and protection of habitats favorable to the reproduction and survival of indigenous plants, fish, and wildlife.
- Land and vegetation management operations must be consistent with current conservation and land use principles.

D. Definitions

- *Adverse Effect* - changes that diminish the quality or significant value of natural resources. For biological resources, adverse effects include significant decreases in overall population diversity, abundance, and fitness (OEBGD 13.2).
- *Conservation* - planned management, use and protection; continued benefit for present and future generations; and prevention of exploitation, destruction and/or neglect of natural resources (OEBGD 13.2).
- *Host-Nation Protected Species* - any species of flora or fauna listed or designated by the host nation, because the species continued existence is, or is likely to be, threatened and is therefore subject to special protection from destruction or adverse modification of associated habitat (OEBGD 13.2).
- *Management Plan* - a document describing natural resources, and their quantity and condition, and actions to ensure their conservation and good stewardship (OEBGD 13.2).

- *Natural Resources* - all living and inanimate materials supplied by nature that are of aesthetic, ecological, educational, historical, recreational, scientific, or other value (OEBGD 13.2).
- *Natural Resources Management* - actions taken that combine science, economics, and policy, to study, manage, and restore natural resources to strike a balance with the needs of people and the ability of the ecosystem to support soil, water, forest, fish, wildlife, and coastal resources (OEBGD 13.2).
- *Significant Land or Water Areas* - land or water area that is normally 500 or more acres outside the cantonment area; areas of smaller size are included if they have natural resources that are especially vulnerable to disturbance (OEBGD 13.2).
- *Threatened and Endangered Species* - any species of fauna or flora, listed in OEBGD Tables C13.T1, “Threatened and Endangered Fauna” and C13.T2, “Threatened and Endangered Flora,” respectively. This also includes any species of fauna or flora listed on an equivalent host nation protected species list (OEBGD 13.2).

E. Records To Review

- Documentation of finding of no adverse effect (for construction activities)
- Environmental Analyses
- Natural Resources Management Plan

F. Physical Features To Inspect

- Construction sites
- Facilities constructed in the past 2 yr
- Wildlife containment areas
- Wildlife habitat and land and water resources
- Equipment that could damage wildlife, its habitat, or land and water resources

G. Guidance for Checklist Users

	REFER TO CHECKLIST ITEMS:
Missing Checklist Items/Positive Findings	NR.2.1.WW and NR.2.2.WW
General	NR.3.1.WW
Training	NR.5.1.WW
Endangered or Threatened Species	NR.20.1.WW through NR.20.4.WW
Wildlife	NR.30.1.WW
Grounds Management	NR.40.1.WW through NR.40.3.WW

**COMPLIANCE CATEGORY:
NATURAL RESOURCES MANAGEMENT
OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>NR.2 MISSING CHECKLIST ITEMS/POSITIVE FINDINGS</p> <p>NR.2.1.WW. Installations must comply with all applicable regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding) [Added September 2000].</p> <p>NR.2.2.WW. Installations should go above and beyond environmental statutory and regulatory compliance (MP) [Added September 2000].</p>	<p>Determine whether any new regulations concerning natural resources management have been issued since the finalization of the manual.</p> <p>Determine whether the installation has activities or facilities that are regulated but not addressed in this checklist.</p> <p>Verify that the installation is in compliance with all applicable and newly issued regulations.</p> <p>Determine whether the installation has gone above and beyond simply complying with environmental requirements.</p> <p>(NOTE: This checklist item is used only to write positive findings.)</p>

**COMPLIANCE CATEGORY:
NATURAL RESOURCES MANAGEMENT
OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>NR.3 GENERAL</p> <p>NR.3.1.WW. Installations with significant land or water areas must, after consultation with the host-nation IC or similarly appropriate host-nation authorities, develop natural resources management plans (OEBGD 13.3.3) [Revised September 2000; Moved March 2004].</p>	<p>Determine whether the installation has significant land or water areas.</p> <p>Verify that, after consultation with the host-nation IC or similarly appropriate host-nation authorities, the installation has developed a natural resources management plan.</p> <p>[Formerly checklist item number NR.10.1.WW.]</p>

**COMPLIANCE CATEGORY:
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OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>NR.5 TRAINING</p> <p>NR.5.1.WW. Personnel who perform natural resources functions must have the requisite expertise in the management of their discipline (OEBGD 13.3.7) [Revised September 2000; Moved September 2003].</p>	<p>Verify that personnel who perform natural resource functions have the requisite expertise in the management of their discipline (i.e., endangered or threatened species, host-nation protected species, wetlands, soil stabilization).</p> <p>(NOTE: This may be in-house, contract, or through consultation with another agency.)</p> <p>Verify that government personnel who direct natural resources functions have training in natural resources management.</p> <p>[Moved from NR.10.2.WW.]</p>

**COMPLIANCE CATEGORY:
NATURAL RESOURCES MANAGEMENT
OEBGD Protocols**

**REGULATORY
REQUIREMENTS:**

**REVIEWER CHECKS:
June 2010**

**NR.10
LAND MANAGEMENT**

NR.10.1.WW. [Moved March 2004].

Moved to NR.3.1.WW as part of the implementation of common OCONUS topic headings.

NR.10.2.WW. [Moved September 2003]

[Moved to NR.5.1.WW.]

**COMPLIANCE CATEGORY:
NATURAL RESOURCES MANAGEMENT
OEBGD Protocols**

**REGULATORY
REQUIREMENTS:**

**REVIEWER CHECKS:
June 2010**

**NR.20
ENDANGERED OR
THREATENED SPECIES**

NR.20.1.WW. Installations must maintain or have access to specific information related to threatened or endangered species (OEBGD 13.3.2) [Revised September 2000].

NR.20.2.WW. Installations that have land and water areas must take reasonable steps to protect and enhance known endangered or threatened species and host-nation protected species and their habitat (OEBGD 13.3.1) [Revised September 2000].

NR.20.3.WW. Installations that have natural resource management plans must take specific actions (OEBGD 13.3.4) [Revised September 2000].

NR.20.4.WW. The host-nation IC must be notified of the discovery of any endangered or threatened species and host-nation protected species not previously known to

Verify that the installation maintains, or has access to OEBGD Tables C13.T1, "Threatened and Endangered Fauna" and C13.T2, "Threatened and Endangered Flora" and a current list of host-nation protected species.

Determine whether the installation has land and water areas.

Verify that the installation takes reasonable steps to protect and enhance known endangered or threatened species and host-nation protected species and their habitat.

Determine whether or not the installation has a natural resource management plan.

(NOTE: Only installations with significant land or water areas are required to develop natural resources management plans under the terms of OEBGD.)

Verify that the installation consults with the host-nation IC or similarly appropriate authorities prior to carrying out any of the actions below.

(NOTE: The following requirements apply if financially and otherwise practical and if there is no net loss of mission capability.)

Verify that a survey of endangered or threatened species and host-nation protected species has been conducted.

(NOTE: As an alternative to conducting its own survey, the installation may support host-nation-initiated surveys.)

Verify that the installation implements its natural resources management plan.

Verify that the host-nation IC is notified of the discovery of any endangered or threatened species and host-nation protected species not previously known to be present on the installation.

(NOTE: In the event that there is no host-nation IC, this notification is made to

**COMPLIANCE CATEGORY:
NATURAL RESOURCES MANAGEMENT
OEBGD Protocols**

**REGULATORY
REQUIREMENTS:**

**REVIEWER CHECKS:
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be present on the installation
(OEBGD 13.3.5) [Revised
September 2000].

the United States Ambassador.)

**COMPLIANCE CATEGORY:
NATURAL RESOURCES MANAGEMENT
OEBGD Protocols**

**REGULATORY
REQUIREMENTS:**

**REVIEWER CHECKS:
June 2010**

**NR.30
WILDLIFE**

NR.30.1.WW. Installations must place emphasis on the maintenance and protection of habitats favorable to the reproduction and survival of indigenous flora and fauna (OEBGD 13.3.8) [Revised September 2000; Revised June 2010].

Verify that emphasis is placed on the maintenance and protection of habitats favorable to the reproduction and survival of indigenous flora and fauna.

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NATURAL RESOURCES MANAGEMENT
OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>NR.40 GROUNDS MANAGEMENT</p> <p>NR.40.1.WW. Installations must meet specific standards with regard to grounds maintenance (OEBGD 13.3.6) [Revised September 2000].</p> <p>NR.40.2.WW. Land and vegetation management operations must be consistent with current conservation and land use principles (OEBGD 13.3.9) [Revised September 2000].</p> <p>NR.40.3.WW. A protective vegetative cover (or other standard soil erosion/sediment control practices) must be used to control dust, stabilize sites, and avoid silting of streams (OEBGD 13.3.10) [Revised September 2000].</p>	<p>Verify that installation grounds are maintained to meet designated mission use and ensure harmony with the natural landscape and/or the adjacent host-nation facilities where practical.</p> <p>Verify that land and vegetation management activities are consistent with current conservation and land use principles (e.g., ecosystem protection, biodiversity conservation, and mission-integrated land use).</p> <p>Verify that the installation uses a protective vegetative cover (or other standard soil erosion/sediment control practices) to control dust, stabilize sites, and avoid silting of streams.</p>

SECTION 6

OTHER ENVIRONMENTAL ISSUES

OEBGD Protocols

June 2010

A. Applicability of this Section

Environmental Impacts

All requirements with respect to the environmental effects of major Federal actions abroad were deleted in the 15 March 2000 revision of the *Overseas Environmental Baseline Guidance Document* (OEBGD).

Environmental Noise

All requirements with respect to environmental noise were deleted in the 15 March 2000 revision of the *Overseas Environmental Baseline Guidance Document* (OEBGD).

Pollution Prevention

This subsection contains standards for the management of ozone-depleting substances (ODS) and the requirement for a recycling program. OEBGD explicitly states (para 1.5.3) that, “where economically advantageous and consistent with mission requirements, pollution prevention shall be the preferred means of attaining compliance with the FGS, or the OEBGD in host nations for which no FGS have been issued.”

B. Source Documents

Pollution Prevention

- *Overseas Environmental Baseline Guidance Document* (OEBGD), 1 May 2007, Chapters 2 and 7.

C. Key Compliance Requirements

- All repairs or services to appliances, industrial process refrigeration units, air conditioning units, or motor vehicle air conditioners must be performed using commercially available refrigerant recovery/recycling equipment, operated by trained personnel.
- The intentional release of Class I or Class II ODS, HFC, or PFC refrigerants in the course of certain activities is prohibited.
- Leaking refrigeration equipment must be monitored for ODS leakage and repaired in accordance with the specific requirements
- Recycling programs must be instituted on DOD installations in accordance with the policies of DOD Instruction 4715.4, “Pollution Prevention.”

E. Definitions

- *Hydrofluorocarbon* - a compound consisting of hydrogen, fluorine, and carbon often used as a replacement for ozone-depleting substances (ODS) (OEBGD 2.2).
- *Ozone-Depleting Substances (ODS)* - those substances listed in OEBGD Table C2.T2 (OEBGD 2.2).
- *Perfluorocarbon (PFC)* - a compound consisting solely of carbon and fluorine often used as a replacement for ODS (OEBGD 2.2).

E. Records to Review

- *Pollution Prevention*
- None

F. Physical Features to Inspect

Pollution Prevention

- Recycling center, if any

G. Guidance for Checklist Users

	REFER TO CHECKLIST ITEMS:
Environmental Impacts	All requirements deleted
Environmental Noise	All requirements deleted
Pollution Prevention (P2)	
Missing Checklist Items/Positive Findings	O4.2.1.WW and O4.2.2.WW
ODCs/ODSs	O4.20.1.WW through O4.20.4.WW
Solid Waste	O4.40.1.WW

**COMPLIANCE CATEGORY:
OTHER ENVIRONMENTAL ISSUES
OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>O4.2 MISSING CHECKLIST ITEMS/POSITIVE FINDINGS</p> <p>O4.2.1.WW. Installations must comply with all applicable regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding) [Added September 2000].</p> <p>O4.2.2.WW. Installations should go above and beyond environmental statutory and regulatory compliance (MP) [Added September 2000].</p>	<p>Determine whether any new regulations concerning pollution prevention have been issued since the finalization of the manual.</p> <p>Determine whether the installation has activities or facilities that are regulated but not addressed in this checklist.</p> <p>Verify that the installation is in compliance with all applicable and newly issued regulations.</p> <p>Determine whether the installation has gone above and beyond simply complying with environmental requirements.</p> <p>(NOTE: This checklist item is used only to write positive findings.)</p>

**COMPLIANCE CATEGORY:
OTHER ENVIRONMENTAL ISSUES
OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>O4.20 POLLUTION PREVENTION: ODCs/ODSs</p> <p>O4.20.1.WW. All repairs or services to appliances, industrial process refrigeration units, air conditioning units, or motor vehicle air conditioners must be performed using commercially available refrigerant recovery/recycling equipment, operated by trained personnel (OEBGD 2.3.6.1) [Revised September 2000; Moved September 2003; Revised June 2010].</p> <p>O4.20.2.WW. The intentional release of Class I or Class II ODS, HFC, or PFC refrigerants in the course of certain activities is prohibited (OEBGD 2.3.6.2) [Revised September 2000; Moved September 2003; Revised June 2010].</p> <p>O4.20.3.WW. The intentional release of ODS used for fire suppression (halon) is prohibited (OEBGD 2.3.6.4) [Added September 2000; Moved September 2003; Citation Revised June 2010].</p>	<p>Verify that all repairs (including leak repairs) or services to appliances, industrial process refrigeration units, air conditioning units, and motor vehicle air conditioners are performed using commercially available refrigerant recovery/recycling equipment, operated by trained personnel.</p> <p>Verify that refrigerant technicians are trained in proper recovery/recycling procedures, leak detection, safety, shipping, and disposal in accordance with recognized industry standards or host nation equivalent.</p> <p>(NOTE: These criteria apply to direct atmospheric emissions of ODCs/ODSs, HFCs, and PFCs from refrigeration equipment and ODS from fire suppression equipment.)</p> <p>[Moved from O4.10.1.WW.]</p> <p>Verify that no Class I or Class II ODS, HFC, or PFC refrigerant is released intentionally in the course of maintaining, servicing, repairing, or disposing of appliances, industrial process refrigeration units, air conditioning units, or motor vehicle air conditioners.</p> <p>(NOTE: <i>De minimis</i> releases associated with good faith attempts to recycle or recover ODS, HFC, or PFC refrigerants are not subject to this prohibition.)</p> <p>(NOTE: These criteria apply to direct atmospheric emissions of ODCs/ODSs, HFCs, and PFCs from refrigeration equipment and ODS from fire suppression equipment.)</p> <p>[Moved from O4.10.2.WW.]</p> <p>Verify that no halons are intentionally released into the environment while testing, maintaining, servicing, repairing, or disposing of halon-containing equipment or using such equipment for technician training.</p> <p>(NOTE: This venting prohibition does not apply to the following halon releases:</p> <ul style="list-style-type: none"> - <i>de minimis</i> releases associated with good faith attempts to recycle or recover halons (i.e., release of residual halon contained in fully discharged total flooding fire extinguishing systems) - emergency releases for the legitimate purpose of fire extinguishing, explosion inertion, or other emergency applications for which the equipment or systems were designed - releases during the testing of fire extinguishing systems, if all of the following conditions are met: <ul style="list-style-type: none"> - systems or equipment employing suitable alternative fire extinguishing

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OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>O4.20.4.WW. Leaking refrigeration equipment must be monitored for ODS leakage and repaired in accordance with the specific requirements (OEBGD 2.3.6.3) [Added June 2010].</p>	<p>agents are not available</p> <ul style="list-style-type: none"> - release of extinguishing agent is essential to demonstrate equipment functionality - failure of system or equipment would pose great risk to human safety or the environment - a simulant agent cannot be used.) <p>(NOTE: These criteria apply to direct atmospheric emissions of ODCs/ODSs, HFCs, and PFCs from refrigeration equipment and ODS from fire suppression equipment.)</p> <p>[Moved from O4.10.3.WW.]</p> <p>Verify that leaks in the following refrigeration equipment normally containing more than 50 lb of refrigerant are monitored:</p> <ul style="list-style-type: none"> - commercial refrigeration equipment - industrial process refrigeration equipment - comfort cooling appliances. <p>Verify that leaks in commercial refrigeration equipment that normally contains more than 50 lb of refrigerant are repaired if the appliance is leaking at a rate such that the loss of refrigerant will exceed 35 percent of the total charge during a 12-mo period.</p> <p>Verify that leaks in industrial process refrigeration equipment that normally contains more than 50 lb of refrigerant are repaired if the appliance is leaking at a rate such that the loss of refrigerant will exceed 35 percent of the total charge during a 12-mo period.</p> <p>Verify that leaks in comfort cooling appliances that normally contain more than 50 lb of refrigerant and are not covered by the above are repaired if the appliance is leaking at a rate such that the loss of refrigerant will exceed 15 percent of the total charge during a 12-mo period.</p>

**COMPLIANCE CATEGORY:
OTHER ENVIRONMENTAL ISSUES
OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>O4.40 POLLUTION PREVENTION: Solid Waste</p> <p>O4.40.1.WW. Recycling programs must be instituted on DOD installations (OEBGD 7.3.9) [Revised September 2000; Moved September 2003].</p>	<p>Verify that the installation has instituted a recycling program in accordance with the policies of DOD Instruction 4715.4, "Pollution Prevention."</p> <p>(NOTE: Compliance with the specific requirements of DODI 4715.4 is assessed using the service-specific supplement to OCAP-OEBGD; the present checklist item is used only if no recycling program exists on the installation.)</p> <p>[Moved from O4.20.1.WW]</p>

SECTION 7
PESTICIDE MANAGEMENT

OEBGD Protocols

June 2010

A. Applicability of this Section

This section contains criteria regulating the use, storage and handling of pesticides, herbicides, and defoliants, but it does not address the use of those materials by individuals acting in an unofficial capacity in a residence or garden. The disposal of pesticides is covered in Section 4, *Hazardous Waste Management*, and Section 9, *Solid Waste Management*.

B. Source Documents

- *Overseas Environmental Baseline Guidance Document (OEBGD)*, 1 May 2007, Chapter 11.
- Military Handbook 1028/8A, *Design of Pest Management Facilities*, 1 November 1991, includes basic criteria for planning and designing military pest control facilities.

C. Key Compliance Requirements

- Each installation must implement and maintain a current, written pest management plan that has been reviewed and approved in writing by the appropriate pest management consultant.
- Installations must use only registered pesticides that have been approved in writing by the appropriate pest management consultant.
- All pesticides must be applied in accordance with the guidance given on the pesticide label
- All pesticide applications must be made by certified pesticide applicators.
- All pesticide applicators must participate in a medical surveillance program.
- All pesticide applicators must be provided with personal protective equipment (PPE).
- Material safety data sheets (MSDSs) and labels must be available at the storage and holding facility.
- All pesticide applications must be recorded using DD Form 1532-1, "Pest Management Maintenance Report," or a computer-generated equivalent.
- Pesticides must be addressed in the installation spill plan.
- Pesticide storage areas must be regularly inspected and secured to prevent unauthorized access.
- Pesticide storage areas must have a readily visible, current inventory of all items in storage.

D. Definitions

- *Certified Pesticide Applicators* - personnel who apply pesticides or supervise the use of pesticides, and who have been formally certified in accordance with the DOD manual, *DOD Pest Management Training and Certification* (DOD 4150.7-M) (OEBGD 11.2).

(NOTE: DOD 4150.7-M accepts host-nation certification in appropriate circumstances.)

- *Hazardous Waste Profile Sheet (HWPS)* - a document that identifies and characterizes the waste by providing user's knowledge of the waste and/or lab analysis, and details the physical, chemical, and other descriptive properties or processes that created the hazardous waste (OEBGD 6.2).
- *Integrated Pest Management* - a planned program, incorporating continuous monitoring, education, record-keeping, and communication to prevent pests and disease vectors from causing unacceptable damage to operations, people, property, materiel, or the environment. IPM uses targeted, sustainable (effective, economical, environmentally sound) methods including education, habitat modification, biological control, genetic control, cultural control, mechanical control, physical control, regulatory control, and where necessary, the judicious use of least-hazardous pesticides (OEBGD 11.2).
- *Pest Management Consultant* - professional DOD pest management personnel located at component headquarters, field operating agencies, major commands, facilities engineering field divisions or activities, or area support activities who provide technical and management guidance for the conduct of installation pest management operations. Some pest management consultants may be designated by their component as certifying officials (OEBGD 11.2).
- *Pesticide* - any substance or mixture of substances, including biological control agents, that may prevent, destroy, repel, or mitigate pests (OEBGD 11.2).
- *Pesticide Waste* - materials subject to pesticide disposal restrictions, including (OEBGD 11.2):
 1. any pesticide that has been identified by the pest management consultant as cancelled under U.S. or host-nation authority
 2. any pesticide that does not meet specifications, is contaminated, has been improperly mixed, or is otherwise unusable, whether concentrated or diluted
 3. any material used to clean up a pesticide spill, or
 4. any containers, equipment, or material contaminated with pesticides.

(NOTE: Empty pesticide containers that have been triple rinsed are not considered hazardous waste, and can be disposed of as normal solid waste.)

- *Pests* - arthropods, birds, rodents, nematodes, fungi, bacteria, viruses, algae, snails, marine borers, snakes, weeds, undesirable vegetation, and other organisms (except for microorganisms that cause human or animal disease) that adversely affect the well-being of humans or animals, attack real property, supplies, equipment or vegetation, or are otherwise undesirable (OEBGD 11.2).
- *Registered Pesticide* - a pesticide that has been registered and approved for sale or use within the United States or the host nation (OEBGD 11.2).

E. Records To Review

- Records of pesticides purchased by the facility (purchase orders, inventory)
- Pesticide application records
- Description of the facility's pest control program
- Certificates of applicators of restricted-use pesticides
- Facility applicator certification and training program
- Pesticide disposal manifests
- Installation Spill Plan
- Inventory of stored pesticides
- Pest Management Plan

F. Physical Features To Inspect

- Pesticide application equipment
- Pesticide storage areas, including storage containers
- Golf course maintenance areas

G. Guidance for Checklist Users

	REFER TO CHECKLIST ITEMS:
Missing Checklist Items/Positive Findings	PM.2.1.WW and PM.2.2.WW
General	PM.10.1.WW through PM.10.3.WW
Pesticide Application	PM.20.1.WW through PM.20.7.WW
Documentation and Notification	PM.30.1.WW through PM.30.3.WW
Pest Management Facilities	PM.40.1.WW through PM.40.19.WW
Storage, Mixing, and Preparation of Pesticides	PM.50.1.WW through PM.50.11.WW
Disposal	PM.60.1.WW through PM.60.4.WW

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT OEBGD Protocols	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>PM.2 MISSING CHECKLIST ITEMS/POSITIVE FINDINGS</p> <p>PM.2.1.WW. Installations must comply with all applicable regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding) [Added September 2000].</p> <p>PM.2.2.WW. Installations should go above and beyond environmental statutory and regulatory compliance (MP) [Added September 2000].</p>	<p>Determine whether any new regulations concerning pesticide management have been issued since the finalization of the manual.</p> <p>Determine whether the installation has activities or facilities that are regulated but not addressed in this checklist.</p> <p>Verify that the installation is in compliance with all applicable and newly issued regulations.</p> <p>Determine whether the installation has gone above and beyond simply complying with environmental requirements.</p> <p>(NOTE: This checklist item is used only to write positive findings.)</p>

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT OEBGD Protocols	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>PM.10 GENERAL</p> <p>PM.10.1.WW. Each installation must implement and maintain a current, written pest management plan (OEBGD 11.3.2) [Citation Revised June 2010].</p> <p>PM.10.2.WW. Installation pest management plans must meet specific content requirements (OEBGD 11.3.2) [Citation Revised June 2010].</p> <p>PM.10.3.WW. The installation's pest management plan must be reviewed and approved in writing by the appropriate pest management consultant (OEBGD 11.3.2) [Added September 2000; Citation Revised June 2010].</p>	<p>Verify that the installation implements and maintains a current, written pest management plan.</p> <p>Verify that the plan includes:</p> <ul style="list-style-type: none"> - measures for all installation activities and satellite sites that perform pest control - integrated pest management procedures for preventing pest problems in order to minimize the use of pesticides. <p>Verify that the installation's pest management plan has been reviewed and approved in writing by the appropriate pest management consultant.</p>

**COMPLIANCE CATEGORY:
PESTICIDE MANAGEMENT
OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>PM.20 PESTICIDE APPLICATION</p> <p>PM.20.1.WW. Installations must use only registered pesticides approved in writing by the appropriate pest management consultant (OEBGD 11.3.6) [Revised September 2000; Citation Revised June 2010].</p> <p>PM.20.2.WW. [Deleted September 2000].</p> <p>PM.20.3.WW. All pesticide applications must be made by certified pesticide applicators (OEBGD 11.3.3) [Revised September 2000; Citation Revised June 2010].</p> <p>PM.20.4.WW. [Deleted September 2000].</p> <p>PM.20.5.WW. All pesticide applicators must be included in a medical surveillance program to monitor the health and safety of persons occupationally exposed to pesticides (OEBGD 11.3.4) [Revised September 2000; Citation Revised June 2010].</p> <p>PM.20.6.WW. All pesticide applicators must be provided with PPE (OEBGD 11.3.5) [Revised September 2000; Citation Revised June 2010].</p> <p>PM.20.7.WW. All pesticides must be applied in accordance with the guidance given on</p>	<p>Verify that the installation uses only registered pesticides that have been approved in writing by the appropriate pest management consultant.</p> <p>(NOTE: This may be documented as part of the approval of the pest management plan.)</p> <p>The requirement to use the least toxic but effective product has been deleted in the March 2000 version of the OEBGD.</p> <p>Verify that all pesticide applications are made by certified pesticide applicators.</p> <p>(NOTE: New DOD employees who are not certified may apply pesticides during an apprenticeship period not to exceed 2 yr and only under the supervision of a certified pesticide applicator.)</p> <p>(NOTE: Certification is not required for the application of arthropod skin and clothing repellents and pesticides that are applied as part of an installation's self-help program.)</p> <p>Requirements on the application of restricted-use pesticides were deleted in the March 2000 version of the OEBGD.</p> <p>Verify that all pesticide applicators are included in a medical surveillance program to monitor the health and safety of persons occupationally exposed to pesticides.</p> <p>Verify that all pesticide applicators are provided with PPE that is appropriate for the work they perform and the types of pesticides to which they may be exposed.</p> <p>Verify that all pesticides are applied in accordance with the guidance given on the pesticide label</p>

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT OEBGD Protocols	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
the pesticide label (OEBGD 11.3.9) [Added June 2010].	

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT OEBGD Protocols	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>PM.30 DOCUMENTATION AND NOTIFICATION</p> <p>PM.30.1.WW. Material safety data sheets (MSDSs) and labels for all pesticides must be available at the storage and holding facility (OEBGD 11.3.10) [Revised September 2000; Citation Revised June 2010].</p> <p>PM.30.2.WW. All pesticide applications must be recorded using DD Form 1532-1, "Pest Management Maintenance Report," or a computer-generated equivalent (OEBGD 11.3.1) [Added September 2000; Citation Revised June 2010].</p> <p>PM.30.3.WW. Pesticides must be included in the installation spill plan (OEBGD 11.3.7) [Moved March 2004; Citation Revised June 2010].</p>	<p>Verify that MSDSs and labels for all pesticides are available at the storage and holding facility.</p> <p>Verify that all pesticide applications are recorded using DD Form 1532-1, "Pest Management Maintenance Report," or a computer-generated equivalent. (NOTE: This requirement does not apply to the application of arthropod skin and clothing repellents.) (NOTE: The Pest Management Maintenance Report has been assigned Report Control Symbol DD-A&T (A&AR) 1080 in accordance with DoD 8910-M.)</p> <p>Verify that these records are archived for permanent retention in accordance with specific service procedures.</p> <p>Verify that the installation spill plan includes pesticides. [Formerly checklist item number PM.50.1.WW.]</p>

**COMPLIANCE CATEGORY:
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OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>PM.40 PEST MANAGEMENT FACILITIES</p> <p>PM.40.1.WW. [Moved March 2004].</p> <p>PM.40.2.WW. Installations must include certain features in pest management facilities (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, paras 3.1.3, 3.1.4.3, and 3.4.8) [Citation Revised June 2010].</p> <p>PM.40.3.WW. Pest management facilities must have security fencing and gates (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, para 3.4.6) [Citation Revised June 2010].</p> <p>PM.40.4.WW. Holding tanks are prohibited in new construction of pest management facilities (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, para 3.5.2.3) [Citation Revised June 2010].</p> <p>PM.40.5.WW. Pest management facilities must be located in accordance with specific criteria (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, para 3.4.1 and 3.4.2) [Citation Revised June 2010].</p>	<p>(NOTE: "Facility" refers to the actual building or structure in which pesticides are stored and mixed; it does not include fencing that surrounds the building or structure.)</p> <p>Moved to PM.50.10.WW as part of the implementation of common OCONUS topic headings.</p> <p>Verify that pest management facilities include at least the following:</p> <ul style="list-style-type: none"> - clean areas (office, vestibule, and airlock [where appropriate, given weather conditions], and mechanical and electrical spaces) - pesticide handling areas (storage and mixing rooms) - transitional areas (dressing area, shower and locker rooms, toilet, laundry, and cleaning gear room) - an outdoor hardstand and parking apron for vehicles and equipment. <p>Verify that a climb-resistant chain-link fence prevents unauthorized entry.</p> <p>(NOTE: The fence may be omitted if other security measures, such as bars or heavy-gauge wire mesh over the windows, are taken.)</p> <p>Verify that the fence is at least 7 ft (2.13 m) high, without a top rail.</p> <p>Verify that the fence fabric is twisted and barbed at the top and bottom.</p> <p>Verify that security gates to the fence are kept locked.</p> <p>Verify that the facility has no drainage to holding tanks.</p> <p>Verify that pest management facilities are located away from congested areas.</p> <p>Verify that new construction results in isolated, single-purpose structures.</p> <p>Verify that pest management facilities are located a minimum of 200 ft (61 m) from surface water, existing wells and cisterns, and 100-yr flood plains.</p> <p>Verify that the facility is located downhill from the above sensitive areas.</p> <p>(NOTE: Diking must be provided if space is limited.)</p>

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT OEBGD Protocols	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>PM.40.6.WW. Pest management facilities must meet specific standards with regard to accessibility, grading, and parking (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, para 3.4.3 through 3.4.5) [Citation Revised June 2010].</p> <p>PM.40.7.WW. The arrangement of spaces in pest management facilities must meet specific requirements (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, para 3.1.3 and 3.1.4.3) [Citation Revised June 2010].</p>	<p>Verify that the facility is not located uphill from potable water sources or continuously occupied structures.</p> <p>(NOTE: Facilities should not be located over aquifers [subsurface potable water supplies], unless the aquifer is adequately protected through containment measures.)</p> <p>Verify that the facility is located at least 100 ft (30.4 m) from other structures.</p> <p>Verify that vehicles carrying supplies or pulling trailer-mounted dispersal equipment have access to the facility.</p> <p>Verify that the facility is accessible to vehicles and pedestrians on at least two sides.</p> <p>(NOTE: “Accessible on at least two sides” means that pedestrians must be able to enter or exit the pesticide management facility from two different sides, and emergency response vehicles must be able to drive up to at least two sides of the facility.)</p> <p>Verify that runoff from firefighting is prevented from reaching ponds, lakes, streams, or rivers.</p> <p>(NOTE: Diking, if provided, is recommended for large pest management facilities only.)</p> <p>Verify that there is adequate space to park all pesticide dispersal equipment inside the pest management area, under cover.</p> <p>Verify that the part of the compound used for travel and vehicle parking is covered with gravel or paved.</p> <p>Verify that employee parking, if provided, is located outside the security fence or perimeter.</p> <p>Verify that arrangement of spaces allows workers to arrive in a clean area, dress for hazardous exposure in the change area, leave through a pesticide area doorway, and retrace that path at the end of the workday.</p> <p>Verify that there is no direct access between the office and the pesticide storage and mixing areas.</p> <p>Verify that doorways are arranged so that no pesticide need be carried through clean areas.</p> <p>Verify that the mixing room is located adjacent to the storage area and the equipment storage area (if indoors).</p>

**COMPLIANCE CATEGORY:
PESTICIDE MANAGEMENT
OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
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<p>PM.40.8.WW. Installations must meet specific requirements with regard to the foundations, floor slabs, and floor finishes in pest management facilities (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, para 3.1.5.1) [Citation Revised June 2010].</p> <p>PM.40.9.WW. Installations must meet specific requirements with regard to the exterior walls of pesticide management facilities (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, para 3.1.5.2) [Citation Revised June 2010].</p> <p>PM.40.10.WW. Installations must meet specific requirements with regard to the doors and windows in pesticide management facilities (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, para 3.1.5.3) [Citation Re-</p>	<p>Verify that the mixing room is accessible through the corridor to the shower and locker rooms and the exterior.</p> <p>Verify that there are no floor drains in the interior pesticide areas.</p> <p>Verify that, in areas where pesticides are handled or stored, floors slope (3/100) from sills to the center.</p> <p>Verify that, if the floor does not slope, a 4-in. (102-mm) concrete curb is provided in the pesticide areas.</p> <p>Verify that exterior slabs slope to a sump with a closeable drain located not more than 6 ft (1.829 m) from the outer margin of the washstand.</p> <p>Verify that exterior ramps slope downward from exterior flat (flushed) door sills.</p> <p>(NOTE: The intent of these provisions is to provide containment for at least 110 percent of the capacity of the largest bulk liquid pesticide container anticipated for the facility.)</p> <p>Verify that no utility, heating, or ventilation ducting is located in or below slabs.</p> <p>Verify that pesticide concentrates and finished (formulated) materials are prevented from entering the sanitary or storm sewer systems.</p> <p>Verify that concrete floors are finished with a nonabsorbent nonskid finish.</p> <p>(NOTE: Change rooms and office floors may be tiled.)</p> <p>Verify that the floors in both the storage and mixing areas are covered with nonskid epoxy sealant or are otherwise made impermeable.</p> <p>Verify that exterior walls are constructed of metal, concrete, or masonry.</p> <p>Verify that the interior surfaces of exterior walls are constructed of metal, coated concrete, or masonry.</p> <p>Verify that no porous surface finishes are used.</p> <p>Verify that exterior doors are self-locking and self-closing with weather stripping.</p> <p>Verify that doors have locks that prevent unauthorized entry.</p> <p>Verify that flat (flush) sills are provided for all doors between the mixing and storage areas.</p> <p>Verify that the facility has a 9 x 9 ft (2.74 x 2.74 m) overhead garage door with</p>
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<p>vised June 2010].</p> <p>PM.40.11.WW. [Moved March 2004].</p> <p>PM.40.12.WW. Drains from pesticide mixing areas must not be connected to septic systems, sanitary sewers, or stormwater systems (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, para 3.5.2.5) [Citation Revised June 2010].</p> <p>PM.40.13.WW. Pesticide management areas must have backflow prevention devices (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, para 3.5.2.10 and 3.5.2.11) [Citation Revised June 2010].</p> <p>PM.40.14.WW. Pesticide mixing and storage areas must have a ventilation system separate from that in the rest of the facility (OEBGD 11.3.8,</p>	<p>weather stripping.</p> <p>(NOTE: Higher doors may be necessary to accommodate high-mast equipment.)</p> <p>Verify that, if the garage is separate from the pesticide mixing and storage areas, a flat (flush) sill is provided for the garage doorway.</p> <p>Verify that, if the garage is not separate from the pesticide mixing and storage areas, a ramp to a 4 in. (104 mm) high sill is provided.</p> <p>Verify that there is a slope away from the exterior of the door to prevent rainwater from entering the facility.</p> <p>Verify that the pest management facility has nonporous framed windows that are double glazed, where appropriate, with a thermal barrier feature.</p> <p>Verify that, if the facility is not surrounded by a climb-resistant chain link fence and security gates, it has interior security mesh windows.</p> <p>(NOTE: It is permissible to have no windows as an alternative.)</p> <p>Verify that drop ceilings are not used in pesticide areas.</p> <p>Moved to PM.50.11.WW as part of the implementation of common OCONUS topic headings.</p> <p>Verify that no pesticide mixing area is connected to septic systems, sanitary sewers, or stormwater systems.</p> <p>Verify that reduced pressure backflow prevention devices are installed on plumbing that provides a source of water for filling pesticide dispersal equipment tanks.</p> <p>Verify that permanent hose bibs (overhead filling pipes) have a discharge hose and an approved backflow prevention device.</p> <p>(NOTE: The hose bib requirement applies to outdoor washdown areas of medium and large facilities.)</p> <p>Verify that pesticide mixing and storage areas have a ventilation system separate from that in the rest of the facility.</p> <p>Verify that the system is provided with a roof-mounted, centrifugal fan system</p>

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<p>implementing MIL-HDBK 1028/8A, para 3.5.4.2) [Citation Revised June 2010].</p> <p>PM.40.15.WW. Pesticide mixing sinks must have slotted hood, local exhaust systems (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, para 3.5.4.2) [Citation Revised June 2010].</p> <p>PM.40.16.WW. Pesticide management facility outdoor hardstands and parking aprons for vehicles must meet specific standards (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A) [Citation Revised June 2010].</p>	<p>selected for a minimum of six air changes per hour.</p> <p>Verify that fans discharge vertically.</p> <p>Verify that replacement air is heated to 55 °F (13 °C).</p> <p>Verify that the ventilation system has a control switch with a light to indicate ON at the entrance to the pesticide handling areas.</p> <p>Verify that the control switch has a sign that reads as follows:</p> <p style="text-align: center;">VENTILATION SYSTEM SHOULD OPERATE CONTINUOUSLY DO NOT ENTER UNLESS VENTILATION SYSTEM HAS OPERATED FOR AT LEAST 10 MINUTES.</p> <p>Verify that the pesticide mixing sink has a slotted hood, local exhaust system.</p> <p>Verify that the pesticide management facility outdoor hardstand and parking apron consists of a concrete pad sufficiently large to park a truck and trailer (at least 15 x 25 ft).</p> <p>Verify that the hardstand pad slopes (3/100) to a sump fitted with a removable grate cover suitable for the anticipated vehicular traffic load.</p> <p>Verify that the sump is sufficiently large to contain a minimum of 110 percent of the capacity of the largest bulk liquid pesticide container anticipated to be used at the facility.</p> <p>Verify that there is a curb at least 4-in. (102-mm) high at the low edge of the pad to direct liquid into the sump.</p> <p>Verify that, if an industrial sewer is available, a 3-in. (75-mm) sump drain is provided.</p> <p>Verify that, if a connection to an industrial sewer exists, the sump has a ball valve in the sump drain to control discharge.</p> <p>Verify that the valve is located adjacent to the sump in a pit with a grate cover.</p> <p>Verify that the ball valve is normally closed and manually opened.</p> <p>Verify that, if no industrial sewer is available, a small section of removable grate</p>

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<p>PM.40.17.WW. Pesticide management facilities must meet specific requirements with regard to signs (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, para 3.8) [Citation Revised June 2010].</p>	<p>is provided to accommodate a hose for recovering sump contents.</p> <p>Verify that the hardstand area has an elevated hose bib (fill pipe) of 1.5 to 2 in. (38 to 51 mm) diameter.</p> <p>(NOTE: This requirement applies if application equipment with tanks 50 gal (189.9 L) or larger will be used at the facility.)</p> <p>Verify that the hardstand area has an emergency eyewash and a deluge shower with manually operated, delayed-closing valves located adjacent to the mixing site.</p> <p>(NOTE: This requirement does not apply if devices inside the facility are accessible within 10 s from the outdoor mixing site.)</p> <p>(NOTE: The hardstand area may be provided with a canopy roof to protect parked vehicles and equipment and to minimize the accumulation of water.)</p> <p>Verify that identification signs are provided in appropriate rooms and buildings and on fences.</p> <p>(NOTE: Signs such as DANGER, POISON, PESTICIDE STORAGE AREA are suggested.)</p> <p>Verify that a NO SMOKING sign is located in pesticide areas.</p> <p>Verify that warning signs are provided on the exterior of the building at each entrance.</p> <p>Verify that building identification information is visible from 100 ft (30.48 m).</p> <p>Verify that a sign is installed over the sink that reads as follows:</p> <p style="text-align: center;">DO NOT DISCHARGE PESTICIDES INTO THE SINK.</p> <p>Verify that a sign is posted at the entrance(s) to toilets that reads:</p> <p style="text-align: center;">WASH HANDS BEFORE USING TOILET.</p> <p>Verify that the hardstand has a sign that reads as follows:</p> <p style="text-align: center;">CLOSE DRAIN WHILE HANDLING PESTICIDES ON HARDSTAND.</p> <p>Verify that a sign is provided near the hardstand's pit valve stating:</p> <p style="text-align: center;">RECOVER PESTICIDE SPILLS USE VALVE TO DRAIN WASHWATER AND RAIN.</p>

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<p>PM.40.18.WW. Outdoor storage areas for pesticides must meet specific requirements (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, para 3.1.4.1.4) [Moved March 2004; Citation Revised June 2010].</p> <p>PM.40.19.WW. Pesticide mixing rooms must meet specific requirements (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, para 3.1.4.1.2) [Moved March 2004; Citation Revised March 2004; Citation Revised June 2010].</p>	<p>Verify that, if a flammable liquid storage cabinet is present, a sign is provided that reads as follows:</p> <p align="center">FLAMMABLE PESTICIDES.</p> <p>Verify that a list of the types of materials stored is posted on the outside of the storage area.</p> <p>(NOTE: Copies of this list should be given to the installation on-scene hazardous waste coordinator and to the fire department.)</p> <p>Verify that the list includes chemical names and formulations rather than brand names.</p> <p>Verify that a sign is posted at the mixing area that requires the use of protective gloves, aprons and boots, protective eyewear or face shields, coveralls, and an approved pesticide respirator.</p> <p>Verify that outdoor storage areas for pesticides are:</p> <ul style="list-style-type: none"> - secured and under cover - protected from radiant heating, freezing temperatures, and moisture. <p>[Formerly checklist item number PM.50.7.WW.]</p> <p>Verify that pesticide mixing rooms have electricity and hot and cold water.</p> <p>Verify that mixing rooms have metal or plastic shelves to hold pesticides off the floor.</p> <p>(NOTE: Plastic is preferred for the pallets, and steel stands are recommended for keeping drums off the floor.)</p> <p>Verify that no wooden pallets are in use.</p> <p>Verify that the work area contains a pesticide-resistant sink equipped with the following:</p> <ul style="list-style-type: none"> - a closeable drain - a contiguous self-draining, drip-proof countertop at least 5-ft (1.524-m) long - sideboards - splash panel on back - an adjacent shelf for holding measuring devices and concentrates. <p>[Author's Note: This paragraph of the MIL-HDBK appears to be numbered incorrectly. It should be numbered 3.1.4.2.]</p>

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT OEBGD Protocols	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
	[Formerly checklist item number PM.50.9.WW.]

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT OEBGD Protocols	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>PM.50 STORAGE, MIXING, AND PREPARATION OF PESTICIDES</p> <p>PM.50.1.WW. [Moved March 2004].</p> <p>PM.50.2.WW. Labels on pesticides must bear the appropriate use instructions and precautionary messages (OEBGD 11.3.9) [Citation Revised June 2010].</p> <p>PM.50.3.WW. Pesticide storage areas must be regularly inspected and secured to prevent unauthorized access (OEBGD 11.3.11 and OEBGD 11.3.8 implementing MIL-HDBK 1028/8A, para 3.1.4.1.1) [Citation Revised June 2010].</p> <p>PM.50.4.WW. Pesticide storage areas must have a readily visible, current inventory of all items in storage (OEBGD 11.3.11) [Citation Revised June 2010].</p> <p>PM.50.5.WW. Operations in indoor storage areas for pesticides must meet specific requirements (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, para 3.1.4.1.2) [Citation Revised June 2010].</p>	<p>Moved to PM.30.3.WW as part of the implementation of common OCONUS topic headings.</p> <p>Verify that labels bear the appropriate use instructions and precautionary message based on the toxicity category of the pesticide.</p> <p>(NOTE: Examples of precautionary messages include DANGER, WARNING, or CAUTION.)</p> <p>Verify that, if foreign nationals will be using the pesticides, the precautionary messages are in English and the prevalent local languages.</p> <p>Verify that storage areas are inspected regularly and secured to prevent unauthorized access.</p> <p>Verify that the pesticide storage area contains a readily visible, current inventory of all items in storage.</p> <p>Verify that the inventory includes all items in storage and items awaiting disposal.</p> <p>Verify that pesticides are stored in an area sealed or separated from clean areas, with direct access to the exterior.</p> <p>Verify that pesticides are stored in such a way that:</p> <ul style="list-style-type: none"> - they are off the floor, with all labels visible - they are stored no more than 8-ft (2.44-m) high. <p>Verify that lanes are present to provide effective access and inspection.</p> <p>Verify that pesticides are stored in a dry building in which a temperature is maintained that is above 50 °F (12 °C) and below 100° F (38° C).</p>

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<p>PM.50.6.WW. Certain storage precautions must be taken for liquid fumigants and toxic or flammable pesticides (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, para 3.1.4.1.4) [Citation Revised June 2010].</p> <p>PM.50.7.WW. [Moved March 2004].</p> <p>PM.50.8.WW. Motor vehicles may not be stored in the same areas as pesticides (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, para 3.1.4.1.3) [Citation Revised June 2010].</p> <p>PM.50.9.WW. [Moved March 2004].</p> <p>PM.50.10.WW. Pesticide management facilities and service vehicles must be provided with spill kits (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, para 3.5.2.2) [Moved March 2004; Citation Revised June 2010].</p> <p>PM.50.11.WW. A fire extinguisher must be provided by the door between the storage</p>	<p>Verify that pesticides are stored separated from the following areas:</p> <ul style="list-style-type: none"> - mixing areas - shower and locker room - offices - any area where personnel work for prolonged periods. <p>Verify that no pesticide concentrates are stored in a room containing a floor drain of any type.</p> <p>Verify that storage and mixing areas have containment provided either by curbing or sloped floors.</p> <p>Verify that all liquid fumigants are stored outside of occupied buildings in hazardous chemical lockers.</p> <p>Verify that toxic or flammable pesticides are stored on the ground floor of unoccupied buildings.</p> <p>Moved to PM.40.18.WW as part of the implementation of common OCONUS topic headings.</p> <p>Verify that no motor vehicles are stored in the same area as pesticides.</p> <p>(NOTE: Wherever possible, vehicles are to be located outside or in a separate building from the pesticide storage or handling area.)</p> <p>Verify that, when motor vehicles are located under the same roof as the pesticide area, they are separated from the pesticide area by a minimum of 2-h fire rated construction.</p> <p>Moved to PM.40.19.WW as part of the implementation of common OCONUS topic headings</p> <p>Verify that pesticide management facilities and service vehicles are provided with spill kits.</p> <p>[Formerly checklist item number PM.40.1.WW.]</p> <p>Verify that a fire extinguisher is located by the door between the storage and mixing areas.</p>

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and mixing areas (OEBGD 11.3.8, implementing MIL-HDBK 1028/8A, para 3.7.1) [Moved March 2004; Citation Revised June 2010].	[Formerly checklist item number PM.40.11.WW.]

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>PM.60 DISPOSAL</p> <p>PM.60.1.WW. If waste pesticides are generated, the installation must dispose of them in accordance with specific standards (OEBGD 11.3.12.1 through 11.3.12.3) [Revised September 2000; Citation Revised June 2010].</p> <p>PM.60.2.WW. No concentrated pesticides may be discarded to the sanitary sewer or storm drain (OEBGD 11.3.8 implementing MIL-HDBK 1028/8A, para 3.5.2.1) [Citation Revised June 2010].</p> <p>PM.60.3.WW. Unless otherwise restricted or canceled, pesticides in excess of installation needs will be redistributed within the supply system or disposed of in accordance with procedures in OEBGD 11.3.13 (OEBGD 11.3.12) [Added September 2000; Citation Revised June 2010].</p> <p>PM.60.4.WW. Pesticide containers must be crushed, or the top and bottom portions must be removed, to prevent reuse (OEBGD 11.3.12.3) [Added September 2000; Citation Revised June 2010].</p>	<p>Verify that the generator determines whether the pesticide wastes are hazardous wastes.</p> <p>Verify that, if the pesticide waste is not a hazardous waste, it is disposed of in accordance with the label instructions, through the Defense Reutilization and Marketing Office (DRMO), or as a solid waste.</p> <p>Verify that, if the pesticide is a hazardous waste, it is disposed of in accordance with the provisions of Section 4, <i>Hazardous Waste Management</i>.</p> <p>Verify that no concentrated pesticides are discarded to the sanitary sewer or storm drain.</p> <p>Verify that, unless otherwise restricted or canceled, pesticides in excess of installation needs are redistributed within the supply system or disposed of in accordance with the procedures outlined in OEBGD 11.3.13.</p> <p>(NOTE: See checklist item PM.60.1.WW.)</p> <p>Verify that pesticide containers are crushed, or the top and bottom portions are removed, to prevent reuse.</p>

SECTION 8

PETROLEUM, OILS, AND LUBRICANTS (POL) MANAGEMENT

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A. Applicability of this Section

This section contains criteria to control and abate pollution resulting from the storage, transport, and distribution of petroleum products. It also contains criteria to plan for, prevent, control, and report spills of POL and hazardous substances. Remediation beyond that required for the initial response is not addressed here. Such remediation is conducted pursuant to DODI 4715.8, *Environmental Remediation for DoD Activities Overseas*. Criteria for underground storage tanks (USTs) are found in Section 10, *Storage Tank Management*.

B. Source Documents

- *Overseas Environmental Baseline Guidance Document (OEBGD)*, 1 May 2007, Chapters 6, 9, and 18.

C. Key Compliance Requirements

- The installation must prepare, maintain, and implement a spill prevention and response plan that provides for the prevention, control, and reporting of all spills of POL and hazardous substances.
- Installations must provide necessary training and spill response drills to ensure the effectiveness of personnel and equipment.
- All personnel handling POL must be trained annually in accordance with specific requirements.
- POL storage containers must be provided with secondary containment that meets specific requirements.
- POL storage containers must be designed or modernized in accordance with good engineering practice.
- All POL storage containers must be inspected and tested in accordance with recognized industry standards.
- All pipeline facilities carrying POL must be tested and maintained in accordance with recognized industry standards.
- Installations must take specific actions and make specific notifications in the event of a spill of POL or hazardous substance.
- After completion of the initial response to a spill, any remaining free product and/or obviously contaminated soil must be appropriately removed and managed.
- Installations that burn used oil may do so in certain devices only.

D. Definitions

- *Aboveground Storage Container* - POL storage containers, exempt from UST criteria, that are normally placed on or above the surface of the ground. POL storage containers located above the floor and contained in vaults or basements, bunkered containers, and also partially buried containers are considered aboveground storage contain-

ers. For the purposes of OEBGD Chapter 9, this includes any mobile or fixed structure, tank, equipment, pipe, or pipeline (other than a vessel or a public vessel) used in oil well drilling operations, oil production, oil refining, oil storage, oil gathering, oil processing, oil transfer, and oil distribution. This also includes equipment in which oil is used as an operating fluid, but excludes equipment in which oil is used solely for motive power (OEBGD C9.2).

- *Belowground Storage Container* - completely buried POL storage containers, including deferred USTs, that are exempt from all criteria in OEBGD Chapter 19, “Underground Storage Tanks.” For purposes of this definition, ONLY belowground storage containers that are exempt from requirements of Chapter 19 are counted toward the aggregate thresholds in item number 2 of the definition of “POL Facility” below (OEBGD C9.2).
- *Facility Incident Commander (FIC)* - the official who coordinates and directs DOD control and cleanup efforts at the scene of a POL or hazardous substance spill due to DOD activities on or near the installation. This official is designated by the Installation Commander (IC) (OEBGD 18.2).
- *Facility Response Team (FRT)* - a team performing emergency functions as defined and directed by the FIC (OEBGD 18.2).
- *Hazardous Substance* - any substance having the potential to do serious harm to human health or the environment if spilled or released in a reportable quantity (RQ). A list of these substances and the corresponding RQ is contained in OEBGD Appendix 1. The term does not include (OEBGD 18.2):
 1. petroleum, including crude POL or any fraction thereof, that is not otherwise specifically listed or designated as a hazardous substance
 2. natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).
- *Loading/Unloading Area* - any location where POL is authorized to be loaded or unloaded to or from a POL storage container (OEBGD C9.2).
- *Loading/Unloading Rack* - a location where tanker trucks/rail cars are loaded and unloaded by pipes, pumps, and loading arms (OEBGD C9.2).
- *Oil* - of any kind or in any form, including, but not limited to, petroleum, fuel POL, lube oils, animal fats, vegetable oil, sludge, POL refuse, and POL mixed with wastes other than dredged spoil (OEBGD 18.2).
- *Petroleum, Oil, and Lubricants (POL)* - refined petroleum, oils, and lubricants, including, but not limited to, petroleum, fuel, lubricant oils, synthetic oils, mineral oils, animal fats, vegetable oil, sludge, and POL mixed with wastes other than dredged spoil (OEBGD C9.2).
- *Pipeline Facility* - includes new and existing pipes, pipeline rights of way, auxiliary equipment (e.g., valves and manifolds), and buildings or other facilities used in the transportation of POL (OEBGD 9.2).
- *POL Facility* - an installation with either:
 1. An aggregate aboveground storage container capacity (excluding belowground storage containers) of 5000 L (1320 gal) or greater;
 2. An aggregate belowground storage container capacity of 159,091 L (42,000 gal) or greater; or
 3. A pipeline facility as identified immediately above (OEBGD C9.2).
- *POL Storage Container* - POL containers with capacities GREATER than 55 gal (mobile/portable and fixed; and above- and belowground storage containers). USTs required to meet all requirements of Chapter 19 are EXCLUDED from the definition of POL storage containers (OEBGD C9.2).
- *Significant Spill* - an uncontained release to the land or water in excess of any of the following quantities (OEBGD 18.2):
 1. for hazardous waste or hazardous substance identified as a result of inclusion in OEBGD, Table AP1.T4, any quantity in excess of the RQ listed therein

2. for POL or liquid or semi-liquid hazardous material, hazardous waste, or hazardous substance, in excess of 400 L (110 gal)
3. for other solid hazardous material, in excess of 225 kg (500 lb)
4. for combinations of POL and liquid, semi-liquid, and solid hazardous materials, hazardous waste, or hazardous substance, in excess of 340 kg (750 lb).

(NOTE: If a spill is contained inside an impervious berm, or on a nonporous surface, or inside a building and is not volatilized and is cleaned up, the spill is considered a contained release and is not considered a significant spill.)

- *Used Oil* - any oil or other waste POL product that has been refined from crude oil, or is synthetic oil, has been used and as a result of such use, is contaminated by physical or chemical impurities, or is offspecification and cannot be used as intended. Although used oil may exhibit the characteristics of reactivity, toxicity, ignitability, or corrosivity, it is still considered used oil, unless it has been mixed with hazardous waste. Used oil mixed with hazardous waste is a hazardous waste and will be managed as such (OEBGD 6.2).
- *Used Oil Burned for Energy Recovery* - used oil that is burned for energy recovery is termed used oil fuel. It includes any fuel processed from used oil by processing, blending, or other treatment (OEBGD 6.2).
- *Waters of the Host Nation* - surface waters including the territorial seas recognized under customary international law, including (OEBGD 4.2):
 1. all waters that are currently used, were used in the past, or may be susceptible to use in commerce
 2. waters that are or could be used for recreation or other purposes
 3. waters from which fish or shellfish are or could be taken and sold
 4. waters that are used or could be used for industrial purposes by industries
 5. waters including lakes, rivers, and streams (including intermittent streams), sloughs, prairie potholes, or natural ponds
 6. and tributaries of waters identified above.

(NOTE: Domestic or industrial waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of this section, are not waters of the host nation. This exclusion only applies to manmade bodies of water that neither were originally waters of the host nation nor resulted from impoundment of waters of the host nation.)

- *Worst-Case Discharge* - the largest foreseeable discharge from the facility, under adverse weather conditions, as determined using as a guide the worst-case discharge planning volume criteria in OEBGD Appendix 2 (OEBGD 18.2).

E. Records To Review

- Records of all spills, leaks, and associated site assessment/cleanup activities (for 3 yr)
- Installation Spill Plan
- Records of spill response training

F. Physical Features To Inspect

- Refueling facilities
- Washrack areas
- Vehicle maintenance areas
- Oil separators
- Oil and hazardous substance sites

G. Guidance for Checklist Users

	REFER TO CHECKLIST ITEMS:
Missing Checklist Items/Positive Findings	PO.2.1.WW and PO.2.2.WW
General	PO.3.1.WW and PO.3.2.WW
Plans	PO.10.1.WW through PO.10.5.WW
POL Storage Containers	
Design	PO.16.1.WW through PO.16.4.WW
Operation	PO.17.1.WW through PO.17.5.WW
Pipelines	PO.20.1.WW and PO.20.2.WW
Loading/Unloading Racks and Areas	PO.21.1.WW through PO.21.4.WW
Discharges/Spills	PO.30.1.WW through PO.30.3.WW
Used POL/Waste POL	PO.40.1.WW and PO.40.2.WW

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<p>PO.2 MISSING CHECKLIST ITEMS/POSITIVE FINDINGS</p> <p>PO.2.1.WW. Installations must comply with all applicable regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding) [Added September 2000].</p> <p>PO.2.2.WW. Installations should go above and beyond environmental statutory and regulatory compliance (MP) [Added September 2000].</p>	<p>Determine whether any new regulations concerning POL management have been issued since the finalization of the manual.</p> <p>Determine whether the installation has activities or facilities that are regulated but not addressed in this checklist.</p> <p>Verify that the installation is in compliance with all applicable and newly issued regulations.</p> <p>Determine whether the installation has gone above and beyond simply complying with environmental requirements.</p> <p>(NOTE: This checklist item is used only to write positive findings.)</p>

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<p>PO.3 GENERAL</p> <p>PO.3.1.WW. Installations must provide necessary training and spill response drills to ensure the effectiveness of personnel and equipment (OEBGD 18.3.5) [Revised September 2000; Moved September 2003].</p> <p>PO.3.2.WW. All personnel handling POL must be trained annually in accordance with specific requirements (OEBGD 9.3.6) [Added June 2010].</p>	<p>Verify that the installation provides necessary training and spill response drills to ensure the effectiveness of personnel and equipment.</p> <p>[Formerly checklist item number PO.10.3.WW.]</p> <p>Verify that all personnel handling POL are trained annually.</p> <p>Verify that the annual training addresses at a minimum:</p> <ul style="list-style-type: none"> - the operation and maintenance of equipment to prevent discharges - discharge procedure protocols - general facility operations, and - the applicable contents of the facility Spill Plan.

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**PO.10
 PLANS**

PO.10.1.WW. All DOD installations must prepare, maintain, and implement a spill prevention and response plan that provides for the prevention, control, and reporting of all spills of POL and hazardous substances (OEBGD 9.3.1 and 18.3.1 through 18.3.4) [Revised September 2000; Revised June 2010; Citation Revised June 2010].

Verify that the installation has, maintains, and implements a spill prevention and response plan that provides for the prevention, control, and reporting of all spills of POL and hazardous substances.

Verify that the plan provides measures to prevent, and to the maximum extent practicable, to remove a worst-case discharge from the facility.

Verify that the prevention portion of the spill plan includes, at a minimum:

- name, title, responsibilities, duties, and telephone number of the designated FIC and an alternate
- general information on the installation, including:
 - name
 - type or function
 - location and address
 - charts of drainage patterns
 - designated water protection areas
 - maps showing locations of storage, handling, and transfer facilities that could possibly produce a significant spill
 - critical water resources
 - land uses
 - possible migration pathways
- inventory of storage, handling, and transfer facilities that could possibly produce a significant spill; for each listing include:
 - prediction of direction and rate of flow (using maps as appropriate)
 - total quantity of POL or hazardous substance that could be spilled as a result of major failure
- inventory of all POL and hazardous substances at storage and handling and transfer facilities that could produce a significant spill
- procedures for the periodic integrity testing of all aboveground storage containers, including visual inspection and, where deemed appropriate, another form of nondestructive testing; the frequency and type of inspection and testing must take into account container size and design (floating/fixed roof, skid-mounted, elevated, cut-and cover, partially buried, vaulted above-ground, etc.) and industry standards
- procedures for periodic inspection for all aboveground valves, piping, and appurtenances associated with POL storage containers, in accordance with OEBGD C9.3.2.5
- arrangements with installation and/or local hospitals, police and fire departments, contractors and emergency response teams to coordinate emergency services
- means (telephone number or other) to contact emergency services on a 24-h basis
- detailed description of the facility's prevention, control, and countermeasures, including structures and equipment for diversion and containment of

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- spills for each facility listed in the inventory; measures should permit, as far as practical, reclamation of spilled substances
- a detailed explanation of measures that will be taken to prevent spills (e.g., pre-booming, integrity testing, frequent inspection), as determined by the licensed or certified technical authority, when secondary containment is not feasible for any container listed in the inventory
- an up-to-date list of all emergency equipment (such as fire extinguishing systems, spill control equipment, communications and alarm systems [internal and external], and decontamination equipment) at each site listed in the inventory, including the location and a physical description of each item on the list and a brief outline of its capabilities
- evacuation plan for each site listed in the inventory, where there is a possibility that evacuation would be necessary, that describes:
 - signal(s) to be used to begin evacuation
 - evacuation routes
 - alternate evacuation routes (in cases where primary routes could be blocked by releases of hazardous waste or fires)
 - a designated meeting place.
- description of deficiencies in spill prevention and control measures at each site listed in the inventory, including corrective measures required, procedures to be followed to correct listed deficiencies, and any interim control measures in place
- written procedures for:
 - operations to preclude spills of POL or hazardous substances
 - inspections
 - recordkeeping requirements.

Verify that the control section of the plan (which may be considered a contingency plan) identifies resources for cleaning up spills at installations and activities, and to provide assistance to other agencies when requested.

Verify that the control section of the plan contains the following as a minimum:

- specification of the responsibilities, duties, procedures, and resources to be used to contain and cleanup spills
- description of immediate response actions
- responsibilities, composition, and training requirements of the FRT
- the command structure that will be established to manage a worst-case discharge, including an organization chart and the responsibilities and composition of the organization
- procedures for FRT alert and response to include:
 - access to a reliable communications system for timely notification of a POL or hazardous substance spill
 - public affairs involvement
- current roster of persons and alternates who must be notified of a POL or hazardous substance spill alternates (including a DESC representative, if applicable), that includes:
 - name
 - organization mailing address

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	<ul style="list-style-type: none"> - work and home telephone number - without compromising security, provisions for the notification of the emergency coordinator (EC) after normal working hours - procedure for notifying the FIC, the IC, and local authorities in the event of hazard to human health or the environment - assignment of responsibilities for making notifications to emergency services providers - surveillance procedures for early detection of spills - prioritized list of critical water and natural resources to be protected - other resources addressed in prearranged agreements to cleanup or reclaim a large spill, if such spill exceeds the response capability of the installation - cleanup methods, including procedures and techniques used to identify, contain, disperse, reclaim, and remove POL and hazardous substances used in bulk quantity on the installation - procedures for the proper reuse and disposal of recovered substances, contaminated POL, and absorbent materials - procedures to be accomplished prior to resumption of operations - description of general safety and fire prevention precautions for spill cleanup actions - public affairs section describing the procedures, responsibilities, and methods for releasing information. <p>Verify that the reporting section of the plan addresses the following:</p> <ul style="list-style-type: none"> - recordkeeping when emergency procedures are implemented - immediate report to the FIC of any significant spill - a written report from the FIC to the appropriate in-theater component commander and/or Defense Agency and the Environmental Executive Agent (EEA) when a significant spill occurs inside a DOD installation and: <ul style="list-style-type: none"> - the spill cannot be contained within any required berm or secondary containment - the spill exceeds 400 L (110 gal) of POL - a water resource has been polluted, or - the FIC has determined that the spill is significant - immediate notification of the appropriate in-theater component commander and/or Defense Agency, EEA, and host-nation authorities when a significant spill occurs inside a DOD installation and cannot be contained within the installation boundaries or threatens the local host-nation drinking water resource. <p>Verify that the plan has been certified by an appropriately licensed or certified technical authority who has ensured that:</p> <ul style="list-style-type: none"> - the plan considers applicable industry standards for spill prevention and environmental protection - the plan is prepared in accordance with good engineering practice, and - the plan is adequate for the facility. <p>Verify that the plan is recertified whenever technical (i.e., non-administrative)</p>

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<p>PO.10.2.WW. [Deleted September 2000].</p> <p>PO.10.3.WW. [Moved September 2003].</p> <p>PO.10.4.WW. Corrective actions for deficiencies in spill prevention and control measures at each site listed in the inventory must be implemented within 24 months of the date of plan preparation or revision (OEBGD 18.3.2.13) [Added September 2000; Citation Revised June 2010].</p> <p>PO.10.5.WW. Site-specific procedures should be maintained at each site on the facility where significant spills could occur (MP) [Added September 2000; Revised June 2010].</p>	<p>changes are made to it.</p> <p>Verify that the spill plan has been updated at least every 5 yr or</p> <ul style="list-style-type: none"> - within 6 mo of any significant changes to operations - when there have been two significant spills to navigable waters in any 12-mo period - when there has been a spill of 1000 gal or more. <p>Verify that the plan is kept in a location easily accessible to the FIC and FRT.</p> <p>Requirements on what was called the emergency coordinator were deleted in the 15 March 2000 version of the OEBGD.</p> <p>[Moved to PO.3.1.WW.]</p> <p>Verify that corrective actions for deficiencies in spill prevention and control measures at each site listed in the inventory are implemented within 24 mo of the date of plan preparation or revision.</p> <p>Verify that site-specific procedures are maintained at each site on the facility where significant spills could occur.</p> <p>(NOTE: This MP is suggested at OEBGD 18.3.2.15).</p>

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<p>PO.16 POL STORAGE CONTAINERS: Design</p> <p>PO.16.1.WW. POL storage containers must be provided with secondary containment that meets specific requirements (OEBGD 9.3.2.2 and 9.3.2.3) [Added June 2010].</p> <p>PO.16.2.WW. New buried piping associated with POL storage containers must be protected against corrosion in accordance with recognized industry standards (OEBGD 9.3.3.1) [Added June 2010].</p> <p>PO.16.3.WW. POL storage containers must be designed or modernized in accordance with good engineering practice (OEBGD 9.3.3.2) [Added</p>	<p>(NOTE: These criteria apply only at a POL facility, which is defined as an installation with either:</p> <ul style="list-style-type: none"> - an aggregate aboveground storage container capacity (excluding belowground storage containers) of 5000 L (1320 gal) or greater; - an aggregate belowground storage container capacity of 159,091 L (42,000 gal) or greater; or - a pipeline facility.) <p>Verify that all POL storage containers are provided with a secondary means of containment (e.g., dike).</p> <p>Verify that the secondary containment is capable of holding the entire contents of the largest single tank plus sufficient freeboard to allow for precipitation and expansion of product.</p> <p>(NOTE: Alternatively, POL storage containers that are equipped with adequate technical spill and leak prevention options [such as overfill alarms and flow shutoff or restrictor devices] may provide secondary containment by use of a double wall container.)</p> <p>(NOTE: Belowground storage containers may meet this criterion by use of a leak barrier with a leak detection pipe and basin. A licensed technical authority may waive this secondary containment criterion for belowground storage containers.)</p> <p>Verify that the permeability of the containment areas does not exceed a maximum of 10^{-7} cm/sec.</p> <p>(NOTE: These criteria apply only at a POL facility, which is defined as an installation with either:</p> <ul style="list-style-type: none"> - an aggregate aboveground storage container capacity [excluding belowground storage containers] of 5000 L [1320 gal] or greater; - an aggregate belowground storage container capacity of 159,091 L [42,000 gal] or greater; or - a pipeline facility.) <p>Verify that new buried piping associated with POL storage containers is protected against corrosion in accordance with recognized industry standards.</p> <p>(NOTE: These criteria apply only at a POL facility, which is defined as an installation with either:</p> <ul style="list-style-type: none"> - an aggregate aboveground storage container capacity [excluding belowground storage containers] of 5000 L [1320 gal] or greater; - an aggregate belowground storage container capacity of 159,091 L [42,000

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<p>June 2010].</p> <p>PO.16.4.WW. Both completely and partially buried metallic POL storage containers must be protected from corrosion in accordance with recognized industry standards (OEBGD 9.3.3.3) [Added June 2010].</p>	<p>gal] or greater; or - a pipeline facility.)</p> <p>Verify that POL storage containers are designed or modernized in accordance with good engineering practice to prevent unintentional discharges by use of overflow prevention devices.</p> <p>(NOTE: These criteria apply only at a POL facility, which is defined as an installation with either:</p> <ul style="list-style-type: none"> - an aggregate aboveground storage container capacity [excluding belowground storage containers] of 5000 L [1320 gal] or greater; - an aggregate belowground storage container capacity of 159,091 L [42,000 gal] or greater; or - a pipeline facility.) <p>Verify that both completely and partially buried metallic POL storage containers are protected from corrosion in accordance with recognized industry standards.</p>

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<p>PO.17 POL STORAGE CONTAINERS: Operation</p> <p>PO.17.1.WW. All POL storage containers must be inspected and tested in accordance with recognized industry standards (OEBGD 9.3.2.1) [Added June 2010].</p> <p>PO.17.2.WW. The drainage of stormwater from containment areas is subject to specific requirements (OEBGD 9.3.2.4) [Added June 2010].</p> <p>PO.17.3.WW. All above-ground valves, piping, and appurtenances associated with POL storage containers must be periodically inspected in accordance with recognized industry standards (OEBGD 9.3.2.5) [Added June 2010].</p>	<p>(NOTE: These criteria apply only at a POL facility, which is defined as an installation with either:</p> <ul style="list-style-type: none"> - an aggregate aboveground storage container capacity [excluding belowground storage containers] of 5000 L [1320 gal] or greater; - an aggregate belowground storage container capacity of 159,091 L [42,000 gal] or greater; or - a pipeline facility.) <p>Verify that all POL storage containers are inspected and tested in accordance with recognized industry standards.</p> <p>(NOTE: These criteria apply only at a POL facility, which is defined as an installation with either:</p> <ul style="list-style-type: none"> - an aggregate aboveground storage container capacity [excluding belowground storage containers] of 5000 L [1320 gal] or greater; - an aggregate belowground storage container capacity of 159,091 L [42,000 gal] or greater; or - a pipeline facility.) <p>Verify that drainage of stormwater from containment areas is controlled by a valve that is locked closed when not in active use.</p> <p>Verify that stormwater is inspected for petroleum sheen before being drained from containment areas.</p> <p>Verify that, if a petroleum sheen is present, it is collected with sorbent materials prior to drainage, or treated using an oil-water separator.</p> <p>Verify that the disposal of sorbent material exhibiting the hazardous characteristics in OEBGD Appendix 1 is in accordance with OEBGD Chapter 6, "Hazardous Waste."</p> <p>(NOTE: See Section 4, <i>Hazardous Waste Management</i>.)</p> <p>(NOTE: These criteria apply only at a POL facility, which is defined as an installation with either:</p> <ul style="list-style-type: none"> - an aggregate aboveground storage container capacity [excluding belowground storage containers] of 5000 L [1320 gal] or greater; - an aggregate belowground storage container capacity of 159,091 L [42,000 gal] or greater; or - a pipeline facility.) <p>Verify that all aboveground valves, piping, and appurtenances associated with POL storage containers are periodically inspected in accordance with recognized</p>

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<p>PO.17.4.WW. Buried piping associated with POL storage containers must be tested for integrity and leaks at the time of installation, modification, construction, relocation, or replacement (OEBGD 9.3.3.1) [Added June 2010].</p> <p>PO.17.5.WW. POL storage container cleaning wastes must be tested for hazardous characteristics (OEBGD 9.3.4) [Added June 2010].</p>	<p>industry standards.</p> <p>(NOTE: These criteria apply only at a POL facility, which is defined as an installation with either:</p> <ul style="list-style-type: none"> - an aggregate aboveground storage container capacity [excluding below-ground storage containers] of 5000 L [1320 gal] or greater; - an aggregate belowground storage container capacity of 159,091 L [42,000 gal] or greater; or - a pipeline facility.) <p>Verify that buried piping associated with POL storage containers is tested for integrity and leaks at the time of installation, modification, construction, relocation, or replacement.</p> <p>Verify that, unless sampling and testing determine that the waste does not exhibit hazardous waste characteristics, POL storage container cleaning wastes (sludge and washwaters) are handled and disposed of in accordance with the requirements of OEBGD, Chapter 6, <i>Hazardous Waste</i>.</p> <p>Verify that, unless sampling and testing determine that the waste does not exhibit hazardous waste characteristics, POL container bottom waters that are periodically drained are collected and disposed of in accordance with the requirements of OEBGD, Chapter 6, <i>Hazardous Waste</i>.</p> <p>(NOTE: See Section 4, <i>Hazardous Waste Management</i>.)</p> <p>(NOTE: Formerly checklist item number ST.10.4.WW.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>PO.20 PIPELINES</p> <p>PO.20.1.WW. All new POL pipeline facilities must be designed and constructed to meet recognized industry standards (OEBGD 9.3.5.2.1.3) [Revised June 2010; Citation Revised June 2010].</p> <p>PO.20.2.WW. All pipeline facilities carrying POL must be tested and maintained in accordance with recognized industry standards (OEBGD 9.3.5.2.1, 9.3.5.2.1.1, and 9.3.5.2.1.2) [Revised September 2000; Revised June 2010; Citation Revised June 2010].</p>	<p>Verify that all new POL pipeline facilities are designed and constructed to meet recognized industry standards.</p> <p>Verify that all pipeline facilities carrying POL are tested and maintained in accordance with recognized industry standards.</p> <p>Verify that each pipeline operator handling POL prepares and follows a procedural manual for operations, maintenance, and emergencies.</p> <p>Verify that each new pipeline facility and each facility in which pipe has been replaced or relocated is tested in accordance with recognized industry standards, and is without leakage, before being placed in service.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>PO.21 LOADING/UNLOADING RACKS AND AREAS</p> <p>PO.21.1.WW. Loading/ unloading racks must be designed to handle discharges of at least the maximum capacity of any single compartment of a rail car or tank truck loaded or unloaded at the loading/unloading rack (OEBGD 9.3.5.1.1) [Added June 2010].</p> <p>PO.21.2.WW. Interlocked warning lights or physical barrier systems, warning signs, wheel chocks, or vehicle break interlock systems must be provided at loading/unloading racks (OEBGD 9.3.5.1.2) [Added June 2010].</p> <p>PO.21.3.WW. Appropriate containment and/or diversionary structures or equipment must be provided at loading/unloading areas (OEBGD 9.3.5.1.4) [Added June 2010].</p> <p>PO.21.4.WW. Vehicles must be closely inspected prior to filling and prior to departure from loading/unloading racks and areas (OEBGD 9.3.5.1.3) [Added June 2010].</p>	<p>Verify that loading/unloading racks are designed to handle discharges of at least the maximum capacity of any single compartment of a rail car or tank truck loaded or unloaded at the loading/unloading rack.</p> <p>Verify that interlocked warning lights or physical barrier systems, warning signs, wheel chocks, or vehicle break interlock systems are provided at loading/unloading racks to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines.</p> <p>Verify that appropriate containment and/or diversionary structures or equipment are provided at loading/unloading areas to prevent a discharge of POL that could reasonably be expected to cause a sheen on waters of the host nation (see definition). (NOTE: Dikes, berms, culverts, and spill diversion ponds are examples of containment and/or diversionary structures.) (NOTE: Sorbent materials, weirs, booms, and other barriers are examples of containment and/or diversionary equipment.)</p> <p>Verify that, prior to filling and prior to departure of any tank car or tank truck, it is closely inspected for discharges from the lowermost drain and all outlets. Verify that, if necessary, the lowermost drain and all outlets are tightened, adjusted, or replaced to prevent liquid discharge while in transit.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>PO.30 DISCHARGES/SPILLS</p> <p>PO.30.1.WW. [Deleted June 2010].</p> <p>PO.30.2.WW. Installations must take specific actions in the event of hazardous substance spills (OEBGD 18.3.4.2 through 18.3.4.5) [Revised September 2000].</p> <p>PO.30.3.WW. After comple-</p>	<p>This requirement was deleted from the May 2007 version of OEBGD.</p> <p>Verify that any significant spill is reported to the FIC immediately.</p> <p>Verify that immediate action is taken to eliminate the source and contain the spill.</p> <p>Verify that the FIC notifies the appropriate In-Theater Component Commander and/or Defense Agency and the Executive Agent immediately when any of the following occurs:</p> <ul style="list-style-type: none"> - a spill occurs inside a DOD installation and cannot be contained within any required berm or containment - a spill exceeds 410 L (110 gal) of POL - a water resource has been polluted - the FIC has determined that the spill is significant. <p>Verify that a written follow-up report is submitted in any of the above instances.</p> <p>Verify that, when a significant spill occurs inside the installation and cannot be contained within its boundaries, the following are notified immediately:</p> <ul style="list-style-type: none"> - the appropriate In-Theater Component Commander and/or Defense Agency - the Executive Agent - host-nation authorities. <p>Verify that, when a significant spill threatens the local host-nation drinking water resource, the following are notified immediately:</p> <ul style="list-style-type: none"> - the appropriate In-Theater Component Commander and/or Defense Agency - the Executive Agent - host-nation authorities. <p>Verify that, when a significant spill occurs outside of the installation, the person in charge at the scene immediately notifies the following and obtains necessary assistance:</p> <ul style="list-style-type: none"> - the appropriate In-Theater Component Commander and/or Defense Agency - the Executive Agent - host-nation authorities. <p>Verify that the person in charge also notifies local fire departments and obtains necessary assistance.</p> <p>Verify that, after completion of the initial response, any remaining free product</p>

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<p>tion of the initial response, any remaining free product and/or obviously contaminated soil will be appropriately removed and managed (OEBGD 18.3.6) [Added September 2000].</p>	<p>and/or obviously contaminated soil is appropriately removed and managed. (NOTE: Further action will be governed by DODI 4715.8, "Environmental Remediation for DOD Activities Overseas.")</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>PO.40 USED POL / WASTE POL</p> <p>PO.40.1.WW. Installations that burn used oil may do so in certain devices only (OEBGD 6.3.8.1).</p> <p>PO.40.2.WW. Neither used oil nor used oil contaminated with any hazardous waste may be used for dust suppression or road treatment (OEBGD 6.3.8.2).</p>	<p>Verify that used oil fuel is burned in the following devices only:</p> <ul style="list-style-type: none"> - industrial furnaces - industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes - utility boilers used to produce electric power, steam, heated or cooled air, or other gases or fluids - used-oil-fired space heaters if: <ul style="list-style-type: none"> - the heat burns only used oil that the installation generates - the heater is designed to have a maximum capacity of not more than 0.5 MBtu/h [0.147 MW] - the combustion gases from the heater are properly vented to the ambient air. <p>Verify that the installation does not use used oil for dust suppression or road treatment.</p>

SECTION 9
SOLID WASTE MANAGEMENT

OEBGD Protocols

June 2010

A. Applicability of this Section

This section contains criteria to ensure that solid wastes are identified, classified, collected, transported, stored, treated, and disposed of safely and in a manner protective of human health and the environment. The criteria apply to residential and commercial solid waste generated at the installation level.

These criteria are part of integrated waste management. Criteria concerning the recycling portion of integrated waste management are found in the pollution prevention portion of Section 6, *Other Environmental Issues*. The criteria in the present section deal with general solid waste. Criteria for specific types of solid waste that require special precautions are located in manual Sections 4 (Hazardous Waste), 7 (Pesticides), and 11 (PCBs).

Also included in the present section are criteria for the management of medical waste at medical, dental, research and development, and veterinary facilities generated in the diagnosis, treatment, or immunization of human beings or animals or in the production or testing of biologicals subject to certain exclusions. This also includes mixtures of medical waste and hazardous waste. The medical waste criteria do not apply to what would otherwise be household waste.

B. Source Documents

- *Overseas Environmental Baseline Guidance Document (OEBGD)*, 1 May 2007, Chapters 7 and 8.

C. Key Compliance Requirements

- Installations must develop and implement a solid waste management strategy.
- All solid wastes, and materials separated for recycling, must be stored so as not to constitute a fire, health, or safety hazard or provide food or harborage for vectors.
- Installations that operate a municipal solid waste landfill (MSWLF) must develop procedures for dealing with yard waste and construction debris that keep it out of the landfill to the maximum extent possible.
- Installations that operate a MSWLF must have a program that effectively prevents the disposal in the MSWLF of hazardous waste, infectious waste, PCB waste, and other waste determined to be unsuitable for the specific landfill.
- Installations that operate land disposal sites must establish criteria for unacceptable materials.
- Installations must operate land disposal sites in such a way as to protect aquifers.
- Installations must prohibit open burning at the MSWLF.
- Conditions at land disposal sites must be unfavorable for the harboring, feeding, and breeding of disease vectors.
- Land disposal sites must be operated in an aesthetically acceptable manner.

- Land disposal sites must be operated in such a way as to protect the health and safety of personnel.
- Installations that operate a MSWLF must prepare a written closure plan for that landfill.
- Installations must not initiate new or expand existing waste landfill units without approval of the Combatant Commander with responsibility for the area where the landfill would be located and only after showing that unique circumstances necessitate a new unit.
- The installation must have a contingency plan for the treatment or disposal of infectious medical waste should the primary means become inoperable.
- All personnel who handle infectious medical waste must wear appropriate protective apparel or equipment.
- Infectious medical waste that cannot be treated onsite must be managed during storage in accordance with specific requirements.
- Installations must keep records concerning infectious medical waste.

D. Definitions

- *Bulky Waste* - large items of solid waste such as household appliances, furniture, large auto parts, trees, branches, stumps, and other oversized wastes whose large size precludes or complicates their handling by normal solid waste collection, processing, or disposal methods (OEBGD 7.2).
- *Carry-out Collection* - collection of solid waste from a storage area proximate to the dwelling unit(s) or establishment where generated (OEBGD 7.2).
- *Class A Compost* - compost that contains average contaminant levels no greater than the following levels (OEBGD 7.3.15.1):

Contaminant	Allowable Average Concentration. (mg/kg, dry weight basis)
Polychlorinated biphenyls (PCBs)	1
Cadmium	10
Chromium	1000
Copper	500
Lead	500
Mercury	5
Nickel	100
Zinc	1000

- *Class B Compost* - compost that fails to meet the standards for Class A Compost (OEBGD 7.3.15.2).
- *Collection* - the act of consolidating solid wastes (or materials that have been separated for the purpose of recycling) from various locations (OEBGD 7.2).
- *Collection Frequency* - the number of times collection is provided in a given period of time (OEBGD 7.2).

- *Commercial Solid Waste* - all types of solid wastes generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes (OEBGD 7.2).
- *Compactor Collection Vehicle* - a vehicle with an enclosed body containing mechanical devices that convey solid waste into the main compartment of the body and compress it into a smaller volume of greater density (OEBGD 7.2).
- *Construction and Demolition Waste* - the waste building materials, packaging, and rubble resulting from construction, remodeling, repair, and demolition operations on pavement, houses, commercial buildings, and other structures (OEBGD 7.2).
- *Cover Material* - material used to cover compacted solid wastes in a land disposal site (OEBGD 7.2).
- *Curb Collection* - collection of solid waste placed adjacent to a street (OEBGD 7.2).
- *Daily Cover* – soil that is spread and compacted (or synthetic material) that is placed on the top and side slopes of compacted solid waste at least at the end of each operating day in order to control vectors, fire, moisture, and erosion and will assure an aesthetic appearance (OEBGD 7.2).

(NOTE: Mature compost or other natural material may be substituted for soil if soil is not reasonably available in the vicinity of the landfill and the substituted material will control vectors, fire, moisture, and erosion and will assure an aesthetic appearance.)

- *Final Cover* – a layer of soil, mature compost, or other natural material (or synthetic material with an equivalent minimum permeability) that is applied to the landfill after completion of a cell or trench, including a layer of material that will sustain native vegetation, if any (OEBGD 7.2).
- *Food Waste* - the organic residues generated by the handling, storage, sale, preparation, cooking, and serving of foods, commonly called garbage (OEBGD 7.2).
- *Generation* - the act or process of producing solid waste (OEBGD 7.2).
- *Human Blood and Blood Products* - (includes serum, plasma, and other blood components) items contaminated with liquid or semiliquid blood or blood products, items saturated or dripping with blood or blood products, or items caked with blood or blood products that are capable of releasing these materials during handling (OEBGD 8.2).
- *Industrial Solid Waste* - solid waste generated by industrial processes and manufacturing (OEBGD 7.2).
- *Infectious Agent* - any organism (such as a virus or a bacterium) that is capable of being communicated by invasion and multiplication in body tissues and capable of causing disease or adverse health impacts in humans (OEBGD 8.2).
- *Infectious Hazardous Waste* - mixtures of infectious medical waste and hazardous waste, to include solid waste such as fluids from a parasitology laboratory (OEBGD 8.2).
- *Infectious Medical Waste* - solid waste produced by medical and dental treatment facilities that is specially managed because it has the potential for causing disease in humans and may pose a risk to both individuals or community health if not managed properly. The term includes microbiology waste, pathology waste, human blood and blood products, potentially infectious materials, sharps, and infectious wastes from isolation rooms (including only those items that are contaminated or are likely to be contaminated, with infectious agents or pathogens, and excretion exudates and discarded material contaminated with blood) (OEBGD 8.2).
- *Institutional Solid Waste* - solid waste generated by educational, health care, correctional, and other institutional facilities (OEBGD 7.2).

- *Land Application Unit* - an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for agricultural purposes or for treatment or disposal (OEBGD 7.2).
- *Lower Explosive Limit* - the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25 °C and atmospheric pressure (OEBGD 7.2).
- *Microbiology Waste* - includes cultures and stocks of etiologic agents that, due to their species, type, virulence, or concentration, are known to cause disease in humans (OEBGD 8.2).
- *Municipal Solid Waste (MSW)* - normally, residential and commercial solid waste generated within a community, not including yard waste (OEBGD 7.2).
- *Municipal Solid Waste Landfill Unit (MSWLF)* - a discrete area of land or an excavation, on or off the installation, that receives household waste and that is not a land application unit, surface impoundment, injection well, or waste pile. An MSWLF unit also may receive other types of wastes, such as commercial solid waste and industrial waste (OEBGD 7.2).
- *Noninfectious Medical Waste* - solid waste that does not require special management because it has been determined to be incapable of causing disease in humans or it has been treated to render it noninfectious (OEBGD 8.2).
- *Open Burning* - burning of solid wastes in the open, such as in an open dump (OEBGD 7.2).
- *Open Dump* - a land disposal site at which solid wastes are disposed of in a manner that does not protect the environment, are susceptible to open burning, and are exposed to the elements, vectors, and scavengers (OEBGD 7.2).
- *Pathology Waste* - includes human tissues and organs, amputated limbs or other body parts, fetuses, placentas, and similar tissues from surgery, delivery, or autopsy procedures. Animal carcasses, body parts, blood, and bedding from contaminated animals are also included (OEBGD 8.2).
- *Potentially Infectious Materials* - include human body fluids such as semen, vaginal secretions, cerebrospinal fluid, pericardial fluid, pleural fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids (OEBGD 8.2).
- *Residential Solid Waste* - the wastes generated by the normal activities of households, including, but not limited to, food wastes, rubbish, ashes, and bulky wastes (OEBGD 7.2).
- *Rubbish* - a general term for solid waste, excluding food wastes and ashes, taken from residences, commercial establishments, and institutions (OEBGD 7.2).
- *Sanitary Landfill* - a land disposal site employing an engineered method of disposing of solid wastes on land in a manner that minimizes environmental hazards by spreading the solid wastes in thin layers, compacting the solid wastes to the smallest practical volume, and applying and compacting cover material at the end of each operating day (OEBGD 7.2).
- *Satellite Vehicle* - a small collection vehicle that transfers its load into a larger vehicle operating in conjunction with it (OEBGD 7.2).
- *Scavenging* - the uncontrolled and unauthorized removal of materials at any point in the solid waste management system (OEBGD 7.2).
- *Service Solid Waste Management Manual* – Navy NAVFAC MO-213, Air Force AFR 91-8, Army TM 5-634, or their successor documents (OEBGD 7.2).

- *Sharps* - includes hypodermic needles, syringes, biopsy needles and other types of needles used to obtain tissue or fluid specimens, needles used to deliver intravenous solutions, scalpel blades, pasteur pipettes, specimen slides, cover slips, glass petri plates, and broken glass potentially contaminated with infectious waste (OEBGD 8.2).
- *Sludge* - the accumulated semiliquid suspension of settled solids deposited from wastewaters or other fluids in tanks or basins. It does not include solids or dissolved material in domestic sewage or other significant pollutants in water resources, such as silt, dissolved or suspended solids in industrial wastewater effluent, dissolved materials in irrigation return flows, or other common water pollutants (OEBGD 7.2).
- *Solid Waste* - garbage, refuse, sludge, and other discarded materials, including solid, semisolid, liquid, and contained gaseous materials resulting from industrial and commercial operations and from community activities. It does not include solids or dissolved material in domestic sewage or other significant pollutants in water resources, such as silt, dissolved or suspended solids in industrial wastewater effluent, dissolved materials in irrigation return flows or other common water pollutants (OEBGD 7.2).
- *Solid Waste Storage Container* - a receptacle used for the temporary storage of solid waste while awaiting collection (OEBGD 7.2).
- *Stationary Compactor* - a powered machine that is designed to compact solid waste or recyclable materials, and which remains stationary when in operation (OEBGD 7.2).
- *Storage* - the interim containment of solid waste after generation and prior to collection for ultimate recovery or disposal (OEBGD 7.2).
- *Street Wastes* - material picked up by manual or mechanical sweepings of alleys, streets, and sidewalks, wastes from public waste receptacles, and material removed from catch basins (OEBGD 7.2).
- *Transfer Station* - a site at which solid wastes are concentrated for transport to a processing facility or land disposal site. A transfer station may be fixed or mobile (OEBGD 7.2).
- *Treatment* - any method, technique or process designed to change the physical, chemical, or biological character or composition of any infectious hazardous or infectious waste so as to render such waste non-hazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume. Treatment methods for infectious waste must eliminate infectious agents so that they no longer pose a hazard to persons who may be exposed (OEBGD 8.2).
- *Vector* - a carrier that is capable of transmitting a pathogen from one organism to another (OEBGD 7.2).
- *Yard Waste* - grass and shrubbery clippings, tree limbs, leaves, and similar organic materials commonly generated in residential yard maintenance (also known as green waste) (OEBGD 7.2).

E. Records To Review

- Record of current nonhazardous solid waste management practices
- Documentation of locations (map) and descriptions of all MSWLFs
- Records of operational history of all active and inactive MSWLFs
- Environmental monitoring procedures or plans
- Records of resource recovery practices, including the sale of materials for the purpose of recycling
- Solid waste removal contracts and inspection records

F. Physical Features To Inspect

- Resource recovery facilities
- Incineration and land disposal facilities (active and inactive)

- Areas where hazardous and nonhazardous wastes are disposed of
- Construction debris areas
- Waste receptacles
- Solid waste vehicle storage and washing areas

G. Guidance for Checklist Users

	REFER TO CHECKLIST ITEMS:
Missing Checklist Items/Positive Findings	SO.2.1.WW and SO.2.2.WW
General	SO.10.1.WW through SO.10.4.WW
Solid Waste Storage and Collection	SO.20.1.WW through SO.20.5.WW
Containers	SO.25.1.WW
Container Holding Areas	SO.26.1.WW
Land Disposal Sites	
Specific Wastes	SO.30.1.WW
Operations	SO.40.1.WW through SO.40.12.WW
Closure and Postclosure	SO.50.1.WW and SO.50.2.WW
New Landfills	SO.60.1.WW and SO.60.2.WW
Composting Facilities	SO.70.1.WW and SO.70.2.WW
Medical Waste	
General	SO.80.1.WW through SO.80.3.WW
Infectious Medical Waste	SO.90.1.WW through SO.90.12.WW
Disposal	SO.100.1.WW through SO.100.5.WW

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<p>SO.2 MISSING CHECKLIST ITEMS/POSITIVE FINDINGS</p> <p>SO.2.1.WW. Installations must comply with all applicable regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding) [Added September 2000].</p> <p>SO.2.2.WW. Installations should go above and beyond environmental statutory and regulatory compliance (MP) [Added September 2000].</p>	<p>Determine whether any new regulations concerning solid waste management have been issued since the finalization of the manual.</p> <p>Determine whether the installation has activities or facilities that are regulated but not addressed in this checklist.</p> <p>Verify that the installation is in compliance with all applicable and newly issued regulations.</p> <p>Determine whether the installation has gone above and beyond simply complying with environmental requirements.</p> <p>(NOTE: This checklist item is used only to write positive findings.)</p>

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<p>SO.10 GENERAL</p> <p>SO.10.1.WW. Installations must cooperate with host-nation officials, to the extent possible, in the solid waste management planning process (OEBGD 7.3.2).</p> <p>SO.10.2.WW. Installations must develop and implement a solid waste management strategy (OEBGD 7.3.3).</p> <p>SO.10.3.WW. Provision must be made in the design of all buildings and all other facilities that are constructed, modified, or leased after 1 October 1992 for storage areas that meet specific requirements (OEBGD 7.3.6) [Revised September 2000; Revised June 2010].</p> <p>SO.10.4.WW. [Moved September 2003].</p>	<p>Verify that the installation cooperates with host-nation officials, to the extent possible, in the solid waste management planning process.</p> <p>Verify that the installation has developed and implemented a strategy for reducing solid waste disposal. (NOTE: This strategy could include recycling, composting, and waste minimization efforts.)</p> <p>Verify that provision is made in the design of all buildings and all other facilities that are constructed, modified, or leased after 1 May 2007 for storage areas that:</p> <ul style="list-style-type: none"> - will accommodate the volume of solid waste expected - can be easily cleaned and maintained - allow for safe and efficient collection of solid waste. <p>(NOTE: 1 October 1992 is the effective date of the <i>Overseas Environmental Baseline Guidance Document</i>, the first document to include this design criterion. Should the assessor find a building that appears to be out of compliance with these requirements, he/she must establish when the building was designed in order to determine whether or not it actually is out of compliance.)</p> <p>[Moved to AE.5.1.WW.]</p>

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<p>SO.20 SOLID WASTE STORAGE AND COLLECTION</p> <p>SO.20.1.WW. DOD solid waste must be treated, stored, and disposed of in facilities that have been evaluated against OEBGD 7.3.12, 7.3.14, and 7.3.15 (OEBGD 7.3.1) [Revised September 2000].</p> <p>SO.20.2.WW. [Moved September 2003].</p> <p>SO.20.3.WW. [Moved September 2003].</p> <p>SO.20.4.WW. Installations must store all solid wastes, and materials separated for recycling, in accordance with specific guidelines (OEBGD 7.3.4).</p> <p>SO.20.5.WW. Installations must meet specific requirements when managing bulky wastes (OEBGD 7.3.5).</p>	<p>Verify that DOD solid waste is treated, stored, and disposed of in facilities that have been evaluated against OEBGD 7.3.12, 7.3.14, and 7.3.15.</p> <p>(NOTE: See checklist item AE.5.1.WW, SO.30.1.WW, and the checklist items in SO.40 and SO.70.)</p> <p>Verify that these evaluated facilities are used to the maximum extent practical.</p> <p>[Moved to SO.25.1.WW.]</p> <p>[Moved to SO.26.1.WW.]</p> <p>Verify that all solid wastes, and materials separated for recycling, are stored so as not to constitute a fire, health, or safety hazard, or to provide food or harborage for vectors.</p> <p>Verify that such materials are contained or bundled to prevent spillage.</p> <p>Verify that bulky wastes are stored so as not to create an attractive nuisance and to avoid the accumulation of solid waste and water in and around the bulky items by removing all doors from large household appliances and covering the items.</p> <p>Verify that bulky wastes are screened for the presence of hazardous constituents and ozone-depleting substances.</p> <p>Verify that readily detachable or removable hazardous constituents are segregated and disposed of properly.</p> <p>(NOTE: See Section 4, <i>Hazardous Waste Management</i>.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>SO.25 CONTAINERS</p> <p>SO.25.1.WW. Installations should use solid waste storage containers that meet specific design standards (MP) [Revised September 2000; Citation Revised September 2003; Moved September 2003].</p>	<p>Verify that storage containers are leakproof, waterproof, and vermin-proof, including sides, seams, and bottoms.</p> <p>Verify that storage containers are durable enough to withstand anticipated usage and environmental conditions without rusting, cracking, or deforming in a manner that would impair serviceability.</p> <p>Verify that storage containers have functional lids.</p> <p>(NOTE: This MP is found at OEBGD 7.3.7.)</p> <p>[Moved from SO.20.2.WW]</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>SO.26 CONTAINER HOLDING AREAS</p> <p>SO.26.1.WW. Installations should store containers in accordance with specific requirements (MP) [Citation Revised September 2003; Moved September 2003].</p>	<p>Verify that containers are stored on a firm, level, well-drained surface that is large enough to accommodate all of the containers.</p> <p>Verify that the storage area is clean and free of spills.</p> <p>(NOTE: This MP is found at OEBGD 7.3.8.)</p> <p>[Moved from SO.20.3.WW.]</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>SO.30 LAND DISPOSAL SITES: Specific Wastes</p> <p>SO.30.1.WW. Installations must develop procedures for dealing with yard waste and construction debris (OEBGD 7.3.12.6).</p>	<p>Verify that the installation has developed procedures for dealing with yard waste and construction debris that keep it out of MSWLF units to the maximum extent possible.</p> <p>(NOTE: The requirements of this section of the manual apply only to those installations that operate a MSWLF.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>SO.40 LAND DISPOSAL SITES: Operations</p> <p>SO.40.1.WW. Installations must investigate options for composting MSW (OEBGD 7.3.12.4).</p> <p>SO.40.2.WW. Installations must implement programs to detect and prevent the disposal of certain wastes in their MSWLFs (OEBGD 7.3.12.3 and 7.3.12.13).</p> <p>SO.40.3.WW. Installations that operate land disposal sites must establish criteria for unacceptable materials (OEBGD 7.3.12.2).</p> <p>SO.40.4.WW. Installations that operate MSWLFs must use certain standard sanitary landfill techniques as part of their operations (OEBGD 7.3.12.1).</p> <p>SO.40.5.WW. Installations must operate land disposal sites in such a way as to protect aquifers (OEBGD 7.3.12.11).</p>	<p>Verify that the installation has investigated options for composting MSW as an alternative to landfilling or treatment prior to landfilling.</p> <p>(NOTE: The requirements of this section of the manual apply only to those installations that operate a MSWLF.)</p> <p>Verify that the installation has a program that effectively prevents the disposal in the MSWLF of hazardous waste, infectious waste, PCB waste, and other waste determined to be unsuitable for the specific landfill.</p> <p>Verify that the installation prohibits the disposal of bulk or noncontainerized liquids in the MSWLF, if possible.</p> <p>(NOTE: The requirements of this section of the manual apply only to those installations that operate a MSWLF.)</p> <p>Verify that the installation has established criteria for unacceptable wastes based on site-specific factors.</p> <p>(NOTE: Examples of site-specific factors are:</p> <ul style="list-style-type: none"> - hydrology - chemical and biological characteristics of the waste - available alternative disposal methods - environmental and health effects - safety of personnel.) <p>(NOTE: The requirements of this section of the manual apply only to those installations that operate a MSWLF.)</p> <p>Verify that standard sanitary landfill techniques of spreading and compacting solid wastes are used.</p> <p>Verify that daily cover is placed over disposed solid waste at the end of each operating day.</p> <p>(NOTE: The requirements of this section of the manual apply only to those installations that operate a MSWLF.)</p> <p>Verify that the land disposal site is operated in such a way as to protect aquifers.</p> <p>(NOTE: The requirements of this section of the manual apply only to those installations that operate a MSWLF.)</p>

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<p>SO.40.6.WW. Installations must prohibit open burning at the MSWLF (OEBGD 7.3.12.5).</p>	<p>Verify that there is no open burning of MSW.</p> <p>(NOTE: Infrequent burning of agricultural wastes, silvicultural wastes, land-clearing debris, diseased trees, or debris from emergency cleanup operations is allowed.)</p> <p>(NOTE: The requirements of this section of the manual apply only to those installations that operate a MSWLF.)</p>
<p>SO.40.7.WW. Installations must ensure that methane generated by the MSWLF unit does not exceed 25 percent of the lower explosive limit for methane in structures on or near the MSWLF (OEBGD 7.3.12.9) [Revised September 2000].</p>	<p>Verify that methane generated by the MSWLF unit does not exceed 25 percent of the lower explosive limit for methane in structures on or near the MSWLF.</p> <p>(NOTE: The lower explosive limit for methane is 5.0 percent by volume.)</p> <p>(NOTE: The requirements of this section of the manual apply only to those installations that operate a MSWLF.)</p>
<p>SO.40.8.WW. Conditions at land disposal sites must be unfavorable for the harboring, feeding, and breeding of disease vectors (OEBGD 7.3.12.8).</p>	<p>Verify that conditions at the land disposal site are unfavorable for the harboring, feeding, and breeding of disease vectors.</p> <p>(NOTE: The requirements of this section of the manual apply only to those installations that operate a MSWLF.)</p>
<p>SO.40.9.WW. Land disposal sites must be operated in an aesthetically acceptable manner (OEBGD 7.3.12.10).</p>	<p>Verify that the MSWLF is operated in an aesthetically acceptable manner.</p> <p>(NOTE: The requirements of this section of the manual apply only to those installations that operate a MSWLF.)</p>
<p>SO.40.10.WW. Installations must control public access to landfill facilities (OEBGD 7.3.12.12).</p>	<p>Verify that public access to landfill facilities is controlled.</p> <p>(NOTE: The requirements of this section of the manual apply only to those installations that operate a MSWLF.)</p>
<p>SO.40.11.WW. Land disposal sites must be operated in such a way as to protect the health and safety of personnel (OEBGD 7.3.12.7).</p>	<p>Verify that the MSWLF is operated in such a way as to protect the health and safety of the personnel associated with the operation.</p> <p>(NOTE: The requirements of this section of the manual apply only to those installations that operate a MSWLF.)</p>
<p>SO.40.12.WW. Operators of land disposal sites must maintain records of their operations (OEBGD 7.3.12.14) [Revised September 2000].</p>	<p>Verify that records are maintained that cover the requirements of OEBGD 7.3.12.</p> <p>(NOTE: See SO.30.1.WW and the checklist items in SO.40.)</p> <p>(NOTE: The requirements of this section of the manual apply only to those installations that operate a MSWLF.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>SO.50 LAND DISPOSAL SITES: Closure and Postclosure</p> <p>SO.50.1.WW. Installations must take specific actions in the course of closure and postclosure operations (OEBGD 7.3.12.15.1 through 7.3.12.15.4) [Revised September 2000; Citation Revised June 2010].</p> <p>SO.50.2.WW. Installations must prepare a written closure plan that meets specific requirements (OEBGD 7.3.12.15.5) [Revised September 2000; Citation Revised June 2010].</p>	<p>Verify that a final cover is installed that is designed to minimize infiltration and erosion.</p> <p>Verify that the infiltration layer is made up of a minimum of 46 cm (18 in.) of earthen material, geotextiles, or combination thereof, that have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present or a permeability no greater than 0.00005 cm/s, whichever is less.</p> <p>Verify that the final layer is a minimum of 21 cm (8 in.) of earth material that can sustain native plant growth.</p> <p>Verify that, if possible, the final cap is revegetated with native plants that are compatible with the landfill design, including the liner.</p> <p>(NOTE: The requirements of this section of the manual apply only to those installations that operate a MSWLF.)</p> <p>Verify that the installation has a written closure plan.</p> <p>Verify that the closure plan is kept as part of the installation's permanent records.</p> <p>Verify that the closure plan includes the following, at a minimum:</p> <ul style="list-style-type: none"> - a description of the monitoring and maintenance activities required to ensure the integrity of the final cover - a survey plot showing the exact site location - a description of planned uses during the postclosure period - plans for continuing (during the postclosure period) leachate collection, groundwater monitoring, and methane monitoring - the duration of the postclosure period, to be a minimum of 5 yr. <p>(NOTE: The requirements of this section of the manual apply only to those installations that operate a MSWLF.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>SO.60 LAND DISPOSAL SITES: New Landfills</p> <p>SO.60.1.WW. Installations must not initiate new or expand existing waste landfill units without approval of the Combatant Commander with responsibility for the area where the landfill would be located and only after showing that unique circumstances necessitate a new unit (OEBGD 7.3.10) [Revised September 2000].</p> <p>SO.60.2.WW. The design and operation of new DOD MSWLF units must incorporate certain broad factors (OEBGD 7.3.11) [Revised September 2000].</p>	<p>Determine whether the installation is planning to start a new landfill or expand an existing one.</p> <p>Verify that appropriate approval has been received from the Combatant Commander with responsibility for the area where the landfill would be located.</p> <p>(NOTE: The requirements of this section of the manual apply only to those installations that operate a MSWLF.)</p> <p>Verify that the following broad factors are taken into account in the design and operation of the new MSWLF:</p> <ul style="list-style-type: none"> - location restrictions in regard to airport safety (i.e., bird hazards), floodplains, wetlands, aquifers, seismic zones, and unstable areas - procedures for excluding hazardous waste - cover material criteria (e.g., daily cover) - disease vector control - explosive gas control - air quality standards (e.g., no open burning) - access requirements - liquids restrictions - recordkeeping requirements - inspection program - liner and leachate collection system designed consistent with location to prevent groundwater contamination that would adversely affect human health - groundwater monitoring system. <p>(NOTE: The groundwater monitoring system is not required if the installation operating the landfill determines, after consultation with the Environmental Executive Agent, that there is no reasonable potential for migration of hazardous constituents from the MSWLF to the uppermost aquifer during the active life of the facility and the post-closure care period.)</p> <p>(NOTE: The requirements of this section of the manual apply only to those installations that operate a MSWLF.)</p>

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**SO.70
COMPOSTING
FACILITIES**

SO.70.1.WW. Composting facilities located on DoD installations that process more than 5000 tons of sludge from a domestic wastewater treatment plant annually must meet specific standards (OEBGD 7.3.14) [Revised September 2000; Citation Revised June 2010].

Verify that a record is maintained for the characteristics of the waste composted, sewage sludge, and other materials, such as nutrient or bulking agents including the source and volume or weight of the material.

Verify that access to the facility is controlled.

Verify that all access points are secured when the facility is not in operation.

Verify that by-products (including residual materials that can be recycled) are stored to prevent vector intrusion and aesthetic degradation.

Verify that materials that are not composted are removed periodically.

Verify that runoff water that has come in contact with composted waste, materials stored for composting, or residual waste is diverted to a leachate collection and treatment system.

Verify that the temperature and retention time for material being composted are monitored and recorded.

Verify that the compost is analyzed periodically for the following:

- percentage of total solids
- volatile solids as a percentage of total solids
- pH
- ammonia
- nitrate
- nitrogen
- total phosphorus
- cadmium
- chromium
- copper
- lead
- nickel
- zinc
- mercury
- PCBs.

Verify that compost is produced by a process that further reduces pathogens.

(NOTE: Two acceptable methods of production are windrowing and the enclosed vessel method:

- windrowing consists of an unconfined composting process involving period-

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<p>SO.70.2.WW. Compost produced at a facility located on a DoD installation that processes more than 5000 tons of sludge from a domestic wastewater treatment plant annually must be distributed in accordance with the classification of the compost (OEBGD 7.3.15.1 and 7.3.15.3) [Revised September 2000; Citation Revised June 2010].</p>	<p>ic aeration and mixing such that aerobic conditions are maintained during the composting process</p> <ul style="list-style-type: none"> - enclosed vessel method involves mechanically mixing compost under controlled environmental conditions: <ul style="list-style-type: none"> - the retention time in the vessel must be at least 72 h with the temperature maintained at 55 °C - a stabilization period of at least 7 days must follow the decomposition period.) <p>Verify that Class A compost is:</p> <ul style="list-style-type: none"> - stabilized - stored until it has matured (a 60 percent decomposition). <p>Verify that Class B compost is not distributed for agricultural applications.</p> <p>(NOTE: Class A compost may be distributed for unrestricted use, including agricultural applications.)</p>

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<p>SO.80 MEDICAL WASTE: General</p> <p>SO.80.1.WW. Radioactive medical waste must be managed in accordance with service directives (OEBGD 8.3.5).</p> <p>SO.80.2.WW. [Moved March 2004].</p> <p>SO.80.3.WW. Solid waste that is classified as hazardous must be managed as hazardous waste (OEBGD 8.3.3) [Revised September 2000; Moved March 2004].</p>	<p>Determine whether the installation disposes of radioactive medical waste.</p> <p>Verify that such waste is managed in accordance with service directives.</p> <p>Moved to SO.90.12.WW as part of the implementation of common OCONUS topic headings.</p> <p>Verify that noninfectious medical waste that is classified as hazardous in accordance with OEBGD Appendix 1 is managed as hazardous waste.</p> <p>(NOTE: See Section 4, <i>Hazardous Waste Management</i>.)</p> <p>[Formerly checklist item number SO.90.10.WW.]</p>

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<p>SO.90 MEDICAL WASTE: Infectious Medical Waste</p> <p>SO.90.1.WW. All personnel who handle infectious medical waste must wear appropriate protective apparel or equipment (OEBGD 8.3.13) [Revised September 2000].</p> <p>SO.90.2.WW. Infectious medical waste must be separated, if practical, from noninfectious medical waste at the point of origin (OEBGD 8.3.1) [Revised September 2000].</p> <p>SO.90.3.WW. Mixtures of infectious medical waste and other types of waste must be handled in accordance with specific criteria (OEBGD 8.3.2 through 8.3.4) [Revised September 2000].</p> <p>SO.90.4.WW. Infectious medical waste must be handled in accordance with specific requirements (OEBGD 8.3.6, 8.3.7, 8.3.9, and 8.3.10) [Revised September 2000].</p>	<p>Verify that all personnel who handle infectious medical waste wear appropriate protective equipment such as gloves, coveralls, masks, and goggles, sufficient to prevent risk of exposure to infectious agents or pathogens.</p> <p>Verify that, if practical, infectious medical waste is separated from other solid waste at the point of origin.</p> <p>Verify that mixtures of infectious medical waste and hazardous wastes are handled as infectious hazardous waste under DoD 4160.21-M.</p> <p>(NOTE: Priority is given to the hazard that presents the greatest risk.)</p> <p>(NOTE: Mixtures of infectious medical wastes and hazardous wastes are the responsibility of the generating DOD component, not the Defense Reutilization and Marketing Office [DRMO] until such wastes are rendered noninfectious as determined by the appropriate medical authority.)</p> <p>Verify that mixtures of other solid waste and infectious medical waste are handled as infectious medical waste.</p> <p>Verify that infectious medical waste is not compacted unless it has been converted to noninfectious medical waste by treatment.</p> <p>Verify that infectious medical waste is transported and stored in such a way as to minimize human exposure.</p> <p>Verify that infectious medical waste is not placed in chutes or dumbwaiters.</p> <p>Verify that infectious medical waste is segregated, transported, and stored in bags or receptacles that are a minimum of 3 mil thick, durable, puncture resistant, and have sufficient burst strength to prevent rupture or leaks during ordinary use.</p> <p>Verify that all bags or receptacles used to segregate, transport, or store infectious medical waste are clearly marked with the universal biohazard symbol and the word "BIOHAZARD" in English and the language of the host nation.</p>

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<p>SO.90.5.WW. Infectious medical waste must be treated prior to disposal in accordance with specific standards (OEBGD 8.3.17.1, 8.3.17.2, and 8.3.17.5) [Revised September 2000; Revised June 2010].</p> <p>SO.90.6.WW. Infectious medical waste that cannot be treated onsite must be managed during storage in accordance with specific requirements (OEBGD 8.3.14 and 8.3.15) [Revised September 2000].</p> <p>SO.90.7.WW. Bags and receptacles that contain infectious medical waste must be placed into rigid or semi-rigid leakproof containers before being transported offsite (OEBGD 8.3.16).</p> <p>SO.90.8.WW. Spills of infectious medical waste must be cleaned up in accordance with specific requirements (OEBGD 8.3.19) [Revised September 2000].</p>	<p>Verify that all bags or receptacles used to segregate, transport, or store infectious medical waste include marking that identifies the generator, date of generation, and the contents.</p> <p>Verify that medical waste is treated prior to disposal in accordance with OEBGD Table C8.T1, "Treatment and Disposal Methods for Infectious Medical Waste."</p> <p>Verify that, if sterilization is required, sterilizers are maintained at a temperature of 121 °C (250 °F) for at least 30 min at 15 psi.</p> <p>Verify that, if sterilization is required, the effectiveness of sterilizers is checked at least weekly using <i>Bacillus stearothermophilus</i> spore strips or an equivalent biological performance test.</p> <p>Verify that, if chemical disinfection is required, such disinfection is conducted using procedures and compounds approved by appropriate DOD medical authority for use on any pathogen or infectious agent suspected to be present in the waste.</p> <p>Verify that infectious medical waste is maintained in a nonputrescent state, using refrigeration as necessary.</p> <p>Verify that infectious medical waste with multiple hazards (i.e., infectious hazardous waste, or infectious radioactive waste) is segregated from the general infectious waste stream when additional or alternative treatment is required.</p> <p>Verify that storage sites:</p> <ul style="list-style-type: none"> - are specifically designated - are constructed to prevent the entry of insects, rodents, and other pests - do not allow access by unauthorized personnel - marked on the outside with the universal biohazard symbol and the word BIOHAZARD in English and the language of the host nation. <p>Verify that bags and receptacles that contain infectious medical waste are placed into rigid or semi-rigid leakproof containers before being transported offsite.</p> <p>Verify that spills of infectious medical waste are cleaned up as soon as possible.</p> <p>Verify that response personnel wear appropriate personal protective equipment that is sufficient to prevent risk of exposure to infectious agents or pathogens.</p> <p>Verify that spills of blood or body fluids or other infectious fluids are removed with absorbent material.</p>

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<p>SO.90.9.WW. The handling of anatomical pathology waste is subject to specific requirements (OEBGD 8.3.11).</p> <p>SO.90.10.WW. [Moved March 2004].</p> <p>SO.90.11.WW. Sharps must be managed in accordance with specific criteria (OEBGD 8.3.8 and 8.3.10) [Revised September 2000].</p> <p>SO.90.12.WW. Installations must develop contingency plans for the treatment or disposal of infectious medical waste (OEBGD 8.3.18) [Moved March 2004].</p>	<p>Verify that such absorbent material is then managed as infectious medical waste.</p> <p>Verify that surfaces contacted by infectious medical waste are washed with soap and water and chemically decontaminated using procedures and compounds approved by appropriate DOD medical authority for use on any pathogen or infectious agent suspected to be present.</p> <p>Verify that all anatomical pathology waste (i.e., large body parts) is placed in containers lined with plastic bags that are a minimum of 3 mil thick, durable, puncture resistant, and have sufficient burst strength to prevent rupture or leaks during ordinary use.</p> <p>Moved to SO.80.3.WW as part of the implementation of common OCONUS topic headings.</p> <p>Verify that sharps are discarded into rigid receptacles only.</p> <p>Verify that needles are not clipped, cut, bent, or recapped before treatment or disposal.</p> <p>Verify that containers holding sharps are not compacted.</p> <p>Verify that the installation has a contingency plan for the treatment or disposal of infectious medical waste should the primary means become inoperable.</p> <p>[Formerly checklist item number SO.80.2.WW.]</p>

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<p>SO.100 MEDICAL WASTE: Disposal</p> <p>SO.100.1.WW. Anatomical pathology waste must be either incinerated or buried (OEBGD 8.3.11) [Revised September 2000; Revised June 2010].</p> <p>SO.100.2.WW. Blood, blood products, and other liquid infectious wastes must be handled in accordance with specific criteria (OEBGD 8.3.12) [Revised September 2000; Revised June 2010].</p> <p>SO.100.3.WW. Incinerators used to dispose of medical waste must meet specific requirements (OEBGD 8.3.17.3).</p> <p>SO.100.4.WW. Ash or residue from the incineration of infectious medical waste must be assessed for hazardous characteristics (OEBGD 8.3.17.4).</p> <p>SO.100.5.WW. Installations must keep records concerning</p>	<p>Verify that anatomical pathology waste (i.e., large body parts) is disposed of in a landfill or by burial in a designated area after being treated for disposal by incineration or cremation.</p> <p>Verify that suction canister waste from operating rooms is either decanted into a clinical sink or sealed into leakproof containers and incinerated.</p> <p>Verify that, when pretreatment of bulk blood and blood products is required, the treatment and disposal methods in OEBGD Table C8.T1 are followed prior to discharge to the sewer system.</p> <p>Verify that emptied containers that previously held bulk blood or blood products are managed as infectious medical waste.</p> <p>(NOTE: Bulk blood and blood products may be decanted into a sewer system collection [e.g., sinks, drains] if pretreatment is not required.)</p> <p>Verify that such incinerators are designed and operated to maintain a minimum temperature and retention time sufficient to destroy all infectious agents and pathogens.</p> <p>Verify that such incinerators meet applicable air emissions criteria in Chapter 2 of OEBGD.</p> <p>(NOTE: See Section 1, <i>Air Quality Management</i>.)</p> <p>Verify that ash or residue from the incineration of infectious medical waste is assessed for hazardous characteristics.</p> <p>Verify that ash that is determined to be hazardous waste is managed as hazardous waste.</p> <p>(NOTE: See Section 4, <i>Hazardous Waste Management</i>.)</p> <p>Verify that all other residue that is not determined to be hazardous is disposed of in accordance with the requirements of OEBGD, Chapter 7.</p> <p>(NOTE: See SO.10 through SO.80.)</p> <p>Verify that records concerning infectious medical waste are kept for at least 3 yr</p>

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infectious medical waste (OEBGD 8.3.20) [Revised September 2000].	<p>after the date of disposal.</p> <p>Verify that such records include the following information:</p> <ul style="list-style-type: none"> - type of waste - amount of waste (by volume or weight) - treatment (if any), including date of treatment - disposition, including date of disposition, and, if the waste is transferred to host-nation facilities, receipts acknowledging the above three items, for each transfer.

SECTION 10
STORAGE TANK MANAGEMENT

OEBGD Protocols

June 2010

A. Applicability of This Section

This section contains criteria for the management of underground storage tanks (USTs), hazardous waste tank systems, and tank wastes.

B. Source Documents

- *Overseas Environmental Baseline Guidance Document (OEBGD)*, 1 May 2007, Chapters 6, 9, and 19.

C. Key Compliance Requirements

- All installations must maintain a UST inventory that includes specific information.
- USTs and piping must be properly closed if not needed or be upgraded or replaced.
- If a UST has not been used for 1 yr, all of the product and sludges must be removed and the tank either cleaned and filled with an inert substance or removed.
- Leaking USTs must be removed from service immediately.
- New hazardous material USTs and piping must have secondary containment.
- Secondary containment must be in place for tank systems used to store or treat hazardous waste.
- For existing hazardous waste tank systems without proper secondary containment, the installation must make an annual determination as to whether the tank system is leaking or is fit for use.
- When new hazardous waste tank systems or components are installed, Hazardous Waste Storage Area (HWSA) managers must obtain an assessment certifying that the tank system is acceptable.
- HWSA personnel must conduct inspections of hazardous waste tank systems and associated equipment.
- Hazardous waste tank systems or secondary containment systems from which there has been a leak or spill, or that are unfit for use must be immediately removed from service and repaired or closed.
- Before closing a hazardous waste tank system, all waste residues and contaminated containment system components, soils, structures, and equipment must be removed or decontaminated to the greatest extent practicable.

D. Definitions

- *Deferred UST* - a deferred UST is an underground tank system that fits into one of the following categories (OEBGD 19.2):
 1. A hydrant fuel distribution system; or
 2. A field-constructed tank.

- *Hazardous Material* - any material that is capable of posing an unreasonable risk to health, safety, or the environment if improperly handled, stored, issued, transported, labeled, or disposed of because it displays a characteristic listed in OEBGD Table C5.T1., “Typical Hazardous Materials Characteristics,” or the material is listed in OEBGD Table AP1.T4., “List of Hazardous Waste/Substances/Materials.” Munitions are excluded. The term does not include (OEBGD 5.2 and 19.2):
 1. petroleum, including crude POL or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous material above
 2. natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).
- *Hazardous Material UST* - a UST that contains a hazardous material (but not including hazardous waste as defined immediately below) or any mixture of such hazardous materials, and petroleum, and which is not a petroleum UST (OEBGD 19.2).
- *Hazardous Waste* - a discarded material that may be solid, semisolid, liquid, or contained gas and either exhibits a characteristic of a hazardous waste in OEBGD, Section AP1.1 or is listed as a hazardous waste in OEBGD Tables AP1.T1 through AP1.T4. Excluded from this definition are domestic sewage sludge, household wastes, and medical wastes (OEBGD 6.2).
- *Hazardous Waste Storage Area (HWSA)* - refers to one or more locations on a DOD installation where hazardous waste is collected prior to shipment for treatment or disposal. A HWSA may store more than 55 gal of a hazardous waste stream and more than 1 qt of an acute hazardous waste stream (OEBGD 6.2).
- *Hazardous Waste Storage Area Manager* - a person or agency on the installation assigned the operational responsibility for receiving, storing, inspecting, and general management of the installation’s HWSA or HWSA program (OEBGD 6.2).
- *Oil* - oil of any kind or in any form, including, but not limited to, petroleum, fuel POL, lube oils, animal fats, vegetable oil, sludge, POL refuse, and POL mixed with wastes other than dredged spoil (OEBGD 18.2 and 19.2).
- *Petroleum, Oil, and Lubricants (POL)* - refined petroleum, oils, and lubricants, including, but not limited to, petroleum, fuel, lubricant oils, synthetic oils, mineral oils, animal fats, vegetable oil, sludge, and POL mixed with wastes other than dredged spoil (OEBGD C9.2).
- *Pipeline Facility* - includes new and existing pipes, pipeline rights of way, auxiliary equipment (e.g., valves and manifolds), and buildings or other facilities used in the transportation of POL (OEBGD C9.2).
- *Significant Spill* - an uncontained release to the land or water in excess of any of the following quantities (OEBGD 18.2):
 1. for hazardous waste or hazardous substance identified as a result of inclusion in OEBGD Table AP1.T4, any quantity in excess of the RQ listed therein
 2. for POL or liquid or semi-liquid hazardous material, hazardous waste or hazardous substance, in excess of 400 L (110 gal)
 3. for other solid hazardous material, in excess of 225 kg (500 lb)
 4. for combinations of POL and liquid, semi-liquid, and solid hazardous materials, hazardous waste, or hazardous substance, in excess of 340 kg (750 lb).

(NOTE: If a spill is contained inside an impervious berm, or on a nonporous surface, or inside a building and is not volatilized and is cleaned up, the spill is considered a contained release and is not considered a significant spill.)

- *Tank Tightness Testing* - a test which must be capable of detecting a 0.38 L (0.1 gal) per hour leak from any portion of the tank that routinely contains product while accounting for the effects of thermal expansion or contraction of the product, vapor pockets, tank deformation, evaporation or condensation, and the location of the water table (OEBGD 19.2).

- *Treatment* - any method, technique, or process, excluding elementary neutralization, designed to change the physical, chemical, or biological characteristics or composition of any hazardous waste so as to render such waste nonhazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume (OEBGD 6.2).
- *Underground Storage Tank (UST)* - any tank, including underground piping connected thereto, larger than 416 L (110 gal) that is used to contain POL products or hazardous materials and the volume of which, including the volume of connected pipes, is 10 percent or more beneath the surface of the ground, but does not include (OEBGD 9.2 and 19.2):
 1. tanks containing heating oil used for consumption on the premises where it is stored
 2. septic tanks
 3. stormwater or wastewater collection systems
 4. flow through process tanks
 5. surface impoundments, pits, ponds, or lagoons
 6. field constructed tanks
 7. hydrant fueling systems
 8. USTs containing *de minimis* concentrations of regulated substances other than those that have been properly closed per OEBGD 19.3.2.7
 9. emergency spill or overflow containment UST systems that are expeditiously emptied after use
 10. storage tanks located in an accessible underground area (such as a basement or vault) if the storage tank is situated upon or above the surface of the floor.

E. Records To Review

- UST inventory
- Records of all spills, leaks, and associated site assessment/cleanup activities

F. Physical Features To Inspect

- Aboveground storage tanks and dikes
- UST areas

G. Guidance for Checklist Users

	REFER TO CHECKLIST ITEMS:
Missing Checklist Items/Positive Findings	ST.2.1.WW and ST.2.2.WW
USTs	
General	ST.20.1.WW through ST.20.4.WW
All USTs	ST.21.1.WW through ST.21.9.WW
Leaking USTs	ST.50.1.WW and ST.50.2.WW
Additional Requirements for Hazardous Sub- stance USTs	ST.60.1.WW through ST.60.3.WW
Hazardous Waste Tank Systems	ST.70.1.WW through ST.70.7.WW
Tank Wastes	ST.80.1.WW

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>ST.2 MISSING CHECKLIST ITEMS/POSITIVE FINDINGS</p> <p>ST.2.1.WW. Installations must comply with all applicable regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding) [Added September 2000; Revised June 2010].</p> <p>ST.2.2.WW. Installations should go above and beyond environmental statutory and regulatory compliance (MP) [Added September 2000].</p>	<p>Determine whether any new regulations concerning USTs, hazardous waste tank systems, and tank wastes have been issued since the finalization of the manual.</p> <p>Determine whether the installation has activities or facilities that are regulated but not addressed in this checklist.</p> <p>Verify that the installation is in compliance with all applicable and newly issued regulations.</p> <p>Determine whether the installation has gone above and beyond simply complying with environmental requirements.</p> <p>(NOTE: This checklist item is used only to write positive findings.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>ST.10 ASTs: General</p> <p>ST.10.1.WW. [Revised September 2000; Moved September 2003].</p> <p>ST.10.2.WW. [Revised September 2000; Moved September 2003].</p> <p>ST.10.3.WW. [Revised September 2000; Moved September 2003].</p> <p>ST.10.4.WW. [Moved September 2003].</p>	<p>Moved to ST.11.1.WW.</p> <p>Moved to ST.11.2.WW.</p> <p>Moved to ST.12.1.WW.</p> <p>Moved to ST.80.1.WW.</p>

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT OEBGD Protocols	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>ST.11 ASTs: Design</p> <p>ST.11.1.WW. [Deleted June 2010].</p> <p>ST.11.2.WW. [Deleted June 2010].</p>	<p>Deleted upon release of OEBGD, 1 May 2007. For POL storage containers (both above- and belowground, see Section 8, <i>POL Management</i>.</p> <p>Deleted upon release of OEBGD, 1 May 2007. For POL storage containers (both above- and belowground, see Section 8, <i>POL Management</i>.</p>

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT OEBGD Protocols	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>ST.12 ASTs: Operations</p> <p>ST.12.1.WW. [Deleted June 2010].</p>	<p>Deleted upon release of OEBGD, 1 May 2007. For POL storage containers (both above- and belowground, see Section 8, <i>POL Management</i>).</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>ST.20 USTs: General</p> <p>ST.20.1.WW. All installations must maintain a UST inventory (OEBGD 19.3.1 and 19.3.3) [Revised June 2010; Citation Revised June 2010].</p> <p>ST.20.2.WW. When the product stored in a UST is changed, the UST must be emptied and cleaned by removing all liquid and accumulated sludge (OEBGD 19.3.2.8) [Added June 2010].</p> <p>ST.20.3.WW. Specific actions must be taken when a UST system is temporarily closed (OEBGD 19.3.2.9) [Added June 2010].</p> <p>ST.20.4.WW. Deferred USTs constructed after 8 May 1985 must be managed in accordance with specific requirements (OEBGD 19.3.5) [Added June 2010].</p>	<p>Verify that the installation has an inventory of USTs.</p> <p>Verify that the tank system inventory includes records on:</p> <ul style="list-style-type: none"> - tank system installation - tank system repair, removal, replacement, or upgrade - operation of corrosion protection equipment. <p>Verify that records are kept for the life of the tank.</p> <p>Verify that, when the product stored in a UST is changed, the UST is emptied and cleaned by removing all liquid and accumulated sludge.</p> <p>Verify that, when a UST system is temporarily closed, corrosion protection and leak detection systems are operated and maintained, if the UST is not empty.</p> <p>Verify that, if a UST system is temporarily closed for 3 mo or more, the vent lines are left open and functioning.</p> <p>Verify that, if a UST system is temporarily closed for 3 mo or more, all other lines, pumps, manways, and ancillary equipment is secured and capped.</p> <p>Verify that deferred USTs constructed after 8 May 1985 are:</p> <ul style="list-style-type: none"> - designed and constructed with corrosion protection - designed and constructed of noncorrodible materials, or - otherwise designed and constructed to prevent releases from corrosion or structural failure. <p>Verify that UST materials are compatible with the substance(s) to be stored.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>ST.21 USTs: All USTs</p> <p>ST.21.1.WW. USTs and piping must be provided with corrosion protection unless constructed of fiberglass or other non-corrodible materials (OEBGD 19.3.2 and 19.3.2.1) [Added June 2010].</p> <p>ST.21.2.WW. Corrosion protection systems for USTs and piping must be certified by competent authority (OEBGD 19.3.2 and 19.3.2.1) [Added June 2010].</p> <p>ST.21.3.WW. USTs must be provided with spill and overfill prevention equipment that meets specific requirements (OEBGD 19.3.2 and 19.3.2.2) [Added June 2010].</p> <p>ST.21.4.WW. USTs must incorporate leak detection that meets specific requirements (OEBGD 19.3.2.3 and 19.3.2.3.1) [Added June 2010].</p>	<p>Verify that USTs and piping are provided with corrosion protection unless constructed of fiberglass or other non-corrodible materials.</p> <p>(NOTE: These requirements apply to USTs for POL and to those for hazardous material.)</p> <p>Verify that the corrosion protection systems for USTs and piping are certified by competent authority.</p> <p>(NOTE: These requirements apply to USTs for POL and to those for hazardous material.)</p> <p>(NOTE: This requirement does not apply where transfers are made in the amounts of 95 L [25 gal] or less.)</p> <p>Verify that, where spill and overfill protection are required, a spill containment box is installed around the fillpipe.</p> <p>Verify that overfill prevention is provided by one of the following methods:</p> <ul style="list-style-type: none"> - an automatic shut-off device set at 95 percent of tank capacity, or - a high level alarm set at 90 percent of tank capacity. <p>(NOTE: These requirements apply to USTs for POL and to those for hazardous material.)</p> <p>Verify that leak detection systems are capable of detecting a 0.38-Lr (0.1-gal) per hour leak rate or a release of 568 L (150 gal) (or one percent of tank volume, whichever is less) within 30 days with a probability of detection of 0.95 and a probability of false alarm of not more than 0.05.</p> <p>Verify that each UST uses at least one of the following leak detection methods:</p> <ul style="list-style-type: none"> - automatic tank gauging - vapor monitoring - groundwater monitoring, or - interstitial monitoring. <p>(NOTE: These requirements apply to USTs for POL and to those for hazardous material.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>ST.21.5.WW. All pressurized UST piping must be equipped with automatic line leak detectors and utilize either an annual tightness test or monthly monitoring (OEBGD 19.3.2.3.2) [Added June 2010].</p> <p>ST.21.6.WW. Suction piping must either have a line tightness test conducted every 3 yr or use monthly monitoring (OEBGD 19.3.2.3.3) [Added June 2010].</p> <p>ST.21.7.WW. USTs and piping must be properly closed if not needed, or be upgraded or replaced (OEBGD 19.3.2.4) [Added June 2010].</p> <p>ST.21.8.WW. Any UST and piping that does not incorporate a functioning leak detection system will require immediate corrective action (OEBGD 19.3.2.5) [Added June 2010].</p> <p>ST.21.9.WW. Specific actions must be take in the event that a UST has not been used for one year or is determined to be no longer required (OEBGD 19.3.2.7) [Added June 2010].</p>	<p>Verify that all pressurized UST piping is equipped with automatic line leak detectors.</p> <p>Verify that all pressurized UST piping utilizes either an annual tightness test or monthly monitoring.</p> <p>(NOTE: These requirements apply to USTs for POL and to those for hazardous material.)</p> <p>Verify that suction piping either has a line tightness test conducted every 3 yr or uses monthly monitoring.</p> <p>(NOTE: These requirements apply to USTs for POL and to those for hazardous material.)</p> <p>Verify that USTs and piping are either properly closed (if not needed) or upgraded or replaced.</p> <p>(NOTE: These requirements apply to USTs for POL and to those for hazardous material.)</p> <p>Verify that immediate action is taken with respect to any UST and piping that does not incorporate a functioning leak detection system.</p> <p>Verify that any UST and piping that does not incorporate a functioning leak detection system is tightness tested annually in accordance with recognized U.S. industry standards and inventoried monthly to determine system tightness.</p> <p>(NOTE: These requirements apply to USTs for POL and to those for hazardous material.)</p> <p>Determine whether the UST has not been used for one year or is no longer required.</p> <p>Verify that all of the product and sludges are removed.</p> <p>Verify that, subsequently, the UST is either cleaned and filled with an inert substance or removed.</p> <p>(NOTE: See checklist item ST.80.1.WW for requirements that address tank wastes.)</p> <p>(NOTE: These requirements apply to USTs for POL and to those for hazardous material.)</p>

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**REGULATORY
REQUIREMENTS:**

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ST.30

USTs:

New USTs

ST.30.1.WW. [Deleted June 2010].

ST.30.2.WW. [Deleted June 2010].

ST.30.3.WW. [Deleted June 2010].

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>ST.40 USTs: Existing USTs</p> <p>ST.40.1.WW. [Deleted June 2010].</p> <p>ST.40.2.WW. [Deleted June 2010].</p>	

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>ST.50 USTs: Leaking USTs</p> <p>ST.50.1.WW. Any verified leaking UST or UST piping must be immediately removed from service and otherwise managed in accordance with specific requirements (OEBGD 19.3.2.6) [Revised September 2000; Revised June 2010; Citation Revised June 2010].</p> <p>ST.50.2.WW. Any UST and piping suspected of leaking must be verified for leakage to ensure there is not a false positive, or alternately, must immediately be removed from service (OEBGD 19.3.2.6) [Added June 2010].</p>	<p>Verify that any verified leaking USTs are removed from service immediately.</p> <p>Verify that, if the USTs are still needed, they are repaired or replaced.</p> <p>Verify that, if the USTs are no longer needed, they are removed from the ground.</p> <p>Verify that, when a leaking UST is removed, any exposed free product and/or obviously contaminated soil in the immediate vicinity of the tank is appropriately removed and managed.</p> <p>(NOTE: Any additional action is governed by Department of Defense Instruction 4715.8, "Environmental Remediation for DOD Activities Overseas.")</p> <p>Verify that, under extenuating circumstances (e.g., where the UST is located under a building), the UST is cleaned and filled with an inert substance, and left in place.</p> <p>(NOTE: These requirements apply to USTs for POL and to those for hazardous material.)</p> <p>Verify that any UST and piping suspected of leaking (e.g., leak detection equipment) are either verified for leakage to ensure there is not a false positive, or alternately, are immediately removed from service.</p> <p>(NOTE: These requirements apply to USTs for POL and to those for hazardous material.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>ST.60 USTs: Additional Requirements for Hazardous Material USTs</p> <p>ST.60.1.WW. [Deleted June 2010].</p> <p>ST.60.2.WW. Hazardous material USTs and piping must have secondary containment (OEBGD 19.3.4.1 and 19.3.4.3) [Revised September 2000; Revised June 2010].</p> <p>ST.60.3.WW. The interstitial space between the primary and secondary containment of hazardous material USTs must be monitored monthly for liquids or vapors (OEBGD 19.3.4.2) [Revised September 2000; Revised June 2010].</p>	<p>These requirements were deleted from OEBGD, 1 May 2007.</p> <p>Verify that hazardous material USTs and their associated piping have secondary containment. (NOTE: The standards for secondary containment can be met by using double-walled tanks and piping, liners, or vaults.)</p> <p>Verify that hazardous material USTs and piping that do not have secondary containment are immediately removed from service and either upgraded or replaced as necessary.</p> <p>Verify that the interstitial space for hazardous material tanks and piping is monitored monthly for liquids or vapors.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>ST.70 HAZARDOUS WASTE TANK SYSTEMS</p> <p>ST.70.1.WW. Secondary containment must be in place for tank systems used to store or treat hazardous waste (OEBGD 6.3.7.1 and 6.3.7.4).</p> <p>ST.70.2.WW. Existing tank systems without proper secondary containment must meet specific standards (OEBGD 6.3.7.2).</p> <p>ST.70.3.WW. When new tank systems or components are installed, HWSA managers must obtain an assessment certifying that the tank system is acceptable (OEBGD 6.3.7.3).</p> <p>ST.70.4.WW. Tanks used for</p>	<p>(NOTE: This requirement applies to:</p> <ul style="list-style-type: none"> - all new tank systems or components, prior to being put into service - existing tank systems when an annual leak test detects leakage - tanks systems that store or treat hazardous wastes by 1 January 1999.) <p>Verify that such tank systems have secondary containment that is:</p> <ul style="list-style-type: none"> - designed, installed, and operated to prevent the migration of wastes or accumulated liquid out of the system - capable of detecting and collecting releases and accumulated liquids until removal is possible - constructed to include one or more of the following: <ul style="list-style-type: none"> - a liner external to the tank - a vault - a double-walled tank. <p>(NOTE: The provisions of this checklist item do not apply to:</p> <ul style="list-style-type: none"> - tank systems used to store or treat hazardous wastes that contain no free liquids and are situated inside a building with an impermeable floor - tank systems, including sumps, that serve as part of a secondary containment system to collect or contain releases of hazardous wastes.) <p>Verify that, for tank systems without proper secondary containment, an annual determination is made as to whether the tank system is leaking or is fit for use.</p> <p>Verify that the installation obtains, and keeps on file at the HWSA, a written assessment of tank system integrity reviewed and certified by a competent authority.</p> <p>Verify that the HWSA manager has received a written assessment that the tank system has sufficient structural integrity and is acceptable for the storage and treatment of hazardous waste.</p> <p>Verify that the assessment indicates:</p> <ul style="list-style-type: none"> - that the foundation, structural support, seams, connections, and pressure controls are adequately designed - that the tank system has sufficient structural strength, compatibility with the waste(s), and corrosion protection to ensure that it will not collapse, rupture, or fail. <p>Verify that the written assessment has been reviewed and certified by a competent authority.</p> <p>Verify that hazardous wastes or treatment reagents are not placed in tanks if they</p>

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<p>hazardous waste treatment or storage must be operated in accordance with specific procedures (OEBGD 6.3.7.5.1).</p> <p>ST.70.5.WW. HWSA personnel must conduct inspections of tank systems and associated equipment (OEBGD 6.3.7.5.2 and 6.3.7.5.3).</p> <p>ST.70.6.WW. Installations must meet specific requirements with regard to tank systems or secondary containment systems from which there has been a leak or spill, or that are unfit for use (OEBGD 6.3.7.6).</p> <p>ST.70.7.WW. Installations must follow specific procedures when closing a tank system (OEBGD 6.3.7.7).</p>	<p>could cause the tank system (including ancillary equipment or containment system) to fail.</p> <p>Verify that HWSA personnel conduct and log inspections of the following at least once each operating day:</p> <ul style="list-style-type: none"> - aboveground portions of the tank system, to detect corrosion or releases - data gathered from monitoring and leak detection equipment (e.g., pressure or temperature gauges, monitoring wells), to ensure that the tank system is being operated according to its design - the construction materials and the area surrounding the tank, including the secondary containment system to detect erosion or signs of leakage (wet spots, dead vegetation). <p>Verify that cathodic protection systems are inspected to ensure that they are functioning properly.</p> <p>Verify that the proper operation of cathodic protection systems is confirmed within 6 mo after initial installation and annually thereafter.</p> <p>Verify that all sources of impressed current are inspected and/or tested every other month.</p> <p>Verify that the HWSA manager documents all tank system inspections in the operating record of the HWSA.</p> <p>Verify that such systems are immediately removed from service and repaired or closed.</p> <p>Verify that the installation also takes the following steps:</p> <ul style="list-style-type: none"> - stops the flow or addition of hazardous wastes to the tank and/or containment system - inspects systems to determine the cause of the release - contains the visible release and prevents further migration of the leak or spill to soils or surface water - removes and properly disposes of any contamination of the soil and surface water - removes free product to the maximum extent possible - continues monitoring and mitigating for any additional fire and safety hazards posed by vapors or free products in subsurface structures - makes required notifications and reports. <p>Determine whether the installation has closed any tank systems.</p> <p>Verify that all hazardous waste residues, contaminated containment system components, soils, structures, and equipment have been removed or decontaminated to</p>

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	the extent practicable.

**COMPLIANCE CATEGORY:
STORAGE TANK MANAGEMENT
OEBGD Protocols**

**REGULATORY
REQUIREMENTS:**

**REVIEWER CHECKS:
June 2010**

**ST.80
TANK WASTES**

ST.80.1.WW. UST wastes must be tested for hazardous characteristics (OEBGD 19.3.2.7) [Revised September 2000; Moved September 2003; Revised June 2010; Citation Revised June 2010].

Verify that, unless sampling and testing determine that the waste does not exhibit hazardous waste characteristics, UST cleaning wastes (sludge and washwaters) are handled and disposed of in accordance with the requirements of OEBGD, Chapter 6, *Hazardous Waste*.

Verify that, unless sampling and testing determine that the waste does not exhibit hazardous waste characteristics, bottom waters that are periodically drained are collected and disposed of in accordance with the requirements of OEBGD, Chapter 6, *Hazardous Waste*.

(NOTE: See Section 4, *Hazardous Waste Management*.)

(NOTE: Formerly checklist item number ST.10.4.WW.)

SECTION 11
TOXIC SUBSTANCES MANAGEMENT

OEBGD Protocols

June 2010

A. Applicability of this Section

This section contains criteria to control and abate threats to human health and the environment from the handling, use, storage, and disposal of polychlorinated biphenyls (PCBs). These criteria include specific requirements for most uses of PCBs, including but not limited to transformers, capacitors, heat transfer systems, hydraulic systems, electromagnets, switches and voltage regulators, circuit breakers, reclosers, and cables.

Also included here are criteria to control and abate threats to human health and the environment from asbestos and for management of asbestos during removal and disposal.

Lastly, this section contains criteria to establish and implement a lead hazard management program to identify, control, or eliminate LBP (LBP) hazards through interim controls or abatement in child-occupied facilities and military family housing in a manner protective of human health and the environment.

Policy requirements for a comprehensive occupational health and safety program are not covered in this section. To protect personnel from exposure to asbestos and/or lead, refer to Department of Defense Instruction (DODI) 6055.1, *DOD Safety and Occupational Health (SOH) Program*, DODI 6055.5, *Industrial Hygiene and Occupational Health*, and concomitant service instructions.

All criteria related to the management of radon have been removed from the *Overseas Environmental Baseline Guidance Document* (OEBGD), and although the checklist item numbers remain, no radon-related requirements are found therein.

B. Source Documents

- *Overseas Environmental Baseline Guidance Document* (OEBGD), 1 May 2007, Chapters 14, 15, and 17.

C. Key Compliance Requirements

PCBs

- Certain PCB items and rooms, vaults, or storage rooms that contain them must be marked.
- Installations must repair or replace leaking PCB transformers within 48 h or as soon as possible.
- When PCB items are removed from service, they must be marked with the removal date.
- Installations with PCB items must maintain a written inventory of those PCB items.
- Installations must minimize the use of PCBs and PCB items without degrading mission performance.
- Installations must not purchase or otherwise take control of PCBs or PCB items for use.
- All required periodic inspections must be documented at the installation.
- All PCB transformers, including those in storage for reuse, must be registered with the fire department.

- Installations must address PCBs in their spill contingency plans.
- Spills of PCB liquids at concentrations of 50 parts per million (ppm) or greater must be responded to immediately and cleaned up according to specific standards.
- PCBs and PCB items at concentrations greater than 50 ppm that are to be stored before disposal must be stored in a facility that will ensure the containment of PCBs.
- Installations that generate PCB waste of 50 ppm or greater PCB must maintain an audit trail for the waste.
- Installations must dispose of PCB items through the DRMO only.

Asbestos

- Installations must appoint an asbestos program manager.
- Installations must prepare and implement a written asbestos management plan that meets specific minimum requirements.
- Installations must remove friable asbestos-containing material (ACM) when it poses a threat to release airborne asbestos fibers and cannot be reliably repaired or isolated.

Lead-Based Paint

- Installations must develop and implement a multi-disciplinary LBP hazard management program to identify, evaluate, and reduce LBP hazards in child-occupied facilities and military family housing.
- Installations must manage identified LBP hazards through interim controls or abatement.
- Installations must identify LBP hazards in child-occupied facilities and military family housing using particular methods.
- Installations must ensure occupants and worker protection measures are taken during all maintenance, repair, and renovation activities that disturb areas known or assumed to have LBP.
- Installations must disclose to occupants of child-occupied facilities and military family housing the presence of any known LBP or LBP hazards and provide information on LBP hazard reduction.
- Installations must ensure that all personnel involved in lead-based activities, including paint inspection, risk assessment, specification or design, supervision, and abatement, are properly trained.
- Installations must dispose of lead-contaminated waste that meets the definition of a hazardous waste in accordance with the requirements of OEBGD, Chapter 6, *Hazardous Waste*.

D. Definitions

- *Abatement* - any set of measures designed to permanently eliminate LBP or LBP hazards. Abatement includes the removal of LBP and lead-contaminated dust, the permanent enclosure or encapsulation of LBP, the replacement of components or fixtures painted with LBP, and the removal or covering of lead-contaminated soil. Abatement also includes all preparation, cleanup, disposal, and post-abatement clearance activities associated with such measures (OEBGD 17.2).
- *Accessible Surface* - an interior or exterior surface painted with LBP that is accessible for a young child to mouth or chew (OEBGD 17.2).

- *Adequately Wet* - sufficiently mixed or penetrated with liquid to prevent the release of particulates. If visible emissions are observed coming from ACM, then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wet (OEBGD 15.2).
- *Asbestos* - a generic term used to describe six distinctive varieties of fibrous mineral silicates, including chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any other of these materials that have been chemically treated and/or altered (OEBGD 15.2).
- *Asbestos-Containing Building Material (ACBM)* - surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a school building (40 CFR 273.83).
- *Asbestos-Containing Material (ACM)* - any material containing more than 1 percent asbestos by weight (OEBGD 15.2).
- *Bare Soil* - soil, including sand, not covered by grass, sod, or other live ground covers, or by wood chips, gravel, artificial turf, or similar covering (OEBGD 17.2).
- *Capacitor* - a device for accumulating and holding a charge of electricity and consisting of conducting surfaces separated by a dielectric (OEBGD 14.2).
- *Category I Nonfriable ACM* - asbestos containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos (OEBGD 15.2).
- *Category II Nonfriable ACM* - any material, excluding category I nonfriable ACM, containing more than 1 percent asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure (OEBGD 15.2).
- *Chemical Waste Landfill* - a landfill at which a high level of protection against risk of injury to human health or the environment from migration of deposited PCBs to land, water, or the atmosphere is provided by incorporating special methods for locating, engineering, and operating the landfill (OEBGD 14.2).
- *Child-Occupied Facility* - a facility, or portion of a facility, visited regularly by the same child, 6 years of age or under, on at least two different days within any week, provided that each day's visit lasts at least 3 hours and the combined weekly visits last at least 6 hours, and the combined annual visits last at least 60 hours. Child-occupied facilities may include, but are not limited to, day-care centers, preschools, playgrounds, and kindergarten classrooms (OEBGD 17.2).
- *Clearance* - visual evaluation and testing (collection and analysis of environmental samples) conducted after LBP hazard reduction activities, interim controls, and standard treatments to determine that the work is complete and no lead-contaminated bare soil or lead-contaminated settled dust exists in a facility in which children under the age of 6 frequent (OEBGD 17.2).
- *Deteriorated Paint* - any interior or exterior paint or other coating that is peeling, chipping, chalking, cracking or is otherwise damaged or separated from the substrate (OEBGD 17.2).
- *Dust-Lead Hazard* - surface dust in a residential dwelling or child-occupied facility that contains a mass-per-area concentration of lead equal to or exceeding 40 µg/sq. ft. (micrograms of lead per square foot area of surface dust) on floors or 250 µg/sq. ft. on interior window sills based on wipe samples (OEBGD 17.2).
- *Elevated Blood Lead Level* - a confirmed concentration of lead in whole blood of 20 µg/dl (micrograms of lead per deciliter) for a single test, or of 15-19 µg/dl in two tests taken at least 3 months apart (OEBGD 17.2).
- *Encapsulation* - the application of any covering or coating that acts as a barrier between the LBP and the environment. Encapsulation may be used as a method of abatement if it is designed to be permanent (OEBGD 17.2).

- *Enclosure* - the use of rigid, durable construction materials that are mechanically fastened to the substrate in order to act as a barrier between LBP and the environment. Enclosure may be used as a method of abatement if it is designed to be permanent (OEBGD 17.2).
- *Evaluation* - a visual evaluation, risk assessment, risk assessment screen, paint inspection, paint testing, or a combination of risk assessment and paint inspection to determine the presence of deteriorated paint, LBP, or a LBP hazard (OEBGD 17.2).
- *Friable Asbestos* - any material containing more than 1 percent asbestos that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure (OEBGD 15.2).
- *Friction Surface* - an interior or exterior surface that is subject to abrasion or friction, including but not limited to, window, floor, and stair surfaces (OEBGD 17.2).
- *Hazard Reduction* - measures designed to reduce or eliminate human exposure to LBP hazards through methods including interim controls or abatement or a combination of the two (OEBGD 17.2).
- *Impact Surface* - an interior or exterior surface that is subject to damage by repeated sudden force, such as certain parts of door frames (OEBGD 17.2).
- *In or Near Commercial Buildings* - within the interior of, on the roof of, attached to the exterior wall of, in the parking area serving, or within 30 m of a nonindustrial, nonsubstation building (OEBGD 14.2).
- *Incinerator* – an engineered device using controlled flame combustion to thermally degrade PCBs and PCB items. Examples include rotary kilns, liquid injection incinerators, cement kilns, and high temperature boilers (OEBGD 14.2).
- *Interim Controls* - a set of measures designed to temporarily reduce human exposure or likely exposure to LBP hazards. Interim controls include, but are not limited to, repairs, occasional and ongoing maintenance, painting, temporary containment, specialized cleaning, clearance, ongoing activities, and the establishment and operation of management and resident education programs (OEBGD 17.2).
- *Lead-Based Paint* - paint or other surface coatings that contain lead equal to or exceeding 1.0 milligram per square centimeter, or 0.5 percent by weight or 5,000 ppm by weight (OEBGD 17.2).
- *Lead-Based Paint Hazard* - includes paint-lead, dust-lead, or soil-lead hazards as defined elsewhere in this section (OEBGD 17.2).
- *Lead-Based Paint Inspection* - a surface-by-surface investigation to determine the presence of LBP and the provision of a report explaining the results of the investigation (OEBGD 17.2).
- *Leak or Leaking* - any instance in which a PCB article, PCB container, or PCB equipment has any PCBs on any portion of its external surface (OEBGD 14.2).
- *Mark* - the descriptive name, instructions, cautions, or other information applied to PCBs and PCB items, or other objects subject to the OEBGD (OEBGD 14.2).
- *Marked* - the marking of PCB items and PCB storage areas and transport vehicles by means of applying a legible mark by painting, fixation of an adhesive label, or by any other method that meets the criteria of the OEBGD (OEBGD 14.2).
- *Miscellaneous Material* - interior building material on structural components, structural members or fixtures, such as floor and ceiling tiles, and does not include surfacing material or thermal system insulation (40 CFR 273.83).
- *Non-PCB Transformer* – any transformer that contains less than 50 ppm PCB (OEBGD 14.2).

- *Paint-Lead Hazard* – (a) any LBP on a friction surface that is subject to abrasion and where the lead dust levels on the nearest horizontal surface underneath the friction surface (e.g., the window sill or floor) are equal to or greater than dust-lead hazard levels; (b) any damaged or otherwise deteriorated LBP on an impact surface that is caused by impact from a related building component (such as a doorknob that knocks into a wall or a door that knocks against its doorframe); (c) any chewable lead-based painted surface on which there is evidence of teeth marks; or (d) any other deteriorated LBP in any residential building or child-occupied facility or on the exterior of any residential building or child-occupied facility (OEBGD 17.2).
- *PCB Article* - any manufactured article, other than a PCB container, that contains PCBs and whose surface(s) has been in direct contact with PCB. This includes capacitors, transformers, electric motors, pumps, and pipes (OEBGD 14.2).
- *PCB Article Container* - any package, can, bottle, bag, barrel, drum, tank, or other device that contains PCB articles or PCB equipment, and whose surface(s) has not been in direct contact with PCBs (OEBGD 14.2).
- *PCB Container* - any package, can, bottle, bag, barrel, drum, tank, or other device used to contain PCBs or PCB articles, and whose surface(s) has been in direct contact with PCBs (OEBGD 14.2).
- *PCB-Contaminated Electrical Equipment* - any electrical equipment including, but not limited to, transformers, capacitors, circuit breakers, reclosers, voltage regulators, switches, electromagnets, and cable that contain 50 ppm or greater PCB, but less than 500 ppm PCB (OEBGD 14.2).
- *PCB Equipment* - any manufactured item, other than a PCB container or a PCB article container, that contains a PCB article or other PCB equipment, and includes microwave ovens, electronic equipment, and fluorescent light ballasts and fixtures (OEBGD 14.2).
- *PCB Item* - any PCB article, PCB article container, PCB container, or PCB equipment that deliberately or unintentionally contains, or has as a part of it, any PCB or PCBs at a concentration of 50 ppm or greater (OEBGD 14.2).
- *PCB Large High Voltage Capacitor* - a capacitor that contains 1.36 kg (3 lb) or more of dielectric fluid and which operates at 2,000 volts (a.c. or d.c.) or above (OEBGD 14.2).
- *PCB Large Low Voltage Capacitor* - a capacitor that contains 1.36 kg (3 lb) or more of dielectric fluid and which operates below 2,000 volts (a.c. or d.c.) (OEBGD 14.2).
- *PCB Transformer* - any transformer that contains 500 ppm PCB or greater (OEBGD 14.2).
- *Permanent* - an expected design life of at least 20 years (OEBGD 17.2).
- *Reevaluation* - a visual evaluation of painted surfaces and limited dust and soil sampling conducted periodically following LBP hazard reduction where LBP is still present (OEBGD 17.2).
- *Regulated ACM* - (a) friable asbestos material, (b) category I nonfriable ACM that has become friable, (c) category I nonfriable ACM that will be or has been subjected to sanding grinding, cutting, or abrading, or (d) category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations (OEBGD 15.2).
- *Replacement* - a strategy of abatement that entails removing building components that have surfaces coated with LBP (such as windows, doors, and trim) and installing new components free of LBP (OEBGD 17.2).
- *Restricted Access Area* - areas where access by unauthorized personnel is controlled by fences, other man-made structures, or naturally-occurring barriers such as mountains, cliffs, or rough terrain (OEBGD 14.2).

- *Risk Assessment* - an onsite investigation to determine the existence, nature, severity, and location of LBP hazards and the provision of a report explaining the results of the investigation and options for reducing LBP hazards (OEBGD 17.2).
- *Risk Assessment Screen* - a sampling protocol that is used in dwellings that are in relatively good condition and where the probability of finding lead-based hazards are low. The protocol involves inspecting such dwellings and collecting samples from representative locations on the floor, interior window sills, and window troughs to determine whether conducting a risk assessment is warranted (OEBGD 17.2).
- *School Building* - includes (40 CFR 273.83):
 - any structure suitable for use as a classroom, including a school facility such as a laboratory, library, school eating facility, or facility used for the preparation of food
 - any gymnasium or other facility which is specially designed for athletic or recreational activities for an academic course in physical education
 - any other facility used for the instruction or housing of students or for the administration of educational or research programs
 - any maintenance, storage, or utility facility, including any hallway, essential to the operation of any facility described in this definition of school building
 - any portico or covered exterior hallway or walkway
 - any exterior portion of a mechanical system used to condition interior space.
- *Soil Lead Hazard* - bare soil on residential real property or on the property of a child-occupied facility that contains total lead equal to or exceeding 400 ppm ($\mu\text{g/g}$) (micrograms of lead per gram of bare soil) in a play area, or an average of 1,200 ppm of bare soil in the rest of the yard based on soil samples (OEBGD 17.2).
- *Substantial Contact Area* - an area that is subject to public access on a routine basis or which could result in substantial dermal contact by employees (OEBGD 14.2).
- *Surfacing Material* - material in a school building that is sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes (40 CFR 273.83).
- *Thermal System Insulation* - material in a school building applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain, or water condensation, or for other purposes (40 CFR 273.83).

E. Records To Review

- Inspection, storage, maintenance, and disposal records for PCBs/PCB items
- PCB Equipment inventory and sampling results
- Asbestos management plan
- Asbestos survey documentation
- Documentation of asbestos sampling and analytical results
- Documentation of preventive measure or action
- Results of air sampling at the conclusion of response action
- Records of asbestos training program
- List of buildings insulated with asbestos or housing ACMs
- Record of demolition or renovation projects completed in the past 5 yr that involve friable asbestos

F. Physical Features To Inspect

- PCB storage areas
- Equipment, fluids, and other items, used or stored at the facility, that contain PCBs

- Pipe, spray-on, duct, and troweled cementitious insulation, and boiler lagging
- Ceiling and floor pipes

G. Guidance for Checklist Users

REFER TO CHECKLIST ITEMS:

PCB Management	
Missing Checklist Items/Positive Findings	T1.2.1.WW and T1.2.2.WW
General	T1.10.1.WW through T1.10.6.WW
Elimination of PCB Products	T1.15.1.WW through T1.15.3.WW
PCB Records	T1.20.1.WW through T1.20.5.WW
PCB Transformers	T1.30.1.WW through T1.30.7.WW
Other PCB Items	T1.40.1.WW through T1.40.3.WW
PCB Spills	T1.50.1.WW through T1.50.3.WW
PCB Storage	T1.60.1.WW through T1.60.4.WW
PCB Disposal	T1.70.1.WW through T1.70.14.WW
Asbestos Management	
Missing Checklist Items/Positive Findings	T2.2.1.WW and T2.2.2.WW
General	T2.10.1.WW and T2.10.2.WW
Renovation and Demolition	T2.20.1.WW through T2.20.5.WW
Asbestos Disposal	T2.30.1.WW
Asbestos in Schools	T2.40.1.WW through T2.40.12.WW
Radon Management	All requirements deleted
Lead-Based Paint Management	
Missing Checklist Items/Positive Findings	T4.2.1.WW and T4.2.2.WW
General	T4.10.1.WW through T4.10.7.WW
Disposal	T4.30.1.WW

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>T1.2 PCB MANAGEMENT: Missing Checklist Items/Positive Findings</p> <p>T1.2.1.WW. Installations must comply with all applicable regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding) [Added September 2000].</p> <p>T1.2.2.WW. Installations should go above and beyond environmental statutory and regulatory compliance (MP) [Added September 2000].</p>	<p>Determine whether any new regulations concerning PCB management have been issued since the finalization of the manual.</p> <p>Determine whether the installation has activities or facilities that are regulated but not addressed in this checklist.</p> <p>Verify that the installation is in compliance with all applicable and newly issued regulations.</p> <p>Determine whether the installation has gone above and beyond simply complying with environmental requirements.</p> <p>(NOTE: This checklist item is used only to write positive findings.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>T1.10 PCB MANAGEMENT: General</p> <p>T1.10.1.WW. Certain PCB items must be marked (OEBGD 14.3.1.3, 14.3.5.14, and 14.3.6.4) [Revised September 2000].</p> <p>T1.10.2.WW. Installations must repair or replace leaking PCB transformers within 48 h or as soon as possible (OEBGD 14.3.2.8).</p> <p>T1.10.3.WW. Rooms, vaults, and storage areas containing PCB transformers or storing PCBs or PCB items for disposal must be marked (OEBGD 14.3.1.3) [Added September 2000; Revised June 2010].</p> <p>T1.10.4.WW. Markings must meet specific requirements (OEBGD 14.3.1.3) [Added September 2000].</p>	<p>Verify that the following are prominently marked in English and the language of the host nation:</p> <ul style="list-style-type: none"> - PCB transformers - PCB large high voltage capacitors - PCB containers - electric motors using PCB coolants, hydraulic systems using PCB hydraulic fluid, and heat transfer systems using PCBs at concentrations 50 ppm or greater - any PCB article containers used to store the preceding. <p>Verify that the following PCB items are marked at the time of their removal from use, if they are not already marked:</p> <ul style="list-style-type: none"> - PCB large low voltage capacitors - equipment containing a PCB Transformer or PCB large high voltage capacitor. <p>Verify that all PCB items and equipment to be retrograded to the United States are marked.</p> <p>Verify that newly procured transformers and equipment have permanent labels affixed stating they are PCB-free (no detectable PCBs).</p> <p>Verify that the installation repairs or replaces leaking PCB transformers within 48 h.</p> <p>Verify that leaking PCB fluids are containerized.</p> <p>Verify that rooms, vaults, and storage areas containing PCB transformers or storing PCBs or PCB items for disposal are prominently marked in English and the language of the host nation.</p> <p>Verify that items or areas are identified as containing PCBs.</p> <p>Verify that there is a warning against improper handling and disposal.</p> <p>Verify that a telephone number is provided for use in the event of spills or ques-</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>T1.10.5.WW. When PCB items are removed from service, they must be marked with the removal date (OEBGD 14.3.3.3) [Citation Revised June 2010].</p> <p>T1.10.6.WW. All transformers must be considered and treated as PCB transformers unless information to the contrary exists (OEBGD 14.3.2.9) [Added September 2000].</p>	<p>tions about disposal.</p> <p>Verify that all PCB items removed from service are marked with the date on which they were removed from service.</p> <p>Verify that all transformers are considered and treated as PCB transformers unless information to the contrary exists.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>T1.15 PCB MANAGEMENT: Elimination of PCB Products</p> <p>T1.15.1.WW. Installations must minimize the use of PCBs and PCB items without degrading mission performance (OEBGD 14.3.6.1) [Added September 2000].</p> <p>T1.15.2.WW. Installations must not purchase or otherwise take control of PCBs or PCB items for use (OEBGD 14.3.6.2) [Added September 2000].</p> <p>T1.15.3.WW. All procurement of transformers or any other equipment containing dielectric or hydraulic fluid must be accompanied by a manufacturer's certification that the equipment contains no detectable PCBs (less than 2 ppm) at the time of shipment (OEBGD 14.3.6.3) [Added September 2000].</p>	<p>Verify that the installation minimizes the use of PCBs and PCB items without degrading mission performance.</p> <p>Verify that the installation does not purchase or otherwise take control of PCBs or PCB items for use.</p> <p>Verify that all procurement of transformers or any other equipment containing dielectric or hydraulic fluid is accompanied by a manufacturer's certification that the equipment contains no detectable PCBs (less than 2 ppm) at the time of shipment.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>T1.20 PCB MANAGEMENT: PCB Records</p> <p>T1.20.1.WW. Installations with PCB items must maintain a written inventory of those PCB items (OEBGD 14.3.1.4) [Revised September 2000; Revised September 2003].</p> <p>T1.20.2.WW. All required periodic inspections must be documented at the installation (OEBGD 14.3.1.6).</p> <p>T1.20.3.WW. Installations must retain records of inspections and maintenance histories for 3 yr after disposal of a transformer (OEBGD 14.3.1.6).</p> <p>T1.20.4.WW. Specific annotations must be made on installation real property records for restricted access areas in which PCB spills have been cleaned up (OEBGD 14.3.1.2.3) [Added September 2000; Citation Revised June 2010].</p> <p>T1.20.5.WW. Inventory records should be maintained for a period of time at least 3 yr after the last item on the list is disposed of (MP) [Added September 2003].</p>	<p>Verify that the installation maintains a written inventory that includes a current list by type of all marked PCB items in use and PCB items (whether or not marked) placed into storage for disposal or disposed of for that year.</p> <p>Verify that all required periodic inspections are documented at the installation.</p> <p>Determine whether the installation has disposed of any transformers.</p> <p>Verify that records of inspections and maintenance histories are retained for at least 3 yr after the disposal of a transformer.</p> <p>Verify that, for restricted access areas in which PCB spills have been cleaned up, the following annotations are made on installation real property records:</p> <ul style="list-style-type: none"> - the level of PCBs remaining in the soil - the extent, date, and type of sampling - references to any reports documenting the site conditions. <p>Verify that inventory records are maintained for a period of time at least 3 yr after the last item on the list is disposed of.</p> <p>(NOTE: This MP is found at OEBGD 14.3.1.4.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>T1.30 PCB MANAGEMENT: PCB Transformers (500 ppm or greater)</p> <p>T1.30.1.WW. Certain PCB transformers must not be used in any application that poses a risk of contamination to food or feed (OEBGD 14.3.2.1).</p> <p>T1.30.2.WW. Certain PCB transformers must be equipped with electrical protection (OEBGD 14.3.2.3).</p> <p>T1.30.3.WW. PCB transformers must be registered with the fire department (OEBGD 14.3.2.2).</p> <p>T1.30.4.WW. PCB transformers must be serviced properly (OEBGD 14.3.2.5).</p> <p>T1.30.5.WW. Installations must inspect certain PCB transformers (OEBGD</p>	<p>Verify that no PCB transformer that is in use or in storage for reuse is used in any application that poses a risk of contamination to food or feed.</p> <p>Verify that PCB transformers that are used in or near commercial buildings or are located in sidewalk vaults have electrical protection to minimize transformer failure that would result in the release of PCBs.</p> <p>Verify that all PCB transformers, including those in storage for reuse, are registered with the fire department.</p> <p>(NOTE: It would be useful to provide the following information:</p> <ul style="list-style-type: none"> - physical location of PCB transformer(s) - principle constituent of dielectric fluid [i.e., PCBs, mineral oil, silicone oil, etc.] - name and telephone number of contact person knowledgeable of PCB transformer(s).) <p>Verify that servicing activities are properly conducted as follows:</p> <ul style="list-style-type: none"> - transformers classified as PCB-contaminated electrical equipment are serviced only with dielectric fluid that contains less than 500 ppm PCB - the transformer coil is not removed during servicing - PCBs removed during servicing are captured and either reused or disposed of properly - dielectric fluids from PCB transformer are not mixed with, or added to, the dielectric fluids from PCB-contaminated electrical equipment - dielectric fluids containing less than 500 ppm PCB that are mixed with fluids containing 500 ppm PCB or greater are not used as dielectric fluid in any electrical equipment - dielectric fluids containing 500 ppm PCB or greater are not used as dielectric fluid in any transformers classified as PCB-contaminated electrical equipment. <p>(NOTE: PCB transformers may be serviced with dielectric fluid at any concentration.)</p> <p>Verify that leaking PCB transformers that have not been repaired or replaced are inspected daily.</p>

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<p>14.3.2.6 and 14.3.2.8).</p> <p>T1.30.6.WW. PCB transformers that have been removed and stored for reuse must be returned to their original application and location only (OEBGD 14.3.2.4).</p> <p>T1.30.7.WW. Installations must take specific actions if a PCB transformer is involved in a fire (OEBGD 14.3.2.7).</p>	<p>Verify that in-service PCB transformers are inspected at least once every 3 mo.</p> <p>Verify that the following are inspected at least every 12 mo:</p> <ul style="list-style-type: none"> - PCB transformers with impervious, undrained secondary containment capacities of 100 percent of dielectric fluid - PCB transformers that have been tested and found to contain less than 60,000 ppm PCB. <p>(NOTE: It would be useful to record the following information as part of each PCB transformer inspection:</p> <ul style="list-style-type: none"> - location of transformer - dates of each visual inspection - date when any leak was discovered - name of person conducting inspection - location and estimate of the quantity of any leaks - data and description of any cleanup, containment, or repair performed - results of any daily inspections of transformers with uncorrected active leaks.) <p>Verify that PCB transformers are returned to their original application and location and not used at another location.</p> <p>(NOTE: This restriction does not apply if there is no practical alternative to use at another location.)</p> <p>Verify that such alternative use does not exceed 1 yr.</p> <p>Verify that, if a PCB transformer is involved in a fire and subjected to sufficient heat and/or pressure that might result in violent or nonviolent rupture, measures are taken to control water runoff.</p> <p>Verify that runoff water is tested and treated if required.</p> <p>(NOTE: Blocking floor drains is one way to control water runoff.)</p>

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<p>T1.40 PCB MANAGEMENT: Other PCB Items</p> <p>T1.40.1.WW. Installations must service electromagnets, switches, and voltage regulators that may contain PCBs at any concentration in accordance with specific standards (OEBGD 14.3.3.1).</p> <p>T1.40.2.WW. Capacitors containing PCBs at any concentration must be managed in accordance with specific requirements (OEBGD 14.3.3.2) [Citation Revised June 2010].</p> <p>T1.40.3.WW. [Moved September 2000].</p>	<p>Verify that PCB-contaminated electrical equipment is serviced only with dielectric fluid that contains less than 500 ppm PCB.</p> <p>Verify that the installation does not service any electromagnets, switches, or voltage regulators that contain PCB concentrations of 500 ppm or greater.</p> <p>(NOTE: This restriction applies only if it is necessary to remove and rework any internal components as part of service.)</p> <p>Verify that PCBs removed during servicing are captured and either reused as dielectric fluid or disposed of properly.</p> <p>Verify that PCBs from electromagnets, switches, and voltage regulators with a PCB concentration of 500 ppm or greater are not mixed with or added to dielectric fluid from PCB-contaminated electrical equipment.</p> <p>Verify that dielectric fluids that contain 500 ppm or greater are not used as dielectric fluid in any electromagnet, switch, and voltage regulator classified as PCB-contaminated electrical equipment.</p> <p>Verify that the installation does not use PCB large capacitors (whether of high or low voltage) that pose an exposure risk to food or feed.</p> <p>Verify that the installation does not store for reuse PCB large capacitors (whether of high or low voltage) that pose an exposure risk to food or feed.</p> <p>Verify that the installation uses PCB large capacitors (whether of high or low voltage) only in restricted-access electrical substations or in contained and restricted-access indoor areas.</p> <p>Verify that there is no public access to such capacitors that have been installed indoors.</p> <p>Verify that such capacitors have been installed indoors only where the roof, walls, and floor are adequate to contain any release of PCBs.</p> <p>Moved to T1.10.5.WW.</p>

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<p>T1.50 PCB MANAGEMENT: PCB Spills</p> <p>T1.50.1.WW. Installations must address PCBs in their spill contingency plan (OEBGD 14.3.1.1 and 14.3.4.1.5) [Revised June 2010].</p> <p>T1.50.2.WW. Spills of PCB liquids at concentrations of 50 ppm or greater must be responded to immediately and cleaned up according to specific standards (OEBGD 14.3.1.2).</p> <p>T1.50.3.WW. [Moved September 2003].</p>	<p>Determine whether the installation has any PCB items.</p> <p>Verify that PCB items are addressed in the spill contingency plan.</p> <p>(NOTE: This requirement also applies to PCB items in temporary storage.)</p> <p>Determine whether PCB storage facilities for PCBs and PCB items at concentrations of 50 ppm or greater are located where they are at risk from seismic activity, floods, or other natural events.</p> <p>Verify that the installation's spill contingency plan addresses such storage facilities directly.</p> <p>(NOTE: See Section 8, <i>Petroleum, Oils, and Lubricants (POL) Management</i>, for further details on the contents of the spill contingency plan.)</p> <p>Verify that the installation responds immediately to spills of PCB liquids at concentrations of 50 ppm or greater.</p> <p>Verify that surfaces located in substantial contact areas are cleaned to 10 µg per 100 cm².</p> <p>Verify that surfaces in all other contact areas are cleaned to 100 µg per 100 cm².</p> <p>Verify that contaminated soil located in restricted access areas is removed until the soil tests no higher than 25 ppm PCB.</p> <p>Verify that the area is then backfilled with clean soil containing less than 1 ppm PCB.</p> <p>Verify that contaminated soil located in unrestricted access areas is removed to a minimum depth of 10 in. or until the soil tests no higher than 10 ppm PCB, whichever is deeper.</p> <p>Verify that the area is then backfilled with clean soil containing less than 1 ppm PCB.</p> <p>[Moved to T1.60.4.WW.]</p>

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**T1.60
PCB MANAGEMENT:
PCB Storage**

T1.60.1.WW. PCBs and PCB items at concentrations 50 ppm or greater that are to be stored before disposal must be stored in a facility that will ensure the containment of PCBs (OEBGD 14.3.4.1 through 14.3.4.3) [Revised September 2000].

T1.60.2.WW. Installations must inspect all other storage areas than the above at least monthly (OEBGD 14.3.4.4).

T1.60.3.WW. Containers used for the storage of PCBs must be as secure at least as secure as those required for their transport for disposal by

Verify that PCB storage areas meet the following requirements:

- the roof and walls of the building in which the PCBs are stored are constructed so as to prevent rainfall from contacting PCBs and PCB items
- a 6 in. high containment berm surrounds the entire area in which PCBs or PCB items are stored.
- berming provides effective containment for twice the internal volume of the largest PCB article or 25 percent of the total internal volume of all PCB articles or containers stored, whichever is greater
- drains, valves, floor drains, expansion joints, sewer lines, or other openings are constructed to prevent any release from the bermed area
- floors are constructed of continuous, smooth, and impervious material.

(NOTE: The following items may be stored for up to 30 days from the date of removal from service in areas that do not meet the above requirements:

- nonleaking PCB articles and PCB equipment that are marked to indicate whether they are PCB articles or PCB equipment
- leaking PCB articles and PCB equipment placed in a nonleaking PCB container that contains sufficient absorbent material to absorb liquid contained on the PCB article or equipment
- PCB containers in which nonliquid PCBs have been placed
- PCB containers in which liquid PCBs at a concentration between 50 and 499 ppm have been placed when containers are marked to indicate less than 500 ppm PCB.)

Verify that the above items are inspected weekly while in temporary storage.

(NOTE: Nonleaking and structurally undamaged large, high-voltage PCB capacitors and PCB-contaminated electric equipment that have not been drained of free-flowing dielectric fluid may be stored on pallets, or raised platforms, next to a storage area that meets the requirements above.)

Verify that the above nonleaking items are inspected weekly.

Verify that all storage areas other than those covered by OEBGD 14.3.4.1 through 14.3.4.3 (see checklist item T1.60.1.WW.) are inspected monthly.

Verify that containers used for the storage of PCBs are at least as secure as those required for their transport for disposal by the servicing DRMO.

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<p>the servicing DRMO (OEBGD 14.3.4.5) [Revised September 2000].</p> <p>T1.60.4.WW. To the maximum extent possible, new PCB storage areas must be located to minimize the risk of release due to seismic activity, floods, or other natural events (OEBGD 14.3.4.1.5) [Added September 2000; Moved September 2003].</p>	<p>Verify that, to maximum extent possible, any new PCB storage area is located to minimize the risk of release due to seismic activity, floods, or other natural events.</p> <p>[Moved from T1.50.3.WW.]</p>

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<p>T1.70 PCB MANAGEMENT: PCB Disposal</p> <p>T1.70.1.WW. Installations must return DOD-generated PCBs manufactured in the United States to the Continental United States (CONUS) for delivery to a permitted disposal facility under certain conditions (OEBGD 14.3.5.14).</p> <p>T1.70.2.WW. Installations that generate PCB waste of 50 ppm PCB or greater must maintain an audit trail for the waste (OEBGD 14.3.5.1).</p> <p>T1.70.3.WW. Installations must dispose of PCB items through the DRMO only (OEBGD 14.3.1.5).</p> <p>T1.70.4.WW. Installations must dispose of PCB-contaminated liquids in accordance with specific requirements (OEBGD 14.3.5.2 and 14.3.5.3).</p> <p>T1.70.5.WW. PCB-contaminated electrical equipment must have the free-flowing liquid drained off prior to disposal (OEBGD 14.3.5.8).</p> <p>T1.70.6.WW. Rags, soils, and other debris contaminated with PCBs at concentrations of 50 ppm or greater must be disposed of in an incinerator with at least a 99.9 percent combustion efficiency or in a</p>	<p>Determine whether host country or third-country disposal of DOD-generated PCBs manufactured in the United States is not possible, is prohibited, or will not be managed in an environmentally sound manner.</p> <p>Verify that the installation returns DOD-generated PCBs manufactured in the United States to the CONUS for delivery to a permitted disposal facility in the above circumstances.</p> <p>Verify that the installation maintains an audit trail at least as stringent as the audit trail required for hazardous waste.</p> <p>Verify that all PCB items are disposed of through the DRMO.</p> <p>Verify that PCB-contaminated dielectric fluids with concentrations of greater than 500 ppm are disposed of in an incinerator with 99.9 percent combustion efficiency.</p> <p>Verify that PCB-contaminated dielectric fluids with concentrations of 50 ppm to 499 ppm are only disposed of in an incinerator with at least 99.9 percent combustion efficiency or in a high efficiency boiler that is rated at a minimum of 50 MBtu/hr and which is fueled by natural gas, oil, or coal.</p> <p>Verify that the free-flowing liquid is drained from electrical equipment prior to disposal as municipal solid waste.</p> <p>(NOTE: This requirement does not apply to capacitors.)</p> <p>Verify that rags, soils, and other debris contaminated with PCBs at concentrations of 50 ppm or greater are disposed of in an incinerator with at least a 99.9 percent combustion efficiency or in a chemical waste landfill.</p>

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<p>chemical waste landfill (OEBGD 14.3.5.4).</p> <p>T1.70.7.WW. PCB transformers must be disposed of in certain ways (OEBGD 14.3.5.5).</p> <p>T1.70.8.WW. PCB capacitors must be disposed of in accordance with certain requirements (OEBGD 14.3.5.6) [Revised September 2000].</p> <p>T1.70.9.WW. PCB hydraulic machines may be disposed of as municipal solid waste (MSW) under certain conditions (OEBGD 14.3.5.7).</p> <p>T1.70.10.WW. PCB articles must be disposed of properly (OEBGD 14.3.5.9).</p> <p>T1.70.11.WW. PCB containers must be disposed of properly (OEBGD 14.3.5.10 and 14.3.5.13).</p> <p>T1.70.12.WW. When PCB fluids, items, or articles are disposed of in a high temperature boiler, specific procedures must be followed (OEBGD 14.3.5.11).</p>	<p>Verify that the installation is disposing of PCB transformers in an incinerator with at least a 99.9 percent combustion efficiency or in a chemical waste landfill.</p> <p>Verify that transformers disposed of in chemical waste landfills (and all their inner workings) are drained of all free-flowing liquids prior to disposal.</p> <p>Verify that the installation is disposing of PCB capacitors in an incinerator with at least a 99.9 percent combustion efficiency.</p> <p>(NOTE: Intact, nonleaking, small PCB capacitors may be disposed of in a solid waste landfill, unless large quantities (more than 100 lb) are identified at the same time.)</p> <p>Verify that no PCB hydraulic machines are disposed of as MSW unless the following conditions are met:</p> <ul style="list-style-type: none"> - machines containing PCBs at concentrations of 50 ppm or greater are drained of all free-flowing liquid - machines containing PCB liquid of 1000 ppm or greater are flushed prior to disposal with a solvent that contains less than 50 ppm PCB. <p>Verify that PCB articles other than those addressed in checklist items T1.70.7.WW through T1.70.9.WW are disposed of in either:</p> <ul style="list-style-type: none"> - an incinerator with at least a 99.9 percent combustion efficiency - a chemical waste landfill, if all free-flowing liquids have first been drained off. <p>Verify that PCB containers with concentrations of 500 ppm or greater are disposed of in one of the following ways:</p> <ul style="list-style-type: none"> - in an incinerator with at least a 99.9 percent combustion efficiency - in a chemical waste landfill, if the container is first drained of all free-flowing liquids. <p>Verify that PCB containers used to contain only PCBs at concentrations less than 500 ppm are disposed of as municipal solid waste only after draining off all free-flowing liquid.</p> <p>Verify that the boiler is rated at a minimum of 50 MBtu/h.</p> <p>Verify that, if the boiler uses natural gas or oil as the primary fuel, the CO concentration in the stack is 50 ppm or less and the excess O₂ is at least 3 percent when PCBs are being burned.</p> <p>Verify that, if the boiler uses coal as the primary fuel, the CO concentration in the</p>

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<p>T1.70.13.WW. Specific procedures must be followed when PCB fluids, items, or articles are disposed of in an incinerator (OEBGD 14.3.5.12).</p> <p>T1.70.14.WW. Installations must coordinate with and obtain the concurrence of the</p>	<p>stack is 100 ppm or less and the excess O₂ is at least 3 percent when PCBs are being burned.</p> <p>Verify that the mineral oil dielectric fluid:</p> <ul style="list-style-type: none"> - does not comprise more than 10 percent by volume of the total fuel feed rate - is not fed into the boiler unless the boiler is operating at its normal operating temperature - is not fed into the boiler during startup or shutdown. <p>Verify that the performance of the boiler is continuously monitored for CO and excess O₂ percentage in the stack gas while burning mineral oil dielectric fluid.</p> <p>(NOTE: If the boiler is burning less than 112,500 L (30,000 gal) of mineral oil dielectric fluid per year, monitoring is required at least every 60 min.)</p> <p>Verify that the primary fuel feed rates, mineral oil dielectric fluid feed rates, and the total quantities of both primary fuel and mineral oil dielectric fluid fed to the boiler are measured and recorded at least every 15 min.</p> <p>Verify that the flow of mineral oil dielectric fluid is stopped if the CO or excess O₂ limits are exceeded.</p> <p>Verify that the combustion criteria require maintenance of the introduced liquids for a 2-s dwell time at 1200 °C, ± 100 °C (2200 °F, ± 212 °F), and 3 percent excess O₂ in the stack gas or maintenance of the introduced liquids for a 1.5-s dwell time at 1600 °C, ± 100 °C (3050 °F, ± 212 °F) and 2 percent excess O₂ in the stack gas.</p> <p>Verify that combustion efficiency is maintained at no less than 99.9 percent.</p> <p>Verify that the rate and quantity of PCBs that are fed to the combustion system are measured and recorded at regular intervals of not more than 15 min.</p> <p>Verify that the temperature of the incineration process is continuously measured and recorded.</p> <p>Verify that the flow of PCBs to the incinerator stops automatically if temperature criteria are not met.</p> <p>Verify that sufficient monitoring is conducted to establish that an incinerator to be used for disposal for the first time is operating within the above parameters.</p> <p>Verify that O₂ and CO are monitored continuously during incineration of PCBs.</p> <p>Verify that CO₂ is monitored periodically during incineration of PCBs.</p> <p>Verify that the installation coordinates with and obtains the concurrence of the host nation for in-country PCB disposal as for hazardous waste disposal.</p>

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host nation for in-country
PCB disposal as for hazardous
waste disposal (OEBGD
14.3.5.1) [Added September
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**T2.2
ASBESTOS
MANAGEMENT:
Missing Checklist
Items/Positive Findings**

T2.2.1.WW. Installations must comply with all applicable regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding) [Added September 2000].

T2.2.2.WW. Installations should go above and beyond environmental statutory and regulatory compliance (MP) [Added September 2000].

Determine whether any new regulations concerning asbestos management have been issued since the finalization of the manual.

Determine whether the installation has activities or facilities that are regulated but not addressed in this checklist.

Verify that the installation is in compliance with all applicable and newly issued regulations.

Determine whether the installation has gone above and beyond simply complying with environmental requirements.

(NOTE: This checklist item is used only to write positive findings.)

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<p>T2.10 ASBESTOS MANAGEMENT: General</p> <p>T2.10.1.WW. Installations must appoint an asbestos program manager (OEBGD 15.3.1).</p> <p>T2.10.2.WW. Installations must prepare and implement a written asbestos management plan that meets specific minimum requirements (OEBGD 15.3.2) [Revised September 2000].</p>	<p>Verify that the installation has an asbestos program manager who serves as the single point of contact for all asbestos-related activities.</p> <p>Verify that the installation has prepared and implemented a written asbestos management plan.</p> <p>Verify that, at a minimum, the plan addresses the following:</p> <ul style="list-style-type: none"> - an ACM inventory, conducted by sample and analysis or visual determination - a notification and education program to tell workers, tenants, and building occupants where potentially friable ACM is located and how and why to avoid disturbing it (NOTE: All affected persons should be properly informed.) - regular ACM surveillance to note, assess, and document any changes in the ACM's condition - work control/permit systems to control activities which might disturb ACM - operations and maintenance (O&M) work practices to avoid or minimize fiber release during activities affecting ACM - recordkeeping to document O&M activities related to asbestos identification, management, and abatement - training for the asbestos program manager and custodial and maintenance staff - procedures to assess and prioritize identified hazards for abatement - procedures to prevent the use of ACM in new construction. <p>(NOTE: Since an installation cannot know the current status of all ACM in its facility inventory without conducting an asbestos survey, this requirement is understood to necessitate the carrying out of such a survey. If the installation has not conducted a full-blown asbestos survey, a major finding to that effect will be written using this checklist item.)</p>

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<p>T2.20 ASBESTOS MANAGEMENT: Renovation and Demolition</p> <p>T2.20.1.WW. Prior to renovation or demolition, the installation must determine whether ACM will be removed or disturbed and record the determination in the project authorization document (work order) (OEBGD 15.3.3).</p> <p>T2.20.2.WW. A written assessment must be prepared and furnished to the Installation Commander (IC) prior to certain actions (OEBGD 15.3.4).</p> <p>T2.20.3.WW. Installations must remove regulated ACM before disturbing or demolishing a facility or part of a facility (OEBGD 15.3.6) [Revised June 2010].</p> <p>T2.20.4.WW. Installations must remove friable ACM when it poses a threat to release airborne asbestos fibers and cannot be reliably repaired or isolated (OEBGD 15.3.5) [Revised September 2000].</p> <p>T2.20.5.WW. [Deleted September 2000].</p>	<p>Verify that facilities are surveyed for ACM prior to renovation and/or demolition and that the determination of action is noted on the work order.</p> <p>Verify that a written assessment is produced prior to the demolition or renovation of a facility that involves removing or disturbing ACM.</p> <p>Verify that a copy of the written assessment is provided to the IC.</p> <p>Verify that a copy of the written assessment is kept on file permanently.</p> <p>Verify that, before disturbing or demolishing any facility or any part of a facility, the installation removes all regulated ACM.</p> <p>Verify that the installation removes friable ACM when it poses a threat to release airborne asbestos fibers and cannot be reliably repaired or isolated.</p> <p>Deleted as a consequence of the revision of the OEBGD.</p>

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<p>T2.30 ASBESTOS MANAGEMENT: Asbestos Disposal</p> <p>T2.30.1.WW. Installations must dispose of asbestos-containing waste materials in accordance with specific standards (OEBGD 15.3.7).</p>	<p>Verify that all ACM waste is adequately wetted, sealed in a leak-proof container, and properly disposed of in accordance with the requirements of Section 9, <i>Solid Waste Management</i>.</p> <p>Verify that containers are labeled as follows in English and in the language of the host nation:</p> <p align="center">DANGER CONTAINS ASBESTOS FIBERS AVOID CREATING DUST CANCER AND LUNG DISEASE HAZARD.</p> <p>Verify that permanent records are maintained that document the disposal action and site.</p>

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**T2.40
ASBESTOS
MANAGEMENT:
Asbestos in Schools**

T2.40.1.WW. Each building that is leased, owned, or otherwise used as a school building must be inspected for asbestos and a report of the inspection generated (OEBGD 15.3.8 implementing 40 CFR 763.85) [Added September 2003; Citation Revised June 2010].

(NOTE: OEBGD 15.3.8 stipulates that DOD schools will comply with applicable requirements 15 U.S.C. 2643(l) and implementing regulations in 40 CFR Part 763, Subpart E.)

(NOTE: Any building that is leased or acquired on or after 12 October 1988, that is to be used as a school building must be inspected prior to use as a school building. If emergency use of a building as a school building is required, inspection will occur within 30 days.)

Verify that all school buildings have been inspected for friable and nonfriable asbestos-containing building materials (ACBM), including sampling, as required by an accredited inspector.

Verify that, for each area of a school building, each person performing an inspection:

- visually inspects the area to identify the locations of all suspected ACBM
- touches all suspected ACBM to determine whether they are friable
- identifies all homogeneous areas of friable suspected ACBM and all homogeneous areas of nonfriable suspected ACBM
- assumes that some or all of the homogeneous areas are ACM, and, for each homogeneous area that is not assumed to be ACM, collects and submits for analysis bulk samples
- assesses friable material in areas where samples are collected, friable material in areas that are assumed to be ACBM, and friable ACBM identified during a previous inspection
- records the following and submits a copy of such record for inclusion in the management plan within 30 days of the inspection:
 - an inspection report with the date of the inspection signed by each accredited person making the inspection, state of accreditation, and if applicable, his or her accreditation number
 - an inventory of the locations of the homogeneous areas where samples are collected, exact location where each bulk sample is collected, dates that samples are collected, homogeneous areas where friable suspected ACBM is assumed to be ACM, and homogeneous areas where nonfriable suspected ACBM is assumed to be ACM
 - a description of the manner used to determine sampling locations, the name and signature of each accredited inspector who collected the samples, state of accreditation, and, if applicable, his or her accreditation number
 - a list of whether the homogeneous areas identified are surfacing material, thermal system insulation, or miscellaneous material
 - assessments made of friable material, the name and signature of each accredited inspector making the assessment, state of accreditation, and if applicable, his or her accreditation number.

Verify that, in each school building, reinspection of all friable and nonfriable

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T2.40.2.WW. Each inspection or reinspection is required to result in a written assessment of all friable known or assumed ACBM in the school building (OEBGD 15.3.8 implementing 40 CFR 763.88) [Added September 2003; Citation

known or assumed ACBM is done every 3 yr by an accredited inspector after a management plan is in place.

Verify that, for each area of a school building, each person performing a reinspection:

- visually reinspects and reassesses the condition of all friable known or assumed ACBM
- visually inspects material that was previously considered nonfriable ACBM and touches the material to determine whether it has become friable since the last inspection or reinspection
- identifies any homogeneous areas with material that has become friable since the last inspection or reinspection
- for each homogeneous area of newly friable material that is already assumed to be ACBM, bulk samples are collected and submitted for analysis
- assesses the condition of the newly friable material in areas where samples are collected, and newly friable materials in areas that are assumed to be ACBM
- reassesses the condition of friable known or assumed ACBM previously identified
- records the following and submits a copy for inclusion in the management plan within 30 days of the reinspection:
 - the date of the reinspection, the name and signature of the person making the reinspection, state of accreditation, and if applicable, his or her accreditation number, and any changes in the condition of known or assumed ACBM
 - the exact locations where samples are collected during the reinspection, a description of the manner used to determine sampling locations, the name and signature of each accredited inspector who collected the samples, state of accreditation, and, if applicable, his or her accreditation number
 - any assessments or reassessments made of friable material, the name and signature of the accredited inspector making the assessments, state of accreditation, and if applicable, his or her accreditation number.

(NOTE: Thermal system insulation that has retained its structural integrity and that has an undamaged protective jacket or wrap that prevents fiber release is treated as nonfriable and therefore is subject only to periodic surveillance and preventive measures as necessary.)

Verify that a DOD-accredited inspector provides a written assessment of all friable known or assumed ACBM in the school building.

Verify that each DOD-accredited inspector providing a written assessment signs and dates the assessment, provides their state of accreditation, and if applicable, accreditation number, and submits a copy of the assessment for inclusion in the management plan within 30 days of the assessment.

Verify that the assessment classifies the ACBM and suspected ACBM assumed to

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be ACM into one of the following categories:

- damaged or significantly damaged thermal system insulation ACM
- damaged friable surfacing ACM
- significantly damaged friable surfacing ACM
- damaged or significantly damaged friable miscellaneous ACM
- ACBM with potential for damage
- ACBM with potential for significant damage
- any remaining friable ACBM or friable suspected ACBM.

(NOTE: The assessment may include the following considerations:

- location and the amount of the material, both in total quantity and as a percentage of the functional space
- condition of the material, specifying:
 - type of damage or significant damage [e.g., flaking, blistering, water damage, or other signs of physical damage]
 - severity of damage [e.g., major flaking, severely torn jackets, as opposed to occasional flaking, minor tears to jackets]
 - extent or spread of damage over large areas or large percentages of the homogeneous area
- whether the material is accessible
- the material's potential for disturbance
- known or suspected causes of damage or significant damage [e.g., air erosion, vandalism, vibration, water]
- preventive measures that might eliminate the reasonable likelihood of undamaged ACM from becoming significantly damaged.)

(NOTE: The local education agency shall select a person accredited to develop management plans to review the results of each inspection, reinspection, and assessment for the school building and to conduct any other necessary activities in order to recommend in writing to the local education agency appropriate response actions. The accredited person shall sign and date the recommendation, provide his or her state of accreditation, and, if applicable, provide his or her accreditation number, and submit a copy for inclusion in the management plan.)

T2.40.3.WW. An asbestos management plan is required for each school building (OEBGD 15.3.8 implementing 40 CFR 763.93) [Added September 2003; Citation Revised June 2010].

Verify that asbestos management plans include all buildings that the local education agency leases, owns, or otherwise uses as school buildings prior to their use as school buildings.

(NOTE: The plan may be submitted in stages that cover a portion of the school buildings under the authority of the local education agency.)

Verify that the plan is kept current and up-to-date with ongoing operational and maintenance, periodic surveillance, inspection, reinspection, and response action activities.

Verify that the plan was developed by an accredited management planner and includes:

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- a list of the name and address of each school building and whether the building contains friable ACBM, nonfriable ACBM, and friable and nonfriable suspected ACBM assumed to be ACM
- for each inspection done before 14 December 1987:
 - date of the inspection
 - a blueprint, diagram, or written description of each school building that identifies clearly each location and approximate square or linear footage of any homogeneous or sampling area where material was sampled for ACM, and, if possible, the exact locations where bulk samples were collected, and the dates of collection
 - a copy of the analyses of any bulk samples, dates of analyses, and a copy of any other laboratory reports pertaining to analyses
 - a description of any response actions or preventive measures taken to reduce asbestos exposure, including, if possible, the names and addresses of all contractors involved, start and completion dates of the work, and results of any air samples analyzed during and upon completion of the work
 - descriptions of any assessments required under 40 CFR 763.88, of material that was identified before 14 December 1987 as friable ACBM or friable suspected ACBM assumed to be ACM, and the name and signature, state of accreditation, and, if applicable, accreditation number of each accredited person making the assessments
- for each inspection and reinspection:
 - the date of the inspection or reinspection and the name and signature, state of accreditation and, if applicable, the accreditation number of each accredited inspector performing the inspection or reinspection
 - a blueprint, diagram, or written description of each school building that identifies clearly each location and approximate square or linear footage of homogeneous areas where material was sampled for ACM, the exact location where each bulk sample was collected, date of collection, homogeneous areas where friable suspected ACBM is assumed to be ACM, and where nonfriable suspected ACBM is assumed to be ACM
 - a description of the manner used to determine sampling locations, and the name and signature of each accredited inspector collecting samples, the state of accreditation, and, if applicable, his or her accreditation number
 - a copy of the analyses of any bulk samples collected and analyzed, the name and address of any laboratory that analyzed bulk samples, a statement that the laboratory meets applicable requirements, the date of analysis, and the name and signature of the person performing the analysis
- a description of assessments of all ACBM and suspected ACBM assumed to be ACM, and the name, signature, state of accreditation, and, if applicable, accreditation number of each accredited person making the assessments.
- the name, address, and telephone number of the person designated to ensure that the duties of the local education agency are carried out, and the course name, and dates and hours of training taken by that person to carry out the duties

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- the recommendations made to the local education agency regarding response actions, the name, signature, state of accreditation of each person making the recommendations, and if applicable, his or her accreditation number
- a detailed description of preventive measures and response actions to be taken, including methods to be used, for any friable ACBM, the locations where such measures and action will be taken, reasons for selecting the response action or preventive measure, and a schedule for beginning and completing each preventive measure and response action.
- with respect to the person or persons who inspected for ACBM and who will design or carry out response actions, except for operations and maintenance, with respect to the ACBM, one of the following statements:
 - if the state has adopted a contractor accreditation program under section 206(b) of Title II of TSCA, a statement that the person(s) is accredited under such plan
 - a statement that the local education agency used (or will use) persons who have been accredited by another state which has adopted a contractor accreditation plan under section 206(b) of Title II of the Toxic Substances Control Act (TSCA) or is accredited by an USEPA-approved course under section 206(c) of Title II of TSCA.
- a detailed description in the form of a blueprint, diagram, or in writing of any ACBM or suspected ACBM assumed to be ACM that remains in the school once response actions are undertaken. This description is updated as response actions are completed.
- a plan for reinspection, a plan for operations and maintenance activities, and a plan for periodic surveillance, a description of the recommendation made by the management planner regarding additional cleaning as part of an operations and maintenance program, and the response of the local education agency to that recommendation
- a description of steps taken to inform workers and building occupants, or their legal guardians, about inspections, reinspections, response actions, and post-response action activities, including periodic reinspection and surveillance activities that are planned or in progress
- an evaluation of the resources needed to complete response actions successfully and carry out reinspection, operations and maintenance activities, periodic surveillance and training
- with respect to each consultant who contributed to the management plan, the name of the consultant and one of the following statements:
 - if the state has adopted a contractor accreditation plan under section 206(b) of Title II of TSCA, a statement that the consultant is accredited under such plan
 - a statement that the contractor is accredited by another state which has adopted a contractor accreditation plan under section 206(b) of Title II of TSCA, or is accredited by an USEPA-approved course developed under section 206(c) of Title II of TSCA.

(NOTE: A local education agency may require each management plan to contain a statement signed by an accredited management plan developer that such person has prepared or assisted in the preparation of such plan or has reviewed such plan, and that such plan is in compliance. Such statement may not be signed by a person

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T2.40.4.WW. Response actions must be selected and implemented in a timely manner and in accordance with specific guidelines (OEBGD 15.3.8 implementing 40 CFR 763.90) [Added September 2003].

who, in addition to preparing or assisting in preparing the management plan, also implements [or will implement] the management plan.)

Verify that the management plans are available, without cost or restriction, for inspection by representatives of USEPA, the public, including teachers, other school personnel and their representatives, and parents.

Verify that each local education agency maintains in its administrative office a complete, updated copy of a management plan for each school under its administrative control or direction. The management plans shall be available, during normal business hours, without cost or restriction, for inspection by representatives of USEPA, the public, including teachers, other school personnel and their representatives, and parents.

(NOTE: The local education agency may charge a reasonable cost to make copies of management plans. A management plan must be available for inspection without cost or restriction to workers before work begins in an area of the school building.)

(NOTE: The local education agency shall notify, in writing, any relevant parent, teacher or employee organizations, of the availability of the plans and shall include in the plans: a description of the steps taken to notify such organizations and dated copies of the notifications.)

Verify that each school maintains in its administrative office a complete, updated copy of the management plan for that school.

Verify that each management plan contains a true and correct statement, signed by the individual designated by the local education agency, which certifies that the general, local education agency responsibilities, have been met or will be met.

Verify that, if damaged or significantly damaged thermal system insulation ACM is present in the building, the local education agency will:

- at least repair the damaged area
- remove the damaged material if it is not feasible, due to technological difficulties, to repair the damage
- maintain all thermal system insulation ACM and its coverings in an intact state and undamaged condition.

Verify that, if damaged friable surfacing ACM or damaged friable miscellaneous ACM is present, the local education agency selects from the following response actions:

- encapsulation
- enclosure
- removal
- repair.

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Verify that, if significantly damaged friable surfacing ACM or significantly damaged friable miscellaneous ACM is present in a building, the local education agency:

- immediately isolates the functional space and restricts access unless isolation is not needed to protect human health and the environment
- removes the material in the functional space or, depending on whether enclosure or encapsulation is sufficient to protect human health and the environment, enclose or encapsulate.

Verify that, if any friable surfacing ACM, thermal system insulation ACM, or friable miscellaneous ACM that has potential for damage is present in the building, an appropriate operations and maintenance (O&M) program is implemented.

Verify that, if any friable surfacing ACM, thermal insulation ACM, or friable miscellaneous ACM that has potential for significant damage is present, the local education agency:

- implements an appropriate O&M program
- institutes preventative measures to eliminate the reasonable likelihood that the ACM or its covering will become significantly damaged, deteriorated, or delaminated
- removes the material as soon as possible if appropriate preventative measures cannot be effectively implemented and isolates the area and restricts access is necessary to avoid an imminent and substantial endangerment to human health and the environment, unless other response actions are determined to protect human health or the environment.

Verify that response actions including removal, encapsulation, enclosure, or repair, other than small-scale, short-duration repairs, are designed and conducted by persons accredited to design and conduct response actions.

Verify that, at the conclusion of any action to remove, encapsulate, or enclose ACBM or material assumed to be ACBM, a person designated by the local education agency visually inspects each functional space where the action was conducted to determine whether the action has been properly completed.

Verify that the person designated by the local education agency collects air samples using aggressive sampling as described in Appendix A of 40 CFR 763, Subpart E to monitor air for clearance after each removal, encapsulation, and enclosure project involving ACBM, except for projects that are of small-scale, short-duration.

Verify that the local education agency arranges for air samples to be analyzed for asbestos using laboratories accredited by the National Institute of Standards and Technology (NIST) or, under circumstances described in 40 CFR 763.80 through 763.98, laboratories enrolled in the American Industrial Hygiene Association Proficiency Analytical Testing Program for phase contrast microscopy (PCM).

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T2.40.5.WW. An accredited person must be designated by the local education agency to perform specific tasks and functions (OEBGD 15.3.8 implementing 40 CFR 763.84(g) and 763.88(d)) [Added September 2003].

T2.40.6.WW. An operations, maintenance and repair program must be developed whenever any friable ACBM is present or assumed to be present in a building that is leased, owned, or otherwise used as a school building (OEBGD 15.3.8 implementing 40 CFR 763.91(a) through 763.91(e)) [Added September 2003].

Verify that the person designated to ensure that requirements concerning asbestos in school are implemented correctly is trained in the following:

- health effects of asbestos
- detection, identification, and assessment of ACM
- options for controlling ACM
- asbestos management programs
- relevant state and federal regulations.

(NOTE: Any material identified as nonfriable ACBM or nonfriable assumed ACBM must be treated as friable ACBM when the material is about to become friable as a result of activities performed in the school building.)

Verify that local education agencies comply with either the OSHA Asbestos Construction Standard at 29 CFR 1926.1101, or the Asbestos Worker Protection Rule at 40 CFR 763.120, whichever is applicable (see text of regulations).

Verify that, unless the building was cleaned using equivalent methods within the previous 6 mo, all areas of a school building where friable ACBM, damaged or significantly damaged thermal system insulation ACM, or friable suspected ACBM assumed to be ACM are present was cleaned at least once after the completion of the inspection required by 40 CFR 763.85(a) (see checklist item T2.40.1.WW) and before the initiation of any response action, other than O&M activities or repair, according to the following procedures:

- HEPA-vacuum or steam-clean all carpets
- HEPA-vacuum or wet-clean all other floors and all other horizontal surfaces.
- dispose of all debris, filters, mopheads, and cloths in sealed, leak-tight containers.

Verify that the following actions are taken during any O&M activities disturbing friable asbestos:

- entry is restricted into the area by persons other than those needed to perform the maintenance project (this can be done by isolating the area or by scheduling)
- signs are posted to prevent entry by unauthorized persons
- air-handling systems are shut off or temporarily modified and other sources of air movement are restricted
- whatever work practices must prohibit the spread of any released fibers are used
- all fixtures or other components are cleaned in the immediate work area
- the asbestos debris and other cleaning materials are placed in a sealed, leak-tight container.

Verify that response actions for any maintenance activities disturbing friable ACBM, other than small-scale, short-duration maintenance are designed by per-

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T2.40.7.WW. Warning labels must be attached immediately adjacent to any friable and nonfriable ACBM and suspected ACBM assumed to be ACM located in routine maintenance areas (such as boiler rooms) at each school building (OEBGD 15.3.8 implementing 40 CFR 763.95) [Added September 2003].

T2.40.8.WW. All members of the school maintenance and custodial staff who might work in a building that contains ACBM must receive at least 2 h of awareness training whether or not they must work with ACBM (OEBGD 15.3.8 implementing 40 CFR 763.92(a)(1)) [Added September 2003].

T2.40.9.WW. School maintenance and custodial staff that conduct any activities that will result in the disturbance of ACBM must receive an additional 14 h of training (OEBGD 15.3.8 implementing 40 CFR 763.92(a)(2)) [Added September 2003].

T2.40.10.WW. Records pertaining to asbestos in schools must be maintained in a central location in the

sons accredited to design response actions and conducted by persons accredited to conduct response actions.

Verify that labels are in place in the following areas:

- where friable ACBM was responded to by any means other than removal
- where there is ACBM for which no response action was carried out.

Verify that labels are displayed in highly visible places and remain posted until the ACBM that is labeled is removed.

Verify that the label reads:

CAUTION: ASBESTOS.
HAZARDOUS.

DO NOT DISTURB WITHOUT PROPER TRAINING AND EQUIPMENT.

Verify that the school maintenance and custodial staff has been trained.

Verify that new personnel are trained within 60 days after start of employment.

Verify that the training has included:

- information regarding asbestos and the various uses and forms
- information on the health effects associated with asbestos exposure
- locations of all ACBM identified throughout each school building in which they work
- recognition of damage, deterioration, and location of the management plan
- name and telephone number of the person designated to carry out responsibilities for asbestos management.

Verify that staff has received additional training that includes:

- descriptions of the proper methods of handling ACBM
- information on the use of respiratory protection as contained in the EPA/NIOSH *Guide to Respiratory Protection for the Asbestos Abatement Industry*
- the requirements found in 40 CFR 763.91 and Appendices A, B, C, and D of 40 CFR 763 Subpart E (763.80 through 763.99)
- abatement requirements in 40 CFR 763.120 through 763.126 and 40 CFR 61.140 through 61.157
- OSHA regulations contained in 29 CFR 1926.58
- hands-on training in the use of respiratory protection, other personal protection measures, and good work practices.

Verify that required records are maintained in a centralized location in the administrative office of both the school and the local education agency as part of the management plan.

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administrative office of the school (OEBGD 15.3.8 implementing 40 CFR 763.94) [Added September 2003].

Verify that records for each homogeneous area where all ACBM has been removed are retained for 3 yr after the next reinspection, or for an equivalent period.

Verify that, for each preventive measure and response action taken for friable and nonfriable ACBM and friable and nonfriable suspected ACBM assumed to be ACM, the local education agency provides:

- a detailed written description of the measure or action, including methods used, the location where the measure or action was taken, reasons for selecting the measure or action, start and completion dates of the work, names and addresses of all contractors involved, and if applicable, their state of accreditation, and accreditation numbers, and if ACBM is removed, the name and location of storage or disposal site of the ACM
- the name and signature of any person collecting any air sample required to be collected at the completion of certain response actions, the locations where samples were collected, date of collection, the name and address of the laboratory analyzing the samples, the date of analysis, the results of the analysis, the method of analysis, the name and signature of the person performing the analysis, and a statement that the laboratory is compliant.

Verify that, for each person required to be trained, the local education agency provides the person's name and job title, the date that training was completed by that person, the location of the training, and the number of hours completed in such training.

Verify that, for each time that periodic surveillance is performed, the local education agency records the name of each person performing the surveillance, the date of the surveillance, and any changes in the conditions of the materials.

Verify that, for each time that cleaning is performed, the local education agency records the name of each person performing the cleaning, the date of such cleaning, the locations cleaned, and the methods used to perform such cleaning.

Verify that, for each time that operations and maintenance activities under are performed, the local education agency records the name of each person performing the activity, the start and completion dates of the activity, the locations where such activity occurred, a description of the activity including preventive measures used, and if ACBM is removed, the name and location of storage or disposal site of the ACM.

Verify that, for each time that major asbestos activity is performed, the local education agency provides the name and signature, state of accreditation, and if applicable, the accreditation number of each person performing the activity, the start and completion dates of the activity, the locations where such activity occurred, a description of the activity including preventive measures used, and if ACBM is removed, the name and location of storage or disposal site of the ACM.

Verify that, for each fiber release episode, the local education agency provides the date and location of the episode, the method of repair, preventive measures or

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<p>T2.40.11.WW. In the event of a fiber release episode at the school, certain actions are required (OEBGD 15.3.8 implementing 40 CFR 763.91(f)) [Added September 2003].</p> <p>T2.40.12.WW. Periodic surveillance must be carried out at least once every 6 mo after a management plan is in effect (OEBGD 15.3.8 implementing 40 CFR 763.92(b), 763.90(a) and 763.90(b)(2)) [Added September 2003].</p>	<p>response action taken, the name of each person performing the work, and if ACBM is removed, the name and location of storage or disposal site of the ACM.</p> <p>Verify that the following procedures are followed in the event of a minor fiber release episode (i.e., the falling or dislodging of 3 square or linear feet or less of friable ACBM):</p> <ul style="list-style-type: none"> - thoroughly saturate the debris using wet methods - clean the area, as described in 40 CFR 763.91(e) (see checklist item T2.40.6.WW.) - place the asbestos debris in a sealed, leak-tight container - repair the area of damaged ACM with materials such as asbestos-free spackling, plaster, cement, or insulation, or seal with latex paint or an encapsulant, or immediately have the appropriate response action implemented as required by 40 CFR 763.90 (see checklist item T2.40.12.WW). <p>Verify that the following procedures are followed in the event of a major fiber release episode (i.e., the falling or dislodging of more than 3 square or linear feet of friable ACBM):</p> <ul style="list-style-type: none"> - restrict entry into the area and post signs to prevent entry into the area by persons other than those necessary to perform the response action - shut off or temporarily modify the air-handling system to prevent the distribution of fibers to other areas in the building. <p>Verify that the response action for any major fiber release episode is designed by persons accredited to design response actions and conducted by persons accredited to conduct response actions.</p> <p>Verify that, at least once every 6 mo after a management plan is in effect, each local education agency conducts periodic surveillance in each building that it leases, owns, or otherwise uses as a school building that contains ACBM or is assumed to contain ACBM.</p> <p>Verify that individuals performing periodic surveillance:</p> <ul style="list-style-type: none"> - visually inspect all areas that are identified in the management plan as ACBM or assumed ACBM - record the date of the surveillance, his or her name, and any changes in the condition of the materials - submit to the person designated to carry out general local education agency responsibilities a copy of the surveillance record for inclusion in the management plan. <p>(NOTE: The local education agency must select and implement, in a timely manner, the appropriate response action, consistent with the written assessment, that protects human health and the environment in the least burdensome manner, con-</p>

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	sidering local circumstances and economic concerns.)

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<p>T4.2 LEAD-BASED PAINT MANAGEMENT: Missing Checklist Items/Positive Findings</p> <p>T4.2.1.WW. Installations must comply with all applicable regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding) [Added September 2000].</p> <p>T4.2.2.WW. Installations should go above and beyond environmental statutory and regulatory compliance (MP) [Added September 2000].</p>	<p>Determine whether any new regulations concerning LBP management have been issued since the finalization of the manual.</p> <p>Determine whether the installation has activities or facilities that are regulated but not addressed in this checklist.</p> <p>Verify that the installation is in compliance with all applicable and newly issued regulations.</p> <p>Determine whether the installation has gone above and beyond simply complying with environmental requirements.</p> <p>(NOTE: This checklist item is used only to write positive findings.)</p>

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<p>T4.10 LEAD-BASED PAINT MANAGEMENT: General</p> <p>T4.10.1.WW. Installations must develop and implement a multidisciplinary LBP hazard management program to identify, evaluate, and reduce LBP hazards in child-occupied facilities and military family housing (OEBGD 17.3.1.1) [Added September 2000].</p> <p>T4.10.2.WW. Installations must manage identified LBP hazards through interim controls or abatement (OEBGD 17.3.1.2) [Added September 2000].</p> <p>T4.10.3.WW. Installations must identify LBP hazards in child-occupied facilities and military family housing using certain methods (OEBGD 17.3.1.3) [Added September 2000; Revised June 2010].</p> <p>T4.10.4.WW. Installations must ensure occupant and worker protection measures are taken during all maintenance, repair, and renovation activities that disturb areas known or assumed to have LBP (OEBGD 17.3.1.4) [Added September 2000].</p> <p>T4.10.5.WW. Installations</p>	<p>Verify that the installation has developed and implemented a multidisciplinary LBP hazard management program to identify, evaluate, and reduce LBP hazards in child-occupied facilities and military family housing.</p> <p>Verify that the installation manages identified LBP hazards through interim controls or abatement.</p> <p>Verify that the installation identifies LBP hazards in child-occupied facilities and military family housing using any or all of the following methods:</p> <ul style="list-style-type: none"> - LBP risk assessment screen, if screen identifies dust-lead levels >25 µg/ft² for floors and >125 µg/ft² for interior window sills, then perform LBP risk assessment - LBP risk assessments - routine facility inspection for fire and safety - occupant, facility manager, and worker reports of deteriorated paint - results of childhood blood lead screening or reports of children identified to have elevated blood lead levels - LBP reevaluations - review of construction, painting, and maintenance histories. <p>Verify that occupant and worker protection measures are taken during all maintenance, repair, and renovation activities that disturb areas known or assumed to have LBP.</p> <p>Verify that the installation discloses to occupants of child-occupied facilities and</p>

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<p>must disclose to occupants of child-occupied facilities and military family housing the presence of any known LBP or LBP hazards and provide information on LBP hazard reduction (OEBGD 17.3.1.5) [Added September 2000].</p> <p>T4.10.6.WW. Installations must ensure that all personnel involved in lead-based activities, including paint inspection, risk assessment, specification or design, supervision, and abatement, are properly trained (OEBGD 17.3.1.6) [Added September 2000].</p> <p>T4.10.7.WW. [Moved September 2003].</p>	<p>military family housing the presence of any known LBP or LBP hazards and provides information on LBP hazard reduction.</p> <p>Verify that, prior to conducting remodeling or renovation projects, the installation informs occupants of military family housing of the hazards associated with those activities.</p> <p>Verify that, prior to conducting remodeling or renovation projects, the installation provides information on protecting family members from the hazards of LBP.</p> <p>Verify that all personnel involved in lead-based activities, including paint inspection, risk assessment, specification or design, supervision, and abatement, are properly trained.</p> <p>[Moved to T4.30.1.WW.]</p>

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<p>T4.30 LEAD-BASED PAINT MANAGEMENT: Disposal</p> <p>T4.30.1.WW. Installations must dispose of lead-contaminated waste that meets the definition of a hazardous waste in accordance with the requirements of OEBGD chapter 6 (OEBGD 17.3.1.7) [Added September 2000; Moved September 2003].</p>	<p>Verify that lead-contaminated waste that meets the definition of a hazardous waste is disposed of in accordance with the requirements of OEBGD chapter 6.</p> <p>(NOTE: Section 4, <i>Hazardous Waste Management</i>.)</p> <p>[Moved from T4.10.7.WW.]</p>

SECTION 12
WASTEWATER MANAGEMENT
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A. Applicability of this Section

This section contains criteria to control and regulate discharges of wastewater into surface waters. It includes, but is not limited to, stormwater runoff associated with industrial activities, domestic and industrial wastewater discharges, and pollutants from indirect dischargers.

B. Source Documents

- *Overseas Environmental Baseline Guidance Document (OEBGD)*, 1 May 2007, Chapter 4.

C. Key Compliance Requirements

- Each installation must have a system for investigating water pollution complaints from individuals and host nation water pollution control authorities.
- Activities or installations that have a significant potential for spills or batch discharges must develop a slug prevention plan.
- All sludges produced during the treatment of wastewater must be disposed of in accordance with relevant standards.
- Discharge to a septic system of wastewater containing industrial pollutants in levels that will inhibit biological activity is prohibited.
- New and existing sources of conventional pollutants discharged directly to waters of the host nation must meet specific effluent limitations and monitoring requirements.
- All facilities that discharge conventional pollutants directly to the waters of the host nation must meet recordkeeping requirements.
- Installations must not discharge certain materials into a treatment works.
- New and existing categorical industrial dischargers (whether direct or indirect) must meet specific effluent limitations and monitoring requirements.
- Categorical industrial dischargers must monitor effluents quarterly.
- Installations must develop and implement stormwater pollution prevention plans (SWPPPs) for specific activities.

D. Definitions

- *7-Day Average* - the arithmetic mean of pollutant parameter values for samples collected in a period of seven consecutive days (OEBGD 4.2).

- *30-Day Average* - the arithmetic mean of pollutant parameter values for samples collected in a period of 30 consecutive days (OEBGD 4.2).
- *Average Monthly Discharge Limitations* - the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month (OEBGD 4.2).
- *Average Weekly Discharge Limitations* - the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week (OEBGD 4.2).
- *Best Management Practices (BMPs)* - practical practices and procedures that will minimize or eliminate the possibility of pollution being introduced into waters of the host nation (OEBGD 4.2).
- *BOD₅* - the 5-day measure of the dissolved oxygen used by microorganisms in the biochemical oxidation of organic matter. The pollutant parameter is biochemical oxygen demand (i.e., biodegradable organics in terms of oxygen demand) (OEBGD 4.2).
- *CBOD₅* - the 5-day measure of the pollutant parameter carbonaceous biochemical oxygen demand. This test can substitute for the BOD₅ testing which suppresses the nitrification reaction/component in the BOD₅ test (OEBGD 4.2).
- *Categorical Industrial Discharger* - an industrial activity that falls into any of the following industrial categories, whether the operations are conducted in conjunction with electroplating, independently, or as part of some other operation (OEBGD 4.3.3.1.1 through 4.3.3.1.7):
 1. Electroplating - operations in which metal is electroplated on any basis material and to related metal finishing operations as set forth in the various subparts.
 2. Electroplating subparts are identified as follows:
 - a) Electroplating of Common Metals. Discharges of pollutants in process waters resulting from the process in which a material is electroplated with copper, nickel, chromium, zinc, tin, lead, cadmium, iron, aluminum, or any combination thereof.
 - b) Electroplating of Precious Metals. Discharges of pollutants in process waters resulting from the process in which a material is plated with gold, silver, iridium, palladium, platinum, rhodium, ruthenium, or any combination thereof.
 - c) Anodizing. Discharges of pollutants in process waters resulting from the anodizing of ferrous and nonferrous materials.
 - d) Metal Coatings. Discharges of pollutants in process waters resulting from the chromating, phosphating, or immersion plating on ferrous and nonferrous materials.
 - e) Chemical Etching and Milling. Discharges of pollutants in process waters resulting from the chemical milling or etching of ferrous and nonferrous materials.
 - f) Electroless Plating. Discharges of pollutants in process waters resulting from the electroless plating of a metallic layer on a metallic or nonmetallic substrate.
 - g) Printed Circuit Board Manufacturing. Discharges of pollutants in process waters resulting from the manufacture of printed circuit boards, including all manufacturing operations required or used to convert an insulating substrate to a finished printed circuit board.
- *Conventional Pollutants* - biochemical oxygen demand (BOD₅), total suspended solids (TSS), oil and grease, fecal coliforms, and pH (OEBGD 4.2).
- *Daily Discharge* - the discharge of a pollutant measured during a calendar day or any 24-h period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement (e.g., concentration), daily discharge is calculated as the average measurement of the pollutant over the day (OEBGD 4.2).

- *Direct Discharge* - any discharge of pollutants other than an indirect discharge (OEBGD 4.2).
- *Discharge of a Pollutant* - any addition of any pollutant or combination of pollutants to waters of the host nation from any point source (OEBGD 4.2).
- *Domestic Wastewater Treatment System (DWTS)* - any Department of Defense (DOD) or host nation facility designed to treat wastewater before its discharge to waters of the host nation and in which the majority of such wastewater is made up of domestic sewage (OEBGD 4.2).
- *Effluent Limitation* - any restriction imposed on quantities, discharge rates, and concentrations of pollutants that are ultimately discharged from point sources into waters of the host nation (OEBGD 4.2).
- *Existing Source* - a source that discharges pollutants that was in operation or under construction prior to 1 October 1994, unless it is subsequently substantially modified (OEBGD 4.2).
- *Indirect Discharge* - the introduction of pollutants in process wastewater to a DWTS (OEBGD 4.2).
- *Industrial Activities Associated with Stormwater* - activities that during wet weather events may contribute pollutants to storm water runoff or drainage (see OEBGD Table C4.T3., Best Management Practices) (OEBGD 4.2).
- *Industrial Wastewater Treatment System (IWTS)* - any DOD facility designed to treat process wastewater before its discharge to waters of the host nation other than a DWTS (OEBGD 4.2).
- *Interference* - any addition of any pollutant or combination of pollutant discharges that inhibits or disrupts the DWTS, its treatment processes or operations, or its sludge handling processes, use or disposal (OEBGD 4.2).
- *Maximum Daily Discharge Limitation* - the highest allowable daily discharge based on volume as well as concentration (OEBGD 4.2).
- *New Source* - a source built or substantially modified on or after 1 October 1994 that directly or indirectly discharges pollutants to the wastewater system (OEBGD 4.2).
- *Noncategorical Industrial Indirect Discharger* - an industrial activity that is not a categorical industrial discharger (OEBGD 4.3.2.1).
- *Point Source* - any discernible, confined, and discrete conveyance including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, or rolling stock, but not including vessels, aircraft, or any conveyance that merely collects natural surface flows of precipitation (OEBGD 4.2).
- *Pollutant* - includes, but is not limited to, the following: dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water (OEBGD 4.2).
- *Process Wastewater* - any water that, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, by-product, or waste product (OEBGD 4.2).
- *Regulated Facility* - a facility for which standards are established in Chapter 4 of OEBGD, such as DWTS, IWTS, or industrial dischargers (OEBGD 4.2).
- *Stormwater* - runoff and drainage from wet weather events such as rain, snow, ice, sleet, or hail (OEBGD 4.2).
- *Substantial Modification* - any modification to a facility, the cost of which exceeds \$1 million, regardless of funding source (OEBGD 4.2).

- *Total Suspended Solids (TSS)* - the pollutant parameter total filterable suspended solids (OEBGD 4.2).
- *Total Toxic Organics (TTO)* - the sum of all quantifiable values greater than 0.01 mg/L for the toxic organics in OEBGD Table C4.T1., Components of Total Toxic Organics (OEBGD 4.2).
- *Waters of the Host Nation* - surface waters including the territorial seas recognized under customary international law, including (OEBGD 4.2):
 1. all waters that are currently used, were used in the past, or may be susceptible to use in commerce
 2. waters that are or could be used for recreation or other purposes
 3. waters from which fish or shellfish are or could be taken and sold
 4. waters that are used or could be used for industrial purposes by industries
 5. waters including lakes, rivers, and streams (including intermittent streams), sloughs, prairie potholes, or natural ponds
 6. and tributaries of waters identified above.

(NOTE: Domestic or industrial waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of this section, are not waters of the host nation. This exclusion only applies to manmade bodies of water that neither was originally waters of the host nation nor resulted from impoundment of waters of the host nation.)

E. Records To Review

- Discharge monitoring reports for the past year
- Laboratory records and procedures
- Monthly operating reports for wastewater treatment facilities
- Flow monitoring calibration certification and supporting records
- Ash pond volume certification and supporting records
- Installation Spill Plan
- All records required by the spill plan
- Sewage treatment plant operator certification
- Sewer and storm drain layout
- Oil/water separator inventory
- Installation as-built drawings

F. Physical Features To Inspect

- Discharge outfall pipes
- Wastewater treatment facilities
- Industrial treatment facilities
- Streams, rivers, open waterways
- Floor and sink drains (especially in industrial areas)
- Stormwater collection points (especially in industrial areas)
- Oil storage tanks
- Oil/water separators

G. Guidance for Checklist Users

REFER TO CHECKLIST ITEMS:	
Missing Checklist Items/Positive Findings	WA.2.1.WW and WA.2.2.WW
General	WA.10.1.WW through WA.10.4.WW
Discharges to Domestic Sanitary Systems	WA.15.1.WW through WA.15.3.WW
Direct Discharges	WA.20.1.WW through WA.20.4.WW
Categorical Industrial Discharges	WA.40.1.WW through WA.40.4.WW
Stormwater Management	WA.50.1.WW and WA.50.2.WW

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>WA.2 MISSING CHECKLIST ITEMS/POSITIVE FINDINGS</p> <p>WA.2.1.WW. Installations must comply with all applicable regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding) [Added September 2000].</p> <p>WA.2.2.WW. Installations should go above and beyond environmental statutory and regulatory compliance (MP).</p>	<p>Determine whether any new regulations concerning wastewater management have been issued since the finalization of the manual.</p> <p>Determine whether the installation has activities or facilities that are regulated but not addressed in this checklist.</p> <p>Verify that the installation is in compliance with all applicable and newly issued regulations.</p> <p>Determine whether the installation has gone above and beyond simply complying with environmental requirements.</p> <p>(NOTE: This checklist item is used only to write positive findings.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>WA.10 GENERAL</p> <p>WA.10.1.WW. Each installation must have a system for investigating water pollution complaints from individuals and host nation water pollution control authorities (OEBGD 4.3.1.5 and 4.3.2.2).</p> <p>WA.10.2.WW. Activities or installations that have a significant potential for spills or batch discharges must develop a slug prevention plan (OEBGD 4.3.2.1.6).</p> <p>WA.10.3.WW. All sludges produced during the treatment of wastewater must be disposed of in accordance with relevant standards (OEBGD 4.3.6).</p> <p>WA.10.4.WW. [Moved</p>	<p>Verify that the installation has procedures for investigating water pollution complaints.</p> <p>Verify that the DoD Environmental Executive Agent (EEA) is involved as appropriate.</p> <p>Determine whether the installation has a significant potential for spills or batch discharges.</p> <p>Verify that the installation has developed a slug prevention plan.</p> <p>Verify that the plan contains the following, at a minimum:</p> <ul style="list-style-type: none"> - a description of discharge practices, including nonroutine batch discharges - a description of stored chemicals - a plan for immediately notifying the DWTS of slug discharges and discharges that would violate standards, including procedures for subsequent written notification within 5 days - necessary practices to prevent accidental spills, including: <ul style="list-style-type: none"> - proper inspection and maintenance of storage areas - handling and transfer of materials - loading and unloading operations - control of plant site runoff - worker training - proper procedures for building containment structures or equipment - necessary measures to control toxic organic pollutants and solvents - proper procedures and equipment for emergency response and any subsequent plans needed to limit damage to the treatment plant or the environment. <p>Verify that the installation determines whether the sludge from the wastewater treatment plant is hazardous or not.</p> <p>(NOTE: See Section 4, <i>Hazardous Waste Management</i>, for the definition of hazardous waste.)</p> <p>Verify that sludges that are hazardous are disposed of in accordance with the requirements of Section 4, <i>Hazardous Waste Management</i>.</p> <p>Verify that sludges that are not hazardous are disposed of in accordance with the requirements of Section 9, <i>Solid Waste Management</i>.</p> <p>Moved to WA.15.1.WW as part of the implementation of common OCONUS</p>

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT OEBGD Protocols	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
March 2004].	topic headings.

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OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>WA.15 DISCHARGES TO DOMESTIC SANITARY SYSTEMS</p> <p>WA.15.1.WW. Discharge to a septic system of wastewater containing industrial pollutants in levels that will inhibit biological activity is prohibited (OEBGD 4.3.5) [Added September 2000; Moved March 2004].</p> <p>WA.15.2.WW. Certain materials are prohibited from discharge into a treatment works (OEBGD 4.3.2.1.1, 4.3.2.1.5, and 4.3.2.1.7) [Revised September 2000; Moved March 2004].</p> <p>WA.15.3.WW. Installations must not introduce specific pollutants into a DWTS (OEBGD 4.3.2.1.2, 4.3.2.1.3, 4.3.2.1.4, and 4.3.2.1.8) [Revised September 2000; Moved March 2004].</p>	<p>Verify that there is no discharge to a septic system of wastewater containing industrial pollutants in levels that will inhibit biological activity.</p> <p>Verify that known discharges of industrial pollutants to existing septic systems are eliminated.</p> <p>Verify that appropriate actions are taken to eliminate contamination.</p> <p>[Formerly checklist item number WA.10.4.WW.]</p> <p>Verify that the installation does not discharge any of the following to a DWTS and associated collection systems:</p> <ul style="list-style-type: none"> - petroleum oil - nonbiodegradable cutting oil - products of mineral oil origin - any solid or viscous pollutants that may result in obstructions to plant flow - trucked or hauled waste. <p>(NOTE: The DWTS operator may specify locations at which trucked and hauled waste may be discharged; the prohibition on discharge of such waste does not apply at such locations.)</p> <p>[Formerly checklist item number WA.30.1.WW.]</p> <p>Verify that pollutants that create a fire or explosion hazard in the collection system or treatment facility are not discharged, specifically:</p> <ul style="list-style-type: none"> - wastewater with a closed cup flashpoint of less than 60 °C (140 °F) - liquid waste solutions that contain more than 24 percent alcohol by volume with a flash point less than 60 °C (140 °F) - nonliquid wastes which, under standard temperature and pressure, can cause a fire through friction - ignitable compressed gases - oxidizers, such as peroxide. <p>Verify that no pollutant that has the potential to be structurally corrosive is discharged to the DWTS.</p> <p>Verify that no wastewater with a pH lower than 5.0 is discharged to the DWTS.</p> <p>(NOTE: This prohibition does not apply if the treatment facilities and collecting</p>

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	<p>systems are designed to handle such wastewater.)</p> <p>Verify that no heat is discharged to the DWTS in amounts that inhibit biological activity in the DWTS and result in interference, but in no case in such quantities that the temperature of the process water at the DWTS exceeds 40 °C (104 °F).</p> <p>Verify that the following types of waste are not discharged:</p> <ul style="list-style-type: none"> - wastes that are normally unstable and readily undergo violent changes without detonating - wastes that react violently with water - wastes that form explosive mixtures with water or form toxic gases or fumes when mixed with water - cyanide or sulfide wastes that can generate potentially harmful toxic fumes, gases, or vapors - wastes capable of detonation or explosive decomposition or reaction at standard temperature and pressure - wastes that contain regulated explosives - wastes that produce any toxic fumes, vapors, or gases with the potential to cause safety problems or harm to workers. <p>[Formerly checklist item number WA.30.2.WW.]</p>

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**REGULATORY
REQUIREMENTS:**

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**WA.20
DIRECT DISCHARGES**

WA.20.1.WW. All new sources of pollutants directly discharged to waters of the host nation must meet specific effluent limitations and monitoring requirements (OEBGD 4.3.1.1, 4.3.1.3, and 4.3.1.6) [Revised September 2000; Revised June 2010; Citation Revised June 2010].

Verify that all new sources of pollutants directly discharged to waters of the host nation comply with the following effluent limitations:

- BOD₅:
 - 30-day average does not exceed 30 mg/L
 - 7-day average does not exceed 45 mg/L
- TSS:
 - 30-day average does not exceed 30 mg/L
 - 7-day average does not exceed 45 mg/L
- effluent pH values are maintained between 6.0 and 9.0.

(NOTE: CBOD₅ may be substituted for BOD₅. In those cases, the following apply:

- 30-day average does not exceed 25 mg/L
- 7-day average does not exceed 40 mg/L.)

(NOTE: Parameter CBOD₅ limit, if substituted for the parameter BOD₅, should be at least 5 mg/L less than each numerical limit for the 30-day and 7-day average for the BOD₅ limit. The CBOD₅ test procedure suppresses the nitrification component in the BOD₅ test procedure, thereby reducing the value or effects and lowering the oxygen demand.)

Verify that, if DWTS plant capacity is between 0.0 and 0.049 million gallons per day (MGD), the monthly sample complies with the level for 30-day average.

Verify that the installation monitors these parameters (BOD₅, TSS, and pH) in accordance with the monitoring requirements in OEBGD Table C4.T2.

WA.20.2.WW. Existing sources of pollutants to the waters of the host nation must meet specific effluent limitations and monitoring requirements (OEBGD 4.3.1.2, 4.3.1.3, and 4.3.1.6) [Revised September 2000; Revised June 2010; Citation Revised June 2010].

Verify that all existing source of pollutants to waters of the host nation comply with the following effluent limitations:

- BOD₅:
 - 30-day average does not exceed 45 mg/L
 - 7-day average does not exceed 65 mg/L
- TSS:
 - 30-day average does not exceed 45 mg/L
 - 7-day average does not exceed 65 mg/L
- effluent pH values are maintained between 6.0 and 9.0.

Verify that, if DWTS plant capacity is between 0.0 and 0.049 million gallons per day (MGD), the monthly sample complies with the level for 30-day average.

Verify that these parameters (BOD₅, TSS, and pH) are monitored in accordance with the monitoring requirements in OEBGD Table C4.T2

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<p>WA.20.3.WW. Samples must be collected at the point of discharge to the waters of the host nation (OEBGD 4.3.1.3) [Revised September 2000].</p> <p>WA.20.4.WW. All facilities that discharge conventional pollutants directly to the waters of the host nation must meet recordkeeping requirements (OEBGD 4.3.1.4) [Added September 2000].</p>	<p>Verify that samples are collected at the point of discharge to the waters of the host nation.</p> <p>Verify that records are kept detailing the following:</p> <ul style="list-style-type: none"> - the effluent, concentration, or other measurement specified for each regulated parameter - the daily volume of effluent discharge from each point source - test procedures for the analysis of pollutants - the date and the exact place and time of sampling and/or measurements - the person who performed the sampling and/or measurements - the date of analysis. <p>Verify that records are retained for 3 yr.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010																																																			
<p>WA.40 CATEGORICAL INDUSTRIAL DISCHARGES</p> <p>WA.40.1.WW. New and existing categorical industrial dischargers that discharge less than 38,000 L/day (10,000 gal/day) must meet specific standards (OEBGD 4.3.3.1.8) [Revised September 2000; Citation Revised June 2010].</p> <p>WA.40.2.WW. New and existing categorical industrial dischargers that discharge 38,000 L/day (10,000 gal/day) or more must meet specific standards (OEBGD 4.3.3.1.9) [Revised September 2000; Citation Revised June 2010].</p> <p>WA.40.3.WW. New and existing facilities that electroplate precious metals and that directly or indirectly discharge 38,000 L/day (10,000 gal/day) or more must meet additional standards (OEBGD 4.3.3.1.10) [Citation Revised June 2010].</p> <p>WA.40.4.WW. Categorical industrial dischargers must monitor effluents quarterly (OEBGD 4.3.3.2) [Revised September 2000; Citation</p>	<p>(NOTE: These requirements apply to all categorical industrial dischargers, whether direct or indirect, and they apply whether the operations are conducted in conjunction with electroplating, independently, or as part of some other operation.)</p> <p>Verify that the following standards are met:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Pollutant</th> <th style="text-align: center;">Daily Maximum (mg/L)</th> <th style="text-align: center;">4-day Average (mg/L)</th> </tr> </thead> <tbody> <tr> <td>Cyanide, amenable</td> <td style="text-align: center;">5.0</td> <td style="text-align: center;">2.7</td> </tr> <tr> <td>Lead</td> <td style="text-align: center;">0.6</td> <td style="text-align: center;">0.4</td> </tr> <tr> <td>Cadmium</td> <td style="text-align: center;">1.2</td> <td style="text-align: center;">0.7</td> </tr> <tr> <td>TTO</td> <td style="text-align: center;">4.57</td> <td style="text-align: center;">---</td> </tr> </tbody> </table> <p>(NOTE: See OEBGD Table C4.T1. for a list of components of TTOS.)</p> <p>Verify that the following standards are met:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Pollutant</th> <th style="text-align: center;">Daily Maximum (mg/L)</th> <th style="text-align: center;">4-day Average (mg/L)</th> </tr> </thead> <tbody> <tr> <td>Cyanide, total</td> <td style="text-align: center;">1.9</td> <td style="text-align: center;">1.0</td> </tr> <tr> <td>Copper</td> <td style="text-align: center;">4.5</td> <td style="text-align: center;">2.7</td> </tr> <tr> <td>Nickel</td> <td style="text-align: center;">4.1</td> <td style="text-align: center;">2.6</td> </tr> <tr> <td>Chrome</td> <td style="text-align: center;">7.0</td> <td style="text-align: center;">4.0</td> </tr> <tr> <td>Zinc</td> <td style="text-align: center;">4.2</td> <td style="text-align: center;">2.6</td> </tr> <tr> <td>Lead</td> <td style="text-align: center;">0.6</td> <td style="text-align: center;">0.4</td> </tr> <tr> <td>Cadmium</td> <td style="text-align: center;">1.2</td> <td style="text-align: center;">0.7</td> </tr> <tr> <td>Total Metals</td> <td style="text-align: center;">10.5</td> <td style="text-align: center;">6.8</td> </tr> <tr> <td>TTO</td> <td style="text-align: center;">2.13</td> <td style="text-align: center;">---</td> </tr> </tbody> </table> <p>Verify that the following standards are met:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Pollutant</th> <th style="text-align: center;">Daily Maximum (mg/L)</th> <th style="text-align: center;">4-day Average (mg/L)</th> </tr> </thead> <tbody> <tr> <td>Silver</td> <td style="text-align: center;">1.2</td> <td style="text-align: center;">0.7</td> </tr> </tbody> </table> <p>Verify that monitoring is carried out quarterly.</p> <p>Verify that monitoring is carried out for all appropriate parameters.</p> <p>Verify that samples are collected at the point of discharge after treatment but prior</p>	Pollutant	Daily Maximum (mg/L)	4-day Average (mg/L)	Cyanide, amenable	5.0	2.7	Lead	0.6	0.4	Cadmium	1.2	0.7	TTO	4.57	---	Pollutant	Daily Maximum (mg/L)	4-day Average (mg/L)	Cyanide, total	1.9	1.0	Copper	4.5	2.7	Nickel	4.1	2.6	Chrome	7.0	4.0	Zinc	4.2	2.6	Lead	0.6	0.4	Cadmium	1.2	0.7	Total Metals	10.5	6.8	TTO	2.13	---	Pollutant	Daily Maximum (mg/L)	4-day Average (mg/L)	Silver	1.2	0.7
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Revised June 2010].	<p>to any mixing with the receiving water.</p> <p>(NOTE: Monitoring includes both sampling and analysis.)</p> <p>(NOTE: Sampling for TTO may not be required if the commanding officer determines that no discharge of concentrated toxic organics into the wastewaters has occurred and the facility has implemented a TTO management plan.)</p>

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<p>WA.50 STORMWATER MANAGEMENT</p> <p>WA.50.1.WW. Installations must develop and implement stormwater pollution prevention plans (SWPPPs) for specific activities (OEBGD 4.3.4.1) [Added September 2000; Revised June 2010].</p> <p>WA.50.2.WW. Personnel who handle hazardous substances or perform activities that could contribute pollution to wet weather events should be trained in appropriate BMPs (MP) [Added September 2000].</p>	<p>Verify that the installation has developed and implemented a SWPPP for the activities listed in OEBGD Table C4.T3.</p> <p>Verify that the SWPPP is updated annually using in-house resources.</p> <p>Verify that personnel who handle hazardous substances or perform activities that could contribute pollution to wet weather events are trained in appropriate BMPs.</p> <p>Verify that such training stresses pollution prevention principles and awareness of possible pollution sources, including nontraditional sources such as sediment, nitrates, pesticides, and fertilizers.</p> <p>(This MP is suggested at OEBGD 4.3.4.2.)</p>

SECTION 13
WATER QUALITY MANAGEMENT
OEBGD Protocols
June 2010

A. Applicability of this Section

This section contains criteria for providing potable water.

B. Source Documents

- *Overseas Environmental Baseline Guidance Document (OEBGD)*, 1 May 2007, Chapter 3.

C. Key Compliance Requirements

- Installations must develop and update as necessary an emergency contingency plan to ensure the provision of potable water despite interruptions from natural disasters and service interruptions.
- Installations must maintain a current map/drawing of the complete potable water system.
- Installations must have an effective cross-connection control and backflow prevention program.
- Installations must conduct sanitary surveys of the water system and vulnerability assessments.
- Compliance with water quality standards must be demonstrated by independent testing or validated supplier testing.
- DOD installations must ensure that personnel are appropriately trained to operate DOD water systems.
- DOD installations must use only approved alternative water sources, if the use of alternative sources is necessary.
- Underground injection must be carried out in such a way that underground water resources are protected.
- Installations must protect all water supply aquifers (groundwater) and surface water sources from contamination.

E. Definitions

- *Action Level* - the concentration of a substance in water that establishes appropriate treatment for a water system (OEBGD 3.2).
- *Appropriate DOD Medical Authority* - the medical professional designated by the in-theater DOD component commander to be responsible for resolving medical issues necessary to provide safe drinking water at the DOD component's installations (OEBGD 3.2).
- *Community Water System (CWS)* - a public water system having at least 15 service connections used by year-round residents or that regularly serves at least 25 year-round residents (OEBGD 3.2).

- *Concentration/Time (CT)* - the product of residual disinfectant concentration (C) in mg/L determined before or at the first customer, and the corresponding disinfectant contact time (T) in minutes. CT values appear in OEBGD Tables C3.T11. through C3.T24 (OEBGD 3.2).
- *Conventional Treatment* - water treatment including chemical coagulation, flocculation, sedimentation, and filtration (OEBGD 3.2).
- *Diatomaceous Earth Filtration* - a water treatment process of passing water through a precoat of diatomaceous earth deposited on a support membrane while additional diatomaceous earth is continuously added to the feed water to maintain the permeability of the precoat, resulting in substantial particulate removal from the water (OEBGD 3.2).
- *Direct Filtration* - water treatment including chemical coagulation, possibly flocculation, and filtration, but not sedimentation (OEBGD 3.2).
- *Disinfectant* - any oxidant, including but not limited to, chlorine, chlorine dioxide, chloramines, and ozone, intended to kill or inactivate pathogenic microorganisms in water (OEBGD 3.2).
- *DOD Water System* - a public water system or non-public water system (OEBGD 3.2).
- *Emergency Assessment* - an evaluation of the susceptibility of the water source, treatment, storage and distribution system(s) to disruption of service caused by natural disasters, accidents, and sabotage (OEBGD 3.2).
- *First Draw Sample* - a 1 L sample of tap water that has been standing in plumbing at least 6 h and is collected without flushing the tap (OEBGD 3.2).
- *Groundwater Under the Direct Influence of Surface Water (GWUDISW)* - any water below the surface of the ground with either (OEBGD 3.2):
 1. significant occurrence of insects or other microorganisms, algae, or large-diameter pathogens such as *Giardia lamblia*
 2. significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH that closely correlate to climatological or surface water conditions.
- *Haloacetic Acids* - the sum of the concentrations in milligrams per liter of the haloacetic acid compounds (monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid), rounded to two significant figures after addition (OEBGD 3.2).
- *Lead-free* - a maximum lead content of 0.2 percent for solder and flux and 8.0 percent for pipes and fittings (OEBGD 3.2).
- *Lead Service Line* - a service line, made of lead that connects the water main to the building inlet, and any lead pigtail, gooseneck, or other fitting which is connected to such a line (OEBGD 3.2).
- *Maximum Contaminant Level (MCL)* - the maximum permissible level of a contaminant in water that is delivered to the free-flowing outlet of the ultimate user of a public water system, except for turbidity, for which the maximum permissible level is measured after filtration (OEBGD 3.2).

(NOTE: Contaminants added to the water under circumstances controlled by the user, except those resulting from the corrosion of piping and plumbing caused by water quality, are excluded.)

- *Maximum Residual Disinfectant Level (MRDL)* - the level of a disinfectant added for water treatment measured at the consumer's tap, which may not be exceeded without the unacceptable possibility of adverse health effects (OEBGD 3.2).
- *Non-Community Water System (NCWS)* - a public water system that serves the public, but does not serve the same people year-round. A non-transient, non-community water system (NTNCWS) is a public water system that sup-

plies water to at least 25 of the same people at least 6 mo per year, but not year-round. Examples include schools, factories, office buildings, and hospitals that have their own water systems. A transient, non-community water system (TNCWS) is a public water system that provides water to at least 25 persons (but not the same 25 persons) at least 6 mo per year. Examples include, but are not limited to, gas stations, motels, and campgrounds that have their own water sources (OEBGD 3.2).

- *Non-Public Water System (NPWS)* – a system that does not meet the definition of a public water system; for example, a well serving a building with less than 25 people (OEBGD 3.2).
- *Point-of-Entry (POE) Treatment Device* - a treatment device applied to the drinking water entering a facility to reduce contaminants in the drinking water throughout the facility (OEBGD 3.2).
- *Point-of-Use (POU) Treatment Device* - a treatment device applied to a tap to reduce contaminants in drinking water at that tap (OEBGD 3.2).
- *Potable Water* - water that has been examined and treated to meet the standards of OEBGD chapter 3, and has been approved as potable by the appropriate DOD medical authority (OEBGD 3.2).
- *Public Water System (PWS)* - a system for providing piped water to the public for human consumption, if the system has at least 15 service connections or regularly serves a daily average of at least 25 individuals at least 60 days of the year. This term includes both community water systems, which serve year-round residents, and non-community water systems, along with any collection, treatment, storage, and distribution facilities under control of the operator of such systems, and any collection or pretreatment storage facilities not under such control that are used primarily in connection with such systems (OEBGD 3.2).
- *Sanitary Survey* - an onsite review of the water source, facilities, equipment, operation, and maintenance of a public water system to evaluate the adequacy of such elements for producing and distributing potable water (OEBGD 3.2).
- *Slow Sand Filtration* - water treatment process where raw water passes through a bed of sand at a low velocity (1.2 ft/hr), resulting in particulate removal by physical and biological mechanisms (OEBGD 3.2).
- *Total Trihalomethanes (TTHM)* - the sum of the concentration in mg/L of chloroform, bromoform, dibromochloromethane, and bromodichloromethane (OEBGD 3.2).
- *Underground Injection* - a subsurface emplacement through a bored, drilled, driven, or dug well, where the depth is greater than the largest surface dimension, whenever a principle function of the well is the emplacement of any fluid (OEBGD 3.2).
- *Vulnerability Assessment* - the process a DOD commander uses to determine the susceptibility to attack from the full range of threats to the security of personnel, family members, and facilities, which provide a basis for determining antiterrorism measures that can protect personnel and assets from terrorist attacks (OEBGD 3.2).

E. Records To Review

- Bacterial and chemical analyses of drinking water, including sampling dates and locations, dates of analyses, analytical methods used, and results of analyses
- Monthly operating reports (flow, chlorine residual, etc.)
- Records of planning and construction of injection wells
- Results of injection well monitoring
- Records of facility projects, including any petition for review, that may potentially cause contamination of a sole source aquifer through its recharge zone

F. Physical Features To Inspect

- Drinking water collection, treatment, and distribution facilities
- Onbase laboratory analysis facilities
- Underground injection wells

G. Guidance for Checklist Users

	REFER TO CHECKLIST ITEMS:
Missing Checklist Items/Positive Findings	WQ.2.1.WW and WQ.2.2.WW
General	WQ.10.1.WW through WQ.10.9.WW
Water Quality Standards	WQ.20.1.WW through WQ.20.11.WW
Disinfection and Filtration	WQ.30.1.WW through WQ.30.3.WW
Recordkeeping and Notification	WQ.40.1.WW through WQ.40.4.WW
Alternative Water Supplies	WQ.50.1.WW
Underground Injection Control	WQ.60.1.WW
Water Source Protection	WQ.70.1.WW
Training and Certification	WQ.80.1.WW

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>WQ.2 MISSING CHECKLIST ITEMS/POSITIVE FINDINGS</p> <p>WQ.2.1.WW. Installations must comply with all applicable regulatory requirements not contained in this checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of finding) [Added September 2000].</p> <p>WQ.2.2.WW. Installations should go above and beyond environmental statutory and regulatory compliance (MP) [Added September 2000].</p>	<p>Determine whether any new regulations concerning water quality management have been issued since the finalization of the manual.</p> <p>Determine whether the installation has activities or facilities that are regulated but not addressed in this checklist.</p> <p>Verify that the installation is in compliance with all applicable and newly issued regulations.</p> <p>Determine whether the installation has gone above and beyond simply complying with environmental requirements.</p> <p>(NOTE: This checklist item is used only to write positive findings.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>WQ.10 GENERAL</p> <p>WQ.10.1.WW. Installations must develop and update as necessary an emergency contingency plan to ensure the provision of potable water despite interruptions from natural disasters and service interruptions (OEBGD 3.3.1.10) [Revised September 2000; Revised June 2010].</p> <p>WQ.10.2.WW. Installations must maintain a map/ drawing of the complete potable water system (OEBGD 3.3.1.1).</p> <p>WQ.10.3.WW. Installations must have a Potable Water System Master Plan that is updated at least every 5 yr (OEBGD 3.3.1.2).</p> <p>WQ.10.4.WW. DOD water systems must perform specific water distribution system operation and maintenance practices (OEBGD 3.3.1.6 through 3.3.1.8) [Revised September 2000].</p>	<p>Verify that the installation has an emergency contingency plan that includes, at a minimum:</p> <ul style="list-style-type: none"> - plans, procedures and identification of equipment that can be implemented or utilized in the event of an intentional or unintentional disruption - identification of key personnel - procedures to restore service - procedures to isolate damaged lines - identification of alternative water supplies - installation public notification procedures. <p>Verify that the plan is updated as necessary.</p> <p>Verify that the installation maintains a map/drawing of the complete potable water system.</p> <p>(NOTE: This requirement applies to DoD water systems whether they produce or purchase water.)</p> <p>Verify that the installation has a Potable Water System Master Plan.</p> <p>Verify that the plan is updated at least every 5 yr.</p> <p>(NOTE: This requirement applies to DoD water systems whether they produce or purchase water.)</p> <p>Verify that a continuous positive pressure of at least 20 psi is maintained in the water distribution system.</p> <p>Verify that there is an effective cross-connection control and backflow prevention program.</p> <p>Verify that the water distribution system operation and maintenance practices consist of:</p> <ul style="list-style-type: none"> - maintenance of a disinfectant residual throughout the water distribution system (except where determined unnecessary by the appropriate DOD medical authority) - proper repair and replacement of mains procedures (including disinfection and bacteriological testing) - an effective annual water main flushing program - proper operation and maintenance of storage tanks and reservoirs - maintenance of distribution system appurtenances (including hydrants and valves).

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<p>WQ.10.5.WW. Installations must conduct sanitary surveys of the water system (OEBGD 3.3.1.4) [Revised September 2000].</p> <p>WQ.10.6.WW. Installations must conduct vulnerability assessments (OEBGD 3.3.1.14) [Revised June 2010].</p> <p>WQ.10.7.WW. Installations must use only lead-free pipe, solder, flux, and fittings when installing or repairing water systems and plumbing systems for drinking water (OEBGD 3.3.1.11).</p> <p>WQ.10.8.WW. [Moved March 2004].</p> <p>WQ.10.9.WW. Compliance with water quality standards must be demonstrated by independent testing or validated supplier testing (OEBGD 3.3.2) [Moved March 2004].</p>	<p>(NOTE: This requirement applies to DoD water systems whether they produce or purchase water.)</p> <p>Verify that, for systems using surface water, sanitary surveys of the water system including a review of required water quality analyses, are conducted at least every 3 yr or as warranted.</p> <p>Verify that, for systems using groundwater, sanitary surveys of the water system, including a review of required water quality analyses, are conducted at least every 5 yr or as warranted.</p> <p>Verify that off-installation surveys are coordinated with the appropriate host nation authorities.</p> <p>(NOTE: This requirement applies to DoD water systems whether they produce or purchase water.)</p> <p>Verify that the installation has conducted a vulnerability assessment.</p> <p>Verify that the assessment includes a review of the following:</p> <ul style="list-style-type: none"> - pipes and constructed conveyances, physical barriers, water collection, pre-treatment, treatment, storage, and distribution facilities, electronic, computer, or other automated systems utilized by the public water system - use, storage, or handling of various chemicals - operation and maintenance of the water storage, treatment, and distribution systems <p>(NOTE: This requirement applies to DoD water systems whether they produce or purchase water.)</p> <p>Verify that only lead-free materials (see definition) are used.</p> <p>(NOTE: This requirement applies to DoD water systems whether they produce or purchase water.)</p> <p>Moved to WQ.80.1.WW as part of the implementation of common OCONUS topic headings.</p> <p>Verify that the installation demonstrates compliance with applicable water quality standards by independent testing or validated supplier testing.</p> <p>[Formerly checklist item number WQ.20.1.WW.]</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>WQ.20 WATER QUALITY STANDARDS</p> <p>WQ.20.1.WW. [Moved March 2004].</p> <p>WQ.20.2.WW. Installations responsible for a PWS must meet specific MCL and testing requirements for total coliform bacteria (OEBGD 3.3.2.1) [Revised September 2000].</p>	<p>Moved to WQ.10.9.WW as part of the implementation of common OCONUS topic headings.</p> <p>Verify that PWSs have no more than 5 percent positive samples for the presence of total coliforms per month for a system examining 40 or more samples per month.</p> <p>Verify that PWSs have no more than one positive sample for the presence of total coliforms per month when a system analyzes fewer than 40 samples per month.</p> <p>(NOTE: The MCL for total coliforms is exceeded whenever a routine sample is positive for fecal coliforms or <i>Escherichia coli</i> [<i>E. coli</i>] or when any repeat sample is positive for total coliforms.)</p> <p>Verify that each system has a written, site-specific bacteriological monitoring plan and collects routine samples according to the schedule in OEBGD Table C3.T2.</p> <p>Verify that systems with initial samples testing positive for total coliforms collect repeat samples as soon as possible, preferably on the same day.</p> <p>Verify that repeat samples are taken at the same tap as the original sample and that an upstream and a downstream sample are taken, each within five service connections of the original tap.</p> <p>Verify that any additional required repeat sampling is performed according to the appropriate DOD medical authority.</p> <p>Verify that monitoring continues until total coliforms are no longer detected.</p> <p>Verify that, when routine or repeat samples are positive for total coliforms, they are tested for fecal coliforms or <i>E. coli</i>.</p> <p>(NOTE: Fecal-type testing can be foregone on a total coliform positive sample if fecal coliforms or <i>E. coli</i> are assumed to be present.)</p> <p>Verify that, if the system has exceeded the MCL for total coliforms, the appropriate DOD medical authority is notified as soon as possible but in no case later than the end of the same day the command responsible for operating the PWS is notified of the result.</p> <p>Verify that, if the system has exceeded the MCL for total coliforms, the installation public is notified as soon as possible but not later than 72 h after the system is notified of the test result that an acute risk to public health may exist.</p>

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<p>WQ.20.3.WW. Installations responsible for a PWS must meet specific requirements with regard to inorganic chemical parameters and monitoring (OEBGD 3.3.2.2) [Revised September 2000].</p>	<p>Verify that the water distributed for human consumption does not exceed the limitations in OEBGD Table C3.T3.</p> <p>Verify that systems are monitored for inorganic chemicals at the frequency set in OEBGD Table C3.T4.</p> <p>(NOTE: Except for Nitrate, Nitrite, and Total Nitrate/Nitrite, for systems monitored quarterly or more frequently, a system is out of compliance if the annual running average concentration of an inorganic chemical exceeds the MCL. For systems monitored annually or less frequently, a system is out of compliance if a single sample exceeds the MCL. For Nitrate, Nitrite, and Total Nitrate/Nitrite, system compliance is determined by averaging the single sample that exceeds the MCL with its confirmation sample; if this average exceeds the MCL, the system is out of compliance.)</p> <p>Verify that, if a system is out of compliance, the appropriate DOD medical authority and installation personnel (U.S. and host nation) are notified as soon as possible.</p> <p>(NOTE: If the Nitrate, Nitrite, or Total Nitrate and Nitrite MCLs are exceeded, then this is considered an acute health risk.)</p> <p>Verify that, in the event of an acute health risk, the installation completes notification to:</p> <ul style="list-style-type: none"> - the appropriate DOD medical authority as soon as possible, but in no case later than the end of the same day the command responsible for operating the PWS is notified of the result - the installation public, as soon as possible, but not later than 72 hours after the system is notified of the test result. <p>(NOTE: If the installation is only monitoring annually on the basis of direction from the appropriate DOD medical authority, it must immediately increase monitoring in accordance with OEBGD Table C3.T4 until authorities determine that the system is reliable and consistent and remedial actions are completed.)</p> <p>(NOTE: The MCL for Arsenic applies to CWS and NTNCWS).</p>
<p>WQ.20.4.WW. An Installation Commander (IC) responsible for a PWS must ensure that specific requirements are met with respect to fluoride content and monitoring (OEBGD 3.3.2.3) [Revised September 2000].</p>	<p>Verify that the fluoride content of drinking water does not exceed the MCL of 4 mg/L as stated in OEBGD Table C3.T3.</p> <p>Verify that fluoride monitoring involves collecting one treated water sample at the entry point to the distribution system annually for surface water systems and once every 3 yr for groundwater systems.</p> <p>(NOTE: Daily monitoring is recommended for systems practicing fluoridation using the criteria in OEBGD Table C3.T5.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>WQ.20.5.WW. DOD CWS and NTNCWS must meet specific standards for lead and copper action levels and reporting requirements when these levels are exceeded (OEBGD 3.3.2.4) [Revised September 2000].</p> <p>WQ.20.6.WW. Installations must notify their users about lead in drinking water systems (OEBGD 3.3.1.11).</p> <p>WQ.20.7.WW. Installations responsible for CWS and NTNCWS must meet specific requirements with regard to synthetic organics (OEBGD 3.3.2.5) [Revised September</p>	<p>Verify that, if any sample exceeds the MCL, the appropriate DOD medical authority and installation personnel (U.S. and host nation) are notified as soon as possible but no later than 14 days after the violation.</p> <p>Verify that the concentration of lead does not exceed 0.015 mg/L.</p> <p>Verify that the concentration of copper does not exceed 1.3 mg/L.</p> <p>(NOTE: Actions such as corrosion control treatment, public education, and removal of lead service lines, if appropriate, are triggered if the above lead and copper levels are exceeded in more than 10 percent of all sampled taps.)</p> <p>Verify that monitoring is carried out in accordance with OEBGD Table C3.T6.</p> <p>Verify that sampling sites selected are as outlined in OEBGD Table C3.T6.</p> <p>Verify that high risk sampling sites are targeted by conducting a materials evaluation of the distribution system.</p> <p>Verify that, if an action level is exceeded, additional water samples are collected as specified in OEBGD Table C3.T6.</p> <p>Verify that optimal corrosion control treatment is pursued.</p> <p>Verify that, if action levels are exceeded after implementation of applicable corrosion control and source water treatment, lead service lines are replaced if it is lead service lines that are causing the lead action level to be exceeded.</p> <p>Verify that the appropriate DOD medical authority and installation personnel (U.S. and host nation) are notified no later than 14 days after the violation.</p> <p>Verify that an education program for installation personnel (U.S. and host nation) is implemented within 60 days.</p> <p>Verify that the installation provides public notification concerning the following:</p> <ul style="list-style-type: none"> - the lead content of materials used in distribution or plumbing systems - the corrosivity of water that has caused leaching - remedial actions that may be taken. <p>(NOTE: This requirement appears to apply regardless of whether or not the action level for lead has been exceeded.)</p> <p>Verify that synthetic organic chemicals in water distributed to people do not exceed the limitations outlined in OEBGD Table C3.T7.</p> <p>Verify that systems are monitored for synthetic organics according to the schedule in OEBGD Table C3.T8.</p>

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<p>2000].</p> <p>WQ.20.8.WW. Installations responsible for CWSs and NTNCWSs must meet specific requirements with regard to Disinfectant/Disinfection By-products (DDBP) (OEBGD 3.3.2.6) [Revised September 2000; Revised June 2010].</p>	<p>(NOTE: For systems monitored quarterly or more frequently, a system is out of compliance if the annual running average concentration of an organic chemical exceeds the MCL. For systems monitored annually or less frequently, a system is out of compliance if a single sample exceeds the MCL.)</p> <p>Verify that, if the system is out of compliance, the appropriate DOD medical authority and installation personnel (U.S. and host nation) are notified as soon as possible, but no later than 14 days after the receipt of test results.</p> <p>(NOTE: When the MCLs for synthetic organic chemicals are exceeded, the installation must begin quarterly monitoring immediately and must increase quarterly monitoring if the level of any contaminant is at its detection limit but less than its MCL and must continue monitoring until the IC determines the system is back in compliance, and any necessary remedial measures are implemented.)</p> <p>Determine whether a disinfectant is added to any part of the treatment process of the water system (to include the addition of disinfectant by a local water supplier).</p> <p>Verify that these MCLs are not exceeded in drinking water:</p> <ul style="list-style-type: none"> - 0.08 mg/L for total trihalomethanes (TTHM) - 0.06 mg/L for haloacetic acids (HAA5) - 1.0 mg/L for chlorite - 0.01 mg/L for bromate. <p>Verify that these MRDLs are met in drinking water:</p> <ul style="list-style-type: none"> - 4.0 mg/L for chlorine, - 4.0 mg/L (measured as combined total chlorine) for chloramines when ammonia is added during chlorination - 0.8 mg/L for chlorine dioxide. <p>(NOTE: Operators may increase residual disinfectant levels of chlorine or chloramines [but not chlorine dioxide] in the distribution system to a level and for a time necessary to protect public health to address specific microbiological contamination problems caused by circumstances such as distribution line breaks, storm runoff events, source water contamination, or cross-connections.)</p> <p>Verify that a system that adds a disinfectant monitors for TTHM and HAA5 in accordance with OEBGD Table C3.T9.</p> <p>(NOTE: A water system is noncompliant for TTHM and HAA5 when the running annual average of quarterly averages of all samples taken in the distribution system, computed quarterly, exceeds the TTHM or HAA5 MCL.)</p> <p>Verify that a system that uses chlorine dioxide for disinfection or oxidation, monitors for chlorite in accordance with OEBGD Table C3.T9.</p> <p>Verify that a system that uses ozone for disinfection or oxidation monitors for raw</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>WQ.20.9.WW. Installations responsible for CWS and NTNCWS must meet specific requirements with regard to radionuclides (OEBGD 3.3.2.7) [Revised September 2000].</p> <p>WQ.20.10.WW. Installations must test DOD PWSs for turbidity and must meet a specific turbidity MCL for filtered systems (OEBGD 3.3.2.8) [Revised September 2000; Citation Revised June 2010].</p> <p>WQ.20.11.WW. Installations must periodically monitor DOD NPWSs for total coliforms and disinfectant residuals (OEBGD 3.3.2.9) [Citation Revised June 2010].</p>	<p>water bromide concentrations in accordance with OEBGD Table C3.T9.</p> <p>(NOTE: Additional disinfectant and disinfection byproduct compliance and monitoring requirements for systems that utilize chlorine, chlorine dioxide, chloramines, or ozone are included in OEBGD Table C3.T9.</p> <p>Verify that, if the system is noncompliant as described in OEBGD Table C3.T9, the appropriate DOD medical authority and installation personnel (U.S. and host nation) are notified as soon as possible, but no later than 14 days after the violation.</p> <p>Verify that, for a noncompliant system, remedial measures are undertaken.</p> <p>Verify that the MCLs for radionuclides are met and that monitoring is performed as outlined in OEBGD Table C3.T10.</p> <p>Verify that, if the average annual MCL for gross alpha activity for radium is exceeded, the appropriate DOD medical authority and installation personnel (U.S. and host nation) are notified within 14 days.</p> <p>Verify that monitoring continues (monthly for gross beta, quarterly for gross alpha-related contamination) until remedial actions are completed and the average annual concentration no longer exceeds the MCL.</p> <p>Verify that, if any gross beta MCL is exceeded, the major radioactive components are identified.</p> <p>Verify that the installation tests for turbidity as specified in OEBGD Table C3.T1.</p> <p>Verify that the turbidity readings do not exceed the limits specified in OEBGD Table C3.T1.</p> <p>Verify that, if the turbidity readings are exceeded, the appropriate DOD medical authority and installation personnel (U.S. and host nation) are notified as soon as possible, but no later than 14 days after the violation.</p> <p>Verify that remedial actions are taken.</p> <p>Determine whether the installation operates an NPWS.</p> <p>Verify that the installation periodically monitors (as a minimum) for total coliforms and disinfectant residuals.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>WQ.30 DISINFECTION AND FILTRATION</p> <p>WQ.30.1.WW. Installations that use surface water or GWUDISW to produce potable water must conform to certain treatment requirements (OEBGD 3.3.1.5 and 3.3.2.8) [Revised June 2010].</p> <p>WQ.30.2.WW. Installations that use a groundwater source as their supply of drinking water must disinfect the supplies (OEBGD 3.3.1.5).</p> <p>WQ.30.3.WW. DoD PWSs using recycled water must meet certain filter backwash requirements (OEBGD 3.3.2.11) [Added June 2010].</p>	<p>Determine whether the installation employs surface water sources or GWUDISW.</p> <p>Verify that the installation meets the surface water treatment requirements specified in OEBGD Table C3.T1.</p> <p>Determine whether the installation made changes to its disinfection practices (e.g., change in disinfectant or application point) in order to meet the DDBP requirements (WQ.20.8.WW).</p> <p>Verify that these practices provide protection from microbial pathogens.</p> <p>Determine whether the installation's water supply is groundwater.</p> <p>Verify that, at a minimum, groundwater supplies are disinfected.</p> <p>(NOTE: This requirement only applies to DoD PWSs that:</p> <ul style="list-style-type: none"> - use surface water or GWUDISW - use direct or conventional filtration processes - recycle spent filter backwash water, sludge thickener supernatant, or liquids from dewatering processes.) <p>Determine whether the water system uses recycled streams (i.e., recycled filter backwash water, sludge thickener supernatant, and liquids from dewatering processes).</p> <p>Verify that, to prevent microbes and other contaminants from passing through and into finished drinking water, the installation treats the recycled streams by direct and conventional filtration processes.</p> <p>(NOTE: See the testing and validation requirements in WQ.10.9.WW for demonstrating compliance with applicable water quality standards for DoD PWSs.)</p>

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<p>WQ.40 RECORDKEEPING AND NOTIFICATION</p> <p>WQ.40.1.WW. Specific records must be maintained for DOD water systems (OEBGD 3.3.1.12).</p> <p>WQ.40.2.WW. Installations must document actions taken to correct breaches of water quality criteria (OEBGD 3.3.1.13) [Revised September 2000].</p> <p>WQ.40.3.WW. Required notifications must meet specific content standards (OEBGD 3.3.3) [Revised September 2000].</p> <p>WQ.40.4.WW. Cross-connection and backflow prevention testing and repair records should be kept for at least 10 years (MP) [Added September 2000].</p>	<p>Verify that records of chemical analyses are kept for 10 yr.</p> <p>Verify that records showing monthly operating reports are maintained for at least 3 yr.</p> <p>Verify that records of bacteriological results are maintained for at least 5 yr.</p> <p>(NOTE: This requirement applies to DoD water systems whether they produce or purchase water.)</p> <p>Verify that the installation documents corrective actions taken to correct breaches of criteria.</p> <p>Verify that such documentation is maintained for at least 3 yr.</p> <p>(NOTE: This requirement applies to DoD water systems whether they produce or purchase water.)</p> <p>Verify that the notices required under this protocol are clear and understandable and address the following topics:</p> <ul style="list-style-type: none"> - explanation of the violation - any potential adverse health effects - the population at risk - the steps that the system is taking to correct the violation - the necessity for seeking alternative water supply, if any - any preventive measures the consumer should take until the violation is corrected. <p>(NOTE: The appropriate DOD medical authority coordinates notification of host authorities where off-installation populations are at risk.)</p> <p>Verify that cross-connection and backflow prevention testing and repair records are kept for at least 10 years.</p> <p>(NOTE: This MP is suggested at OEBGD 3.3.1.13.)</p>

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<p>WQ.50 ALTERNATIVE WATER SUPPLIES</p> <p>WQ.50.1.WW. DOD installations must use only approved alternative water sources, if the use of alternative sources is necessary (OEBGD 3.3.2.10) [Citation Revised June 2010].</p>	<p>Determine whether the installation uses alternative water sources.</p> <p>Verify that alternative water sources have approval from the IC.</p> <p>(NOTE: This requirement includes POE and POU treatment devices, as well as bottled water supplies.)</p>

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**REGULATORY
REQUIREMENTS:**

**REVIEWER CHECKS:
June 2010**

**WQ.60
UNDERGROUND
INJECTION CONTROL**

WQ.60.1.WW. DoD installations must manage underground injection to protect underground water supply sources (OEBGD 3.3.1.9) [Revised September 2000].

Verify that the installation manages underground injection so as to protect underground water supply sources.

Verify that, at a minimum, the installation conducts monitoring to determine the effects of any underground injection wells on nearby groundwater supplies.

(NOTE: This requirement applies to DoD water systems whether they produce or purchase water.)

**COMPLIANCE CATEGORY:
WATER QUALITY MANAGEMENT
OEBGD Protocols**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>WQ.70 WATER SOURCE PROTECTION</p> <p>WQ.70.1.WW. Installations must protect all water supply aquifers (groundwater) and surface water sources from contamination (OEBGD 3.3.1.3) [Revised September 2000].</p>	<p>Verify that all water supply aquifers (groundwater) and surface water sources are protected by suitable placement and construction of wells, by suitable placing of the new intake (heading) to all water treatment facilities, by siting and maintenance of septic systems and onsite treatment units, and by appropriate land use management on DOD installations.</p> <p>(NOTE: This requirement applies to DoD water systems whether they produce or purchase water.)</p>

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT OEBGD Protocols	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: June 2010
<p>WQ.80 TRAINING AND CERTIFICATION</p> <p>WQ.80.1.WW. DOD installations must ensure that personnel are appropriately trained to operate DOD water systems (OEBGD 3.3.4) [Added September 2000; Moved March 2004].</p>	<p>Verify that personnel are appropriately trained to operate DOD water systems.</p> <p>[Formerly checklist item number WQ.10.8.WW.]</p>

REPORT DOCUMENTATION PAGE

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