

FORT KNOX

Environmental Officer Handbook



**ENVIRONMENTAL
MANAGEMENT
DIVISION**

1981 - 2021

CELEBRATING 40 YEARS

Fort Knox Environmental Handbook
Published by the Fort Knox Environmental Management Division
125 6th Avenue
Fort Knox, KY 40121
Office 1-502-624-3629
Fax 1-502-624-3000



Scan QR code to reach
EMD website

EMD Website:

<https://home.army.mil/knox/index.php/about/Garrison/directorate-public-works/environmental-management-division>

EMD email:

army.knox.emd@mail.mil

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Section 1



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, US ARMY GARRISON COMMAND, FORT KNOX
111 E CHAFFEE AVENUE
FORT KNOX, KENTUCKY 40121-5256

IMKN-PWE

JUL 26 2019

MEMORANDUM FOR

Commanders, All Units Reporting Directly to This Headquarters
Commanders, Fort Knox Partners in Excellence
Directors and Chiefs, Staff Offices/Departments, This Headquarters

SUBJECT: Fort Knox Policy Memo No.13 - Environment

1. PURPOSE: To define the Fort Knox Environmental Policy.
2. APPLICABILITY: This policy applies to all personnel performing work for or on behalf of Fort Knox, including Soldiers, civilians and contractors.
3. POLICY:
 - a. In accordance with AR 200-1, Chapter 2 – Environmental Policy, I believe it has always been in the Army's best interest to protect our natural resources. I am thus committed to managing our environment through leadership involvement. In all that we do, we will do it right. The management practices we implement now will facilitate our ability to fight and win wars today, without compromising the ability of future generations of Soldiers to do the same. The Environmental Management Division has created the Fort Knox Environmental Handbook to provide you with guidance for compliance with this Environmental Policy.
 - b. It is the inherent responsibility of all personnel to protect and preserve the environment.
 - c. I support involved leaders who set objectives and targets to monitor activities for continual improvement of environmental stewardship and pollution prevention. They are the foundation that will minimize the installation's environmental footprint.
 - d. Our commitment to comply with all legal requirements is considered the minimum standard. We must strive for performance beyond compliance in all our operations. It is our responsibility to ensure we are using our natural resources in a manner that provides a clean, healthy, and safe environment today and in the future.
4. The proponent for this policy is the Directorate of Public Works Environmental Management Division at (502) 624-3629.


CJ KING
COL, LG
Commander

PREFACE

Ever changing environmental regulations have complicated many of the routine activities that are performed on this installation on a daily basis. These environmental regulations have a significant impact on the way that these "routine activities" are performed. To understand all the requirements from all the regulations would be a monumental undertaking. Environmental stewardship is equally important in both the tactical and Garrison environments. Prevention of pollution, corrective actions and continual improvements are the goals to achieve a sustainable installation. Executive Order (EO) 13834, Federal Leadership in Environmental, Energy, and Economic Performance (May 2018) expands on the energy reduction and environmental performance requirements for Federal agencies previously identified in EO 13423. The goal of EO 13834 is "to establish an integrated strategy towards sustainability in the Federal Government and to make reduction of Greenhouse Gas Emissions (GHG) a priority for Federal agencies."

The Fort Knox Handbook, Issue 021 – Ver. 01, replaces all previous editions of the Environmental Handbook and incorporates the latest changes in environmental regulations and Fort Knox policies. The Fort Knox Environmental Handbook applies to all units (military), tenants, activities, contractors, and partners in excellence. Please note the new handbook format using "How to Pages" in the section titled "Operational Controls". Operational Controls represent the Best Management Practices (BMPs) for all environmental programs at Fort Knox.

REGULATORY REFERENCES

The Fort Knox Environmental Handbook has incorporated the following:

- 32 Code of Federal Regulations (CFR) Part 651
- ALARACT 031/2012 – Army Fire Suppression and Environmental Control System Policy and Procedures
- AR 200-1, Environmental Protection and Enhancement, 13 December 2007-Under Revision
- AR 290-5, Army Cemeteries, 21 October 2020
- AR 350-19, The Army Sustainable Range Program, 30 August 2005
- AR 710-2 Supply Policy
- ATP 3-34.5 Environmental Considerations, August 2015
- ATP 4-45, Force Provider Operations
- Clean Air Act (CAA)
- Clean Water Act (CWA)
- DA Pam 710-7
- DODI 4715.23, October 24, 2016, Integrated Recycling and Solid Waste Management
- Environmental Management Division Contract Specifications
- Executive Order 13834, Efficient Federal Operations, May 2018
- Fort Knox Regulation 200-2, Fort Knox Recycling
- Fort Knox Regulation 200-3, Fort Knox Hunting and Fishing Regulations and Procedures, 01 June 2018
- Fort Knox Regulation 385-10, the Fort Knox Safety Program, 01 FEB 2018
- Kentucky Division for Air Quality Regulations
- Kentucky Division of Waste Management Regulations
- Kentucky Division of Water Regulations (Kentucky Pollutant Discharge Elimination System Permit)
- Federal OSHA Regulations
- Resource Conservation and Recovery Act (RCRA)
- TC 25-1, Training Land, 15 DEC 2016
- TC 3-34.489, “The Soldier and the Environment”, 8 May 2001

SECTION 2

EMERGENCY INFORMATION

Emergency Phone Numbers (Health and Safety)

| | |
|-------------------------------|--------------------------|
| Ambulance | 911 |
| Emergency | 911 |
| Fire Department | 502-624-6016/1876 |
| Military Police (MP) | 502-624-2111 |
| Range Emergency/Spills | 502-624-2125 |

Emergency Phone Numbers (Environmental)

| | |
|--|------------------------|
| Compliance Branch Chief | 502-624-3598 |
| Support Branch Chief | 502-624-8672 |
| Natural Resources Branch Chief | 502-624-7368 |
| Air | 502-624-8263/8186 |
| Asbestos Removal | 502-624-5245/3598 |
| Bulk Storage Containers (BSC) (AST) | 502-624-2072/6057 |
| Cultural Resources | 502-624-6581/7877 |
| Drinking Water | 502-624-2072/3629 |
| Environmental Management Division | 502-624-3629 |
| Fish and Wildlife/Hunt Control | 502-624-7373/7368 |
| Forestry | 502-624-4500 |
| Hazardous Materials Supply Operation (HMSO) | 502-624-4275/5101 |
| Hazardous/Universal Waste Disposal | 502-624-3692/6598/8379 |
| Lead Based Paint Removal | 502-624-5245/3598 |
| Noise | 502-624-8672 |
| Range Control | 502-624-2125/2135 |
| Restoration | 502-624-8537/1929 |
| Stormwater/Groundwater | 502-624-8187 |
| Underground Storage Tanks (UST) | 502-624-8537/1929 |
| Waste Water (Grey Water) | 502-624-8187 |
| Wastewater Treatment Plant | 502-942-6020 |
| Demand Maintenance Order | 502-624-1171 |
| Demand Maintenance Order Email: | |
| usarmy.knox.imcom-atlantic.mbx.dpw-work-orders@mail.mil | |

POST THIS PAGE FOR QUICK ACCESS

Environmental Points of Contact

| <u>Environmental Management Division</u> | <u>Contact Numbers</u> |
|---|-------------------------------|
| Asbestos | 502-624-5245 |
| Bulk Storage Containers (BSCs)/(ASTs) | 502-624-2072/6057 |
| Clean Air Act /Air Pollution | 502-624-8263/8186 |
| Clean Water Act/Stormwater | 502-624-8187 |
| Cultural Resources | 502-624-6581/7877 |
| Drinking Water Operations | 502-942-5008 |
| Drinking Water Program | 502-624-2072/3629 |
| Emergency Planning and Community Right-to-Know Act (EPCRA) (Hazardous Materials) | 502-624-8537 |
| Endangered Species | 502-624-7373 |
| Environmental GIS | 502-624-1222 |
| Environmental Training | 502-624-7300 |
| Forestry | 502-624-4500 |
| Green Procurement Program | 502-624-8263 |
| Hazardous/Universal Waste | 502-624-3692/6598/8379 |
| Lead Based Paint | 502-624-5245 |
| Mold | 502-624-5245 |
| Natural Resources | 502-624-7368 |
| NEPA | 502-624-5174 |
| Noise | 502-624-8672 |
| Pest Management Coordinator | 502-624-4500 |
| Pollution Prevention (P2) | 502-624-3629 |
| Qualified Recycle Program (QRP) | 502-624-5673/6620 |
| Restoration/UST | 502-624-8537/1929 |
| Solid Waste Management | 502-624-3692 |
| Spill Control and Countermeasure Program (SPCCP) | 502-624-2072 |
| Tree Cutting | 502-624-4500 |
| Used Oil, Antifreeze and Contaminated Fuel | 502-624-5026 |
| Wastewater Treatment Operations | 502-926-6020 |
| Wetlands | 502-624-7368 |
| Wildlife Biologist | 502-624-7373/7141 |

SECTION 3

RESPONSIBILITIES

Tenants, Units and Contractors

A tenant is an authorized activity located on an installation that is not part of the Garrison organization. This includes, but is not limited to, military units, the Army and Air Force Exchange Service (AAFES), the Defense Commissary Agency (DeCA), and contractors with activities on post. Tenants will:

- a) Comply with installation policies, applicable federal, state, and local environmental laws, regulations, EOs, and overseas Final Governing Standards (FGS).
- b) Participate in the installation's planning and sustainability program.
- c) Designate a representative to the Environmental Quality Control Committee (EQCC) (Commander or senior level civilian).
- d) Ensure personnel receive required environmental training.
- e) Participate in all installation internal and external assessments and audits, to include programming for corrective actions.
- f) Identify and coordinate non mission-specific environmental requirements with the GC.
- g) Pay environmental fines and penalties resulting from their mission activities.
- h) Immediately report spills or releases of hazardous substances to the On-Scene Coordinator (OSC). Pay or reimburse costs associated with cleanup and spill response if not covered in the standard installations services or the Installation Services Support Agreement (ISSA).
- i) Report all instances of non-compliance and notification of enforcement actions to the GC immediately.
- j) Ensure that non-DOD hazardous material is not stored, handled, or disposed of on the installation unless approved by the Office of the Assistant Secretary of the Army –Installations & Environment (OASA)-(I&E), his or her designee, or higher authority.
- k) Ensure that all hazardous materials are stored, handled or disposed of in accordance with the installation Hazardous Material Management Program (HMMP), and hazardous materials are processed through the Logistics Readiness Command (LRC) Supply Support Activity (SSA) and Hazardous Materials Supply Operations (HMSO).

UNIT COMMANDERS

The Commander's role in environmental sustainment centers on building environmental ethics in personnel by training and counseling them about environmental stewardship and sustainability, leading by example, and enforcing compliance with laws and regulations.

The Commander—

- Communicates environmental ethics to assigned personnel while training them to be good environmental stewards.
- Develops and sustains a positive and proactive commitment to environmental protection.
- Protects the environment during training and other activities.

- Trains personnel how to identify the environmental effects of plans, actions, and operations in relation to the mission, environment, community, and fiscal resources.
- Trains personnel on the importance of protecting the environment and the possible consequences of noncompliance and non-sustainable practices.
- Understands the links between environmental considerations and the associated impacts on Force Health Protection (FHP), safety, and other protection aspects.
- Oversees the Environmental Officer's performance.
- Appoints and trains Environmental Officers at appropriate organizational levels to ensure compliance actions take place (see ATP 3-34.5, August 2015, for Environmental Officer Responsibilities).

NOTE: The word Organization will be used throughout this handbook, which will refer to a military unit, civilian organization, or contractor tenant.

Environmental Quality Control (EQCC)

- a) Installations will establish an EQCC chaired by the Garrison Commander (GC). The EQCC will include major and sub-installation tenant activities and contractors. EQCCs will meet at least quarterly and document/decisions.
- b) The EQCC should consist of members representing the operational, logistics, engineering, planning, resource management, legal, medical, environmental, Morale, Welfare, and Recreation (MWR), commissary, exchange service, and safety interests of the command, including military installation tenant activities, and contractors.
- c) The EQCC will help to plan, execute, and monitor actions and programs with environmental implications. The committee will identify issues, make recommendations, and advise the GC.

Environmental Officer (EO) Training

Environmental Officer (EO) Training is conducted by the Environmental Management Division (EMD). AR 200-1 and ATP 3-34.5 requires trained and appointed Environmental Officers from all activities on the installation. EMD prefers to have a primary and an alternate Environmental Officer for each activity. An EO should be available for a 12 month tenure on Fort Knox. The initial course is 3 days and required once. A 1-day re-certification course is required every year after successful completion of the 3-day course. A certificate and ID card will be issued upon completion of the EO training. Course dates will be posted on the EMD webpage.

Course Topics:

Topics covered may vary from time to time, based on regulatory changes or compliance issues. Generally, a standard agenda would include, but is not limited to, the following: Clean Air, Asbestos & Lead, Bulk Storage Containers, Compliance Inspections, Cultural Resources, EPCRA, General Information, Green Procurement, Hazardous Materials, Hazardous/Universal Wastes, Natural Resources, Operational Controls, Pollution Prevention, Recycling, Regulatory Changes, Spill Response, Stormwater, and other subjects as needed. Students are questioned throughout the course and are provided with numerous hands-on experiences to ensure they are competent in the material covered.

Course Registration

You may register for classes by contacting the Environmental Training Coordinator by sending an email to army.knox.emd@mail.mil and requesting a registration form. Complete the registration form and email to army.knox.emd@mail.mil. Please add a copy of your current appointment orders. All in person classes are limited to 30 students.

During Coronavirus/COVID-19, classes will be held online. Please have MS Teams loaded to your desktop and await further information on registering for the class you require.

Sample Orders for Appointment of EOs



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
ORGANIZATIONAL NAME/TITLE
STANDARDIZED STREET ADDRESS
CITY, STATE, AND ZIP + 4 CODE

OFFICE SYMBOL

Date

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Appointment of Environmental Officers

1. References: AR 200-1, Environmental Protection and Enhancement, 13 December 2007, ATP 3-34.5, Environmental Considerations, August 2015.
2. Effective immediately, the following individual(s) is/are appointed as the Environmental Officer(s) for **(YOUR UNIT)**.
 - a. PRIMARY – Name, Rank/Grade, Phone number and E-mail address
 - b. ALTERNATE – Name, Rank/Grade, Phone number and E-mail address.
3. Period: Until officially relieved from appointment or by reassignment.
4. Special Instructions:
 - a. Individual serves as the primary liaison to the Environmental Management Division as outlined in the references above.
 - b. The Environmental Officer(s) listed above is responsible for complying with the duties outlined in the references above.

Signature Block of the
Commanding Officer or Supervisor

DISTRIBUTION:
Individual(s)
Organization Training Officer

Environmental Officer (EO) Responsibilities *AR200-1*

To ensure compliance with Army regulations and federal, state and local regulations, each organization is responsible for the following:

AR200-1 mandates EOs be appointed and on orders.

Appointment Orders - Appointing on orders a primary and alternate Environmental Officer (EO) for all company level and above units. A copy of all appointment orders shall be emailed to EMD at: army.knox.emd@mail.mil

Environmental Duties/Positions - The EO for each organization is responsible for all environmental duties/positions. The EO is responsible for maintaining copies of all training records associated with their activities.

EQCS Meetings - The EO or alternate shall attend the monthly Environmental Quality Control Subcommittee (EQCS) meetings. Meetings are scheduled for the third Wednesday of each month at 0930 hours.

Facilities Inspections - Organizations are responsible for applicable inspections of facilities under their operational control to ensure compliance with environmental laws, regulations, and the Fort Knox Environmental Handbook. Inspections must be completed in accordance with (IAW) guidance on inspection forms. Inspection reports will be kept on file by the organizations and must be available for subsequent inspections.

Hazardous Waste Coordination - The EO is responsible for hazardous waste coordination, if applicable. The EO may appoint any number of personnel to assist in the handling of hazardous waste. However, the EO is responsible for ensuring that these personnel receive familiarization training provided by EMD within 120 days of becoming a hazardous waste worker, if applicable. Hazardous Waste Training can be obtained by either attending the 3-day or 1-day recertification course or from EMD Hazardous Waste personnel.

Solid Waste and Recycling Officer - The Solid Waste and Recycling Officer position is considered to be part of the EO's job duties as well. However, the EO may appoint other personnel to assist with these duties.

Spill Prevention Control and Countermeasures Plan (SPCCP) - Each organization will use the current Fort Knox Spill Prevention Control & Countermeasures Plan which is available on the EMD webpage. EMD has a standard SPCCP form for use by short term contractors. See Appendix A for contractor SPCCP form and Emergency Notification template.

Stormwater/Ground Water Pollution Prevention and Best Management Practices - The EO is also responsible for Stormwater and Groundwater Pollution Prevention and Best Management Practices implementation, if applicable. However, the EO may appoint other personnel to perform these tasks. All appointed personnel shall be on orders with a copy furnished to EMD.

Stormwater/Ground Water Pollution Prevention/Best Management Practices.

Training Records - Units/Activities/Tenants/Contractors should retain the following records:

- Environmental Officer Certification and ID Card: (Primary and Alternate)
- Unit Environmental Awareness Training
- Spill Response Training

If you have questions, please call the Environmental Management Division (EMD) at 502-624- 3629 or e-mail your question to: army.knox.emd@mail.mil

SECTION 4 - OPERATIONAL CONTROLS

BEST MANAGEMENT PRACTICES (BMPs)

ABSORBENTS

Pads, Towels, Booms, Rags and Dry Sweep

401 KAR 31, 32, 33 and 40 CFR 260-262

POSSIBLE AREAS OF CONCERN

Absorbent material saturated with petroleum, oils and lubricants (POL) that may be disposed of improperly, or potentially contaminate ground water.

CHARACTERIZATION

Absorbent materials contaminated with POL are considered non-hazardous waste. Any materials other than POL, may be considered a hazardous waste. Contact EMD at 624-3692/6598/8379.

HANDLING PROCEDURES

- Step 1** Wear proper personal protective equipment (PPE) listed on the safety data sheet (SDS).
- Step 2** Double-bag contaminated absorbent materials.
- Step 3** Label bag with words “Used absorbents soaked with ____” before adding the material.
- Step 4** Take contaminated material to the C/DD landfill and deposit in the contaminated soil container.

NOTE:

If absorbent material (placed in plastic bags) is contaminated with POL, it must be disposed of at the Construction/Demolition and Debris (C/DD) landfill located on Baker Road, in the proper contaminated soil/absorbent dumpster

NOTE:

DO NOT mix trash, plastic or filters with absorbent materials.



GENERAL INFORMATION

Call EMD at 502-624-3692/6598/8379 if you clean up anything other than POL. EMD will provide guidance for proper disposal. See Appendix E and K.

AEROSOL CANS

401 KAR 43 and 40 CFR 273.6

POSSIBLE AREAS OF CONCERN

Aerosols are under pressure and may contain hazardous chemicals. Disposal of aerosol cans will only be handled by the Hazardous Waste section.

CHARACTERIZATION

Aerosol cans that are no longer needed or unserviceable (e.g., broken nozzle), but are still under pressure and/or still contain chemicals, must be collected and turned in at the hazardous material collection connex for proper disposal or reuse.

HANDLING PROCEDURES

- Step 1** Aerosol containers must be stored in a flammable storage cabinet/connex.
- Step 2** Ensure aerosol cans are properly labeled to identify contents, remove the barcode label and turn-in the label to the HMSO.
- Step 3** Turn in empty and unusable aerosol cans to the hazardous material collection connex. See Appendix E for guidance.

NOTE: Only national stock numbered (NSN) items that are in original unopened depot packaging, and have not expired, will be accepted at the HMSO.



GENERAL INFORMATION

Contact EMD at 502-624-3692/6598/8379 for additional information. See Appendix E.

ASBESTOS

Building Remodeling/Maintenance/Demolition

40 CFR Part 61, Subpart M and 401 KAR 58

POSSIBLE AREAS OF CONCERN

Asbestos may be found at any building, structure, or equipment on the installation. Because of its fiber strength and heat resistance asbestos has been used in a variety of building construction materials for insulation, fire retardant, and soundproofing. The below is not an exhaustive list of asbestos uses: Building Materials (roofing, ceiling and floor tiles, paper products, adhesives, sealants, drywall compound, plaster, asbestos cement products, etc.), Friction Products (vehicle and equipment- clutches, brakes, transmission parts, etc.), Heat-Resistant Fabrics (vehicles, equipment, and building materials- fireproofing insulation, fireproofing sealant, packaging, gaskets, coatings, etc.). There is an increased health risk associated with improper disturbance and handling procedures.

CHARACTERIZATION

Asbestos-containing materials are managed as regulated wastes by EMD accredited personnel.

HANDLING PROCEDURES

- Step 1** Contact EMD at 502-624-5245 to schedule an inspection. An EMD Asbestos Coordinator (AC) will make a determination for removal and/or disposal.
- Step 2** All asbestos abatement and removal is handled through the initiation of a DA 4283 or Demand Maintenance Order. See Appendix M.
- Step 3** Maintain Deman Maintenance Order number(s) to monitor status.
- Step 4** EMD AC will review abatement plans, submit all abatement notifications, ensure compliance, complete documentatiopn and asbestos waste shipment records for asbestos removal and disposal.

NOTE:

- A.** Activities such as sanding, grinding, drilling, or sawing of asbestos-containing materials *are prohibited by OSHA*. Only trained and certified abatement workers may disturb or remove asbestos materials.
- B.** The removal of asbestos requires a regulatory notification to the Kentucky Devision for Air Quality, which is submitted by EMD's AC.



GENERAL INFORMATION

For additional information contact EMD at 502-624-5245. See Appendix M.

BRAKE PADS/SHOES

Disposal of Unserviceable Brake Shoes

40 CFR § 763.401 KAR 58, 29 CFR § 1910.1001 (f)(3)

POSSIBLE AREAS OF CONCERN

Some brake shoes/pads or clutch disks may contain asbestos-containing materials or other harmful elements. *It is important to note that asbestos can be found in other friction or insulating materials.*

CHARACTERIZATION

OSHA requires special handling procedures when disturbing brake pads/shoes as they may contain harmful dust.

HANDLING PROCEDURES FOR MILITARY & CIVILIANS ON POST

- Step 1** Brake shoes, pads and clutch disks must be wetted when being disturbed or handled. Do not use compressed air to remove dust from brake components.
- Step 2** Double wrap brake shoes/pads or clutch disks in 6 mil or thicker plastic, seal with duct tape and place in a sturdy, closed container. Do not exceed 20 pounds per package.
- Step 3** Brake pads/shoes that have been wetted and wrapped in plastic can be placed in the scrap metal collection bin, or taken directly to the Recycle Center.
- Step 4** Contact EMD for additional guidance or for testing of brake components that are suspect to contain asbestos.



NOTES:

- A. Personnel removing brake shoes, pads, clutch disks, or any friction components or insulating materials should know or seek whether these components do or do not contain asbestos.
- B. Personnel must wear proper Personal Protective Equipment (PPE) when disturbing material that contains asbestos.
- C. The dust from used brake pads/shoes and clutches may contain other harmful elements, and all safety precautions should be considered when dealing with the materials
- D. The US EPA encourages recycling of brake pads/shoes that do not contain asbestos.

GENERAL INFORMATION

For additional information contact EMD at 502-624-5245.

BALLASTS, CAPACITORS & OTHER EQUIPMENT CONTAINING PCB'S

401 KAR 31, 32, 33 and 40 CFR 260-262

POSSIBLE AREAS OF CONCERN

Polychlorinated Biphenyls (PCBs) are a potential carcinogenic and exert a multitude of serious adverse health effects. Discarded PCB equipment is managed as a hazardous waste and requires proper storage and disposal.

CHARACTERIZATION

PCBs are most commonly found in electrical transformers and capacitors, air conditioning equipment and lighting ballasts.

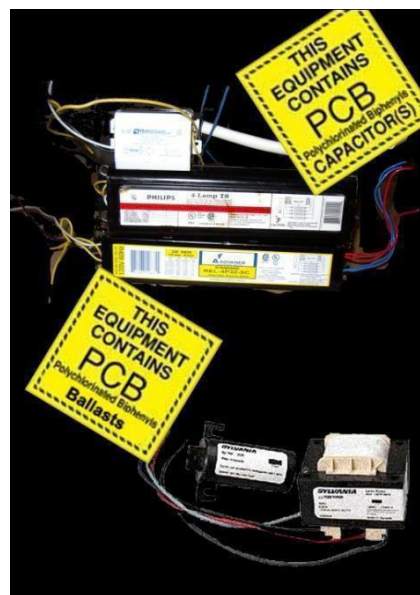
HANDLING PROCEDURES

Step 1 Non-routine (not daily maintenance operations) building and facility maintenance and building renovation or demolition require that all ballasts and capacitors are removed and properly disposed.

Step 2 Contact EMD at 502-624-3598/6598/8379 to get guidance on an approved disposal process.

NOTES:

- A. Routine/daily on-post maintenance activities will collect ballasts and capacitors and place in a properly marked container provided by EMD.
- B. Activities are not authorized to sign a hazardous waste disposal manifest. **All hazardous waste manifesting must be coordinated through EMD.**



Ballasts and Capacitors may
contain PCB's

GENERAL INFORMATION

Contact EMD at 502-624-3692/6598/8379 for additional information.

BATTERIES (Lead-Acid)

401 KAR 31, 32, 33 and 40 CFR 260-262

POSSIBLE AREAS OF CONCERN

The cells of a lead-acid battery contain lead, lead dioxide, and an acidic electrolyte solution of sulfuric acid. The electrolyte is a strong corrosive agent. Batteries may also vent explosive hydrogen gas.

CHARACTERIZATION

Lead acid batteries are hazardous due to their lead content and corrosiveness. It is illegal to dispose of a lead acid battery in a landfill. Do not place in trash container

HANDLING PROCEDURES

Step 1 Establish a battery program through your Supply Support Activity (SSA) office.

Step 2 Batteries should be stacked no more than two tiers high on a spill containment pallet with cardboard in between, as per 401 KAR 36:070 and 40 CFR266 subpart G and 273.33 (a). **(Do not drain electrolyte)**

Step 3 Personnel must have proper PPE, spill clean-up material on-hand, and be properly trained to address any spills.

Step 4 New and used batteries must be stored in designated areas on **spill containment pallets**. Store in an area that provides protection from the weather.

Step 5 QRP can take all government NSN lead acid batteries with the **exception** of the following:

| | |
|----------------------|---------------------|
| NSN 6140-01-390-1968 | TAKE THESE |
| NSN 6140-01-390-1969 | TO THE HMSO, |
| NSN 6140-01-446-9506 | BLDG 2953 |



NOTES:

- A. Damaged batteries must be double-bagged prior to turn-in (i.e., exterior case cracked). Store damaged batteries separate from serviceable batteries and contact the EMD Hazardous Waste section for disposal procedures.
- B. **Battery terminals must be taped or capped** when turning in to the QRP or EMD Hazardous Waste section. If batteries are to be stacked, they must be on a pallet with cardboard placed between layers. **Stack batteries two layers high only.**

GENERAL INFORMATION

Contact EMD at 502-624-3692/6598/8379 for additional information.

BATTERIES (Non Lead-Acid)

(Universal Waste)

401 KAR 31, 32, 33 and 40 CFR 260-262

POSSIBLE AREAS OF CONCERN

Lithium, Lithium-Ion, Nickel-Cadmium, Magnesium, NiCad (wet), Mercury, Nickel Metal Hydride and rechargeable batteries have chemicals that are a concern during routine use and disposal, and may contaminate the environment.

CHARACTERIZATION

All Lithium, Lithium-Ion, Nickel Metal Hydride, Nickel-Cadmium, Magnesium and Mercury batteries are Universal Waste. As a best management practice, all batteries will be collected as used batteries and waste determinations will be made by EMD personnel.

HANDLING PROCEDURES

- Step 1** Unit/activity will turn-in non-lead acid batteries to the EMD Hazardous Waste section.
- Step 2** If a unit/activity has the need for a Universal Waste Collection area, EMD will establish the area, provide the proper container(s), labels, and training.
- Step 3** All containers must be labeled to identify their contents and the top must be closed when not adding batteries.
- Step 4** The used batteries container will be picked up by EMD personnel and EMD will provide a replacement container. Batteries can be collected for ONE YEAR from the first battery being placed inside the container.
- Step 5** **ALL** Batteries must have the terminals taped **PRIOR** to turn-in or pickup.



Lithium, Nickel-Cadmium (NiCad), are Universal Waste.



GENERAL INFORMATION

Contact EMD at 502-624-3692/6598/8379 for additional information.

BULK STORAGE CONTAINERS (BSCs)

55 Gallon or Larger Drums/Tanks

40 CFR 112.8

POSSIBLE AREAS OF CONCERN

Drums have the potential to fail and cause a spill

CHARACTERIZATION

Corrosion may weaken the structural integrity and lead to leaks and/or spills, creating a potential threat to the environment. Due to single wall construction, tipping and punctures are also concerns.

HANDLING PROCEDURES

Step 1 55 Gallon and larger containers shall be kept on secondary containment pallet or in a secondary containment system.

NOTE: Secondary containment should be equal to the largest container in the containment system plus 10%.

NOTE: If secondary containment system is a valve or plug, they have to be in the secured and in the closed position

NOTE: Drums shall be stored inside a building hazmat shed or under cover to prevent the collection of rain water in the containment system.

Step 2 Site personnel will conduct monthly inspections on all 55 gallon containers (inside and outside) using form EMD5058. See Appendix B.

Step 3 Maintain adequate spill materials at BSC area.

Step 4 Conduct inspections on open secondary containment after rainfall events to determine if the collected water has an oily sheen and document your findings (contact EMD at 502- 624-8187 for guidance).

Step 5 Clean the secondary containment as needed.



GENERAL INFORMATION

Contact EMD for additional information at 502-624-2072.

COMPRESSED GAS CYLINDERS (CGC)

401 KAR 31-33 and DLAI 4145.25

POSSIBLE AREAS OF CONCERN

Oxygen, acetylene, argon and other pressurized bottles have hazards associated with fire and pressurized containers.

CHARACTERIZATION

Refillable compressed gas cylinders are used for both civilian and military operations. Compressed gas cylinders are stored, handled, and disposed of in accordance with DLAI 4145.25.

HANDLING PROCEDURES

GOVERNMENT OWNED

- Step 1** All Government Owned cylinders are to be returned to the Defense Supply Center Richmond (DSCR). Contact Hudson Technologies at (866) 724-0932 or via email at cylreturn@hudsontech.com for procedures for turn-in.
- Step 2** All cylinders and cylinder information shall be listed on a tracking spreadsheet sent to Hudson Tech. An example of this spreadsheet can be found in Appendix C.
- Step 3** Storage requirements should be IAW DLAI4145.25 and coordinated with the Fire Department and Installation Safety Office.
- Step 4** Commercially Owned Compressed Gas Cylinders are to be returned to the vendor.



NOTES:

- A. Medical oxygen cylinders are issued and exchanged at Ireland Army Health Clinic supply section.
- B. Small Carbon Dioxide or Nitrogen cylinders with no valves should be considered empty when fully discharged.
- C. Review ALARACT 031/2012 for compressed gases and cylinders for all Fire Suppression Systems (FSS) and air-conditioning and refrigeration (A/C) systems installed in Army weapon systems or equipment.
- D. DRMS may not accept physical custody of any cylinders, *unless rendered scrap*.
- E. DRMS may accept accountability of non-hazardous or hazardous cylinders on behalf of the activity reporting the excess cylinders. See DRMS-1-4160-14, Section 3 - Special Processing.

GENERAL INFORMATION

Contact EMD for additional guidance at 502-624-8263

CONSTRUCTION/DEMOLITION DEBRIS (C/DD)

401 KAR 47 AND 48 and FORT KNOX REGULATION 200-2

POSSIBLE AREAS OF CONCERN

Potential environmental impacts associated with the land-filling of C/DD debris are groundwater, water and air pollution. DoD Sustainable Management of Waste in Military Construction, Renovation and Demolition Activities can minimize the potential negative environmental impact while achieving mandatory waste reduction goals.

CHARACTERIZATION

Only non-hazardous C/DD debris that cannot be reused or recycled can be taken to the installation C/DD. Landfill materials containing regulated constituents cannot be disposed of in the C/DD landfill. Contact EMD at 502-624-3692 for clarification on C/DD waste.

- Step 1** Contractors must develop and submit a C/DD Waste Management Diversion Plan (must achieve 60 % diversion) for approval by general contract COR. Contractors must evaluate all diversion options and make good-faith effort to achieve the highest diversion rate within the project schedule and budget. A landfill usage slip will be used and can be requested through the Solid Waste Manager at 624-3692.
- Step 2** Submit weights generated by reusing, salvaging, returning or recycling to EMD Compliance once a month and upon the completion of the contract.
- Step 3** Excess trash and bulky items can be taken at the transfre station.



C/DD material segregated for recycling

GENERAL INFORMATION

Contact EMD for more information at 502-624-3692.

DIG PERMIT/UTILITY LOCATE

Cantonment and Training Areas

KRS 367.4901 to 367.4917 and AR 420-1

Call 811 prior to digging

POSSIBLE AREAS OF CONCERN









Failure to locate underground utilities (water/sewer, electric, gas, phone, steam/chill water, control cables, petroleum/POL, cable TV) and environmental/historical sensitive areas (archeological sites, former solid waste disposal sites) can cause dangerous situations to personnel and the environment. Additional information can be found in Army Regulation AR 420-1.

CHARACTERIZATION

UTILITY LOCATIONS are required before any digging, excavation, or earthwork is performed within the cantonment or training areas. All utilities must be properly marked. Digging may create erosion issues. This applies to all organizations performing excavation of soil on Fort Knox.

HANDLING PROCEDURES

- Step 1** Contact the EMD NEPA Manager at 502-624-5174, 10-15 days prior to starting work.
- Step 2** **CALL 811** or 800-752-6007. Requests **MUST** be initiated within 10 working days before excavation is to begin.
- Step 3** CALL DPW at 502-624-1171 for gas, water, or sewer connects.
- Step 4** In addition you must call;
- Natural Gas - 502-624-5954 for gas lines
 - NEC at 502-624-3338 for POST telephone lines
 - Cultural Resources (Historical) at 502-624-6581
 - Restoration Office at 502-624-8537
 - Natural Resources (Forestry) at 502-624-7368
 - Range Control (Training Areas) at 502-624-3536
 - Knox Hills 502-799-6565
- Step 5** Survey information must be verified by all agencies in step 4 prior to any digging.

| | |
|---|---|
| Proposed Excavation |  |
| Temporary Survey Markings |  |
| Electric Power Lines, Cables, Conduits, & Lighting Cables |  |
| Gas, Oil, Steam, Petroleum or Gaseous Materials |  |
| Communication, Alarm or Signal Lines, Cables or Conduit |  |
| Potable Water |  |
| Reclaimed Water, Irrigation, & Slurry Lines |  |
| Sewer & Drain Lines |  |

American Public Works Association
(APWA) Color Code Chart

NOTE: Range Excavations: you must submit a memorandum to Cultural Resources. See next page for Request for Dig Permit - Sample Memorandum.

GENERAL INFORMATION

Contact EMD for additional information at 502-624-5174.

ENVIRONMENTAL HANDBOOK Issue 021 Ver .01



US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, US ARMY GARRISON COMMAND, FORT KNOX
199 6th AVENUE SUITE 333
FORT KNOX, KENTUCKY 40121-5719

OFFICE SYMBOL

11 September 2017

REPLY TO

ATTENTION OF: MEMORANDUM THRU Directorate of Public Works (DPW), Environmental

Management Division (EMD), Archaeology/Cultural Resources, Attn: IMKN-PWE Fort Knox, KY 40121

FOR Directorate of Plans, Training, Mobilization and Security (DPTMS), Attn: IMKN-PLT-R, Range Branch, Fort Knox, KY 40121

SUBJECT: Sample Request for Dig Permit (Range and Training Area Complex)

1. Units seeking to dig within the Fort Knox range and training area complex must submit a memorandum through Cultural Resources to Range Branch 30 days prior to the requested start date of training. The memorandum will include the following:

a. Provide the primary POC responsible to coordinate all aspects of the digging operation to include responsibility to fill in all excavations at the completion of training.

b. Describe what it is you want to dig (i.e. individual hasty or prepared fighting positions, heavy weapon fighting positions, vehicle fighting positions, tank ditch, etc.). Also provide the dimensions for each type of emplacement and an approximate number of emplacements to be dug.

c. Provide the date digging will begin (this request should be submitted to EMD/Range at least 30 days prior to training dates).

d. Provide the location where digging activities are requested. Attach a map or drawing of the area depicting a polygon of the area to which digging activities will be contained. Provide an 8 digit grid coordinate for each corner of the polygon and an approximate acreage/square footage of the area to be disturbed.

2. The memorandum must be approved by Cultural Resources, located in building 9297, Room 108 (624-6581), prior to submission to Range Branch.

JOHN R. DOE
CPT, IN
Commanding

DRIP PADS / DRIP PANS

40 CFR 112.8 and KPDES 401 KAR 5:065, Section 2(4) pursuant to KRS 224.70-110

POSSIBLE AREAS OF CONCERN

Petroleum, Oils and Lubricants (POL) can potentially contaminate stormwater systems and ground water.

CHARACTERIZATION

Drip pads/pans are placed under leaking vehicles to prevent POL products from contaminating the soil. Drip pads are designed to capture POL products but not rain water. A strong preventive maintenance program should be in place at each motor pool which addresses inspecting all vehicles and equipment at the motor pool for conditions that could lead to leaks or spills of hazardous or POL materials. All incoming vehicles and equipment should be inspected for fluid leaks as called for in appropriate technical manuals and motor pool SOP's. As part of the preventive maintenance program, fluid leaks and/or drips should be reported and scheduled for repairs immediately.

HANDLING PROCEDURES

Step 1 Place drip pads/pans under leaking vehicles only.

Step 2 Notify your maintenance section to have the vehicle repaired.

Step 3 Drip pads/pans must be checked routinely and after each rain fall event.

NOTES:

Fort Knox does not require drip pans to be used unless:

- You have a leaking vehicle (vehicle should be repaired immediately).
- You are conducting refueling operations.
- Your Command SOP dictates the use of drip pans.

- B.** Using drip pans creates the potential for spilling oil on the ground or in the storm drains, or not having the proper collection area for collecting or treating the oily water from the drip pans. Drip pads are the preferred method instead of using drip pans for preventing spills.
- C.** Remove POL/sheen from drip pan with oil absorbent. Run any oil water mixture through oil water filter/seperator. Double-bag used absorbent/pads and dispose of at C/DD landfill in contaminated soil roll-off.
- D.** Saturated drip pads should be passed through a pad wringer to remove excess POL, for extended use.
- E.** Drip pads that can no longer be used must be double-bagged and disposed of at the C/DD landfill in the contaminated soil roll-off.



GENERAL INFORMATION

Contact EMD for more information at 502-624-8187.

FLUORESCENT & MERCURY-CONTAINING LAMPS

401 KAR 31, 32, 33 and 40 CFR 260-262

POSSIBLE AREAS OF CONCERN

Small quantities of mercury and lead are used to manufacture fluorescent, mercury vapor, metal halide, and high pressure sodium lamps.

CHARACTERIZATION

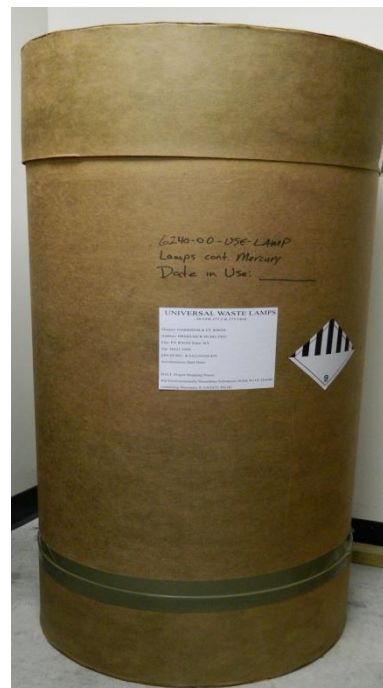
Fluorescent lamps and mercury-containing lamps are universal wastes.

HANDLING PROCEDURES

- Step 1** Place used fluorescent lamps in a container provided by EMD. Lamps must be separated by size and type.
- Step 2** Close container after adding a bulb/lamp.
- Step 3** Lamps stored at the unit/activity must be in an approved/original container.
- Step 4** Small quantities of lamps can be taken to BLDG 2954 for disposal.

NOTES:

- A. Do not discard fluorescent lamps in solid waste dumpsters.**
- B. Do not leave your lamps outside of the HW offices or building.**
- C.** In accordance with 40 CFR, accumulation of universal wastes cannot exceed one year from the Date in Use (The day the first item is put in the container).
- D.** Broken lamps are considered a hazardous waste and must be handled and packaged separately. Contact EMD at 502-624-3598/6598/8379 for guidance.



GENERAL INFORMATION

Contact EMD for additional information at 502-624-3692/6598/8379.

FREON & REFRIGERANTS OZONE DEPLETING SUBSTANCES (ODSS)

40 CFR Part 82: Subpart B (MVAC), Subpart F (Appliances)

POSSIBLE AREAS OF CONCERN

Failure to properly handle refrigerants and other ODS creates the potential for air pollutants and violation of federal, state, local and Fort Knox regulations.

CHARACTERIZATION

40 CFR Part 82 requires that all ODS recovery and recycling equipment must be certified to meet EPA refrigerant recovery requirements. Maintenance and/or repair of any stationary refrigerant-containing appliance or Motor Vehicle Air Conditioning (MVAC) shall be done by technicians who have who have attained the appropriate certification(s) from an approved Section 608 (appliances) or 609 (MVAC) Technician Training and Certification Program.

HANDLING PROCEDURES

Stationary Refrigerant Appliance and ODS Recovery/Recycling Equipment

Step 1 Work on stationary refrigerant appliances is regulated under Section 608 and can only be completed by technicians that have obtained the appropriate EPA certification(s) for the type(s) of unit(s) they maintain. A copy of their certification(s) must be submitted to EMD CAA staff, maintained on site and available for review by an EPA inspector.

Step 2 For older types of refrigerant recovery machines, make sure to have records that they are EPA certified units. For newer units, ensure that all equipment has a manufacturer's label indicating the unit meets EPA recovery requirements.



<https://www.epa.gov/section608/section-608-technician-certification-0>

Appliances- Any work done on a refrigerant unit (e.g. refrigerators, window AC units, water coolers) containing Class I or II refrigerants or non-exempt substitute refrigerants that could reasonably be expected to violate the integrity of the refrigerant circuit must be completed by an appropriately certified Section 608 technician. Before disposal, technician must remove refrigerant and apply a placard with signature.

Motor Vehicle Air Conditioning (MVAC) Recovery/Recycling Equipment

Step 1 MVAC maintenance and repair is regulated by EPA Section 609 regulations and applies to all government owned and tactical vehicles.

Step 2 Only soldiers/personnel who have obtained Section 609 certification are authorized to operate MVAC recovery or recycling equipment.

<https://www.epa.gov/mvac/section-609-technician-training-and-certification-programs>

NOTES:

- A. All refrigerant and ODS recovery containers must be labeled with the type of refrigerant contained.
- B. The intentional venting of Class I/II or non-exempt refrigerants into the environment is **strictly PROHIBITED** and can result in criminal prosecution.

GENERAL INFORMATION

For additional information contact EMD at 502-624-8263/8186.

FREON REFRIGERANT (ODS) RETURN POLICY

(Compressed Gas Cylinders)

DoD Turn-in Procedures (May 2018) and DLAI 4145.25 (AR 700-68)

POSSIBLE AREAS OF CONCERN

Excess refrigerants: R-11, R-12, R-114, R-500, R-502; Halons; R-22. Failure to properly handle Freon & refrigerants and ODSs creates the potential for air pollutants and violation of federal, state, local and Fort Knox regulations.

CHARACTERIZATION

All **excess** refrigerants listed above must be turned-in to the ODS Reserve to ensure that refrigerant supplies for mission critical uses are available.

HANDLING PROCEDURES

- Step 1** Organizations that have cylinders containing excess refrigerant must contact EMD to determine proper disposal procedures.
- Step 2** Determine the number of cylinders and type of refrigerant, and whether it is government-owned or vendor-owned cylinders.
- Step 3** Send an email to: army.knox.emd@mail.mil with information from Step 2.
- Step 4** EMD will determine proper disposition of refrigerant.



NOTES:

- A.** Storage of these excess containers must be in compliance with DLAI 4145.25.



GENERAL INFORMATION

For additional information contact EMD at 502-624-8263/8186.

GAS CYLINDERS (Disposable)

Non-reusable, single-use containers (i.e., Propane, Ether, MAPP, Helium for balloons, etc.)

401 KAR 31, 32, 33 and 40 CFR 260-262

POSSIBLE AREAS OF CONCERN

Propane, ether and other pressurized bottles have hazards associated with fire and pressurized containers.

CHARACTERIZATION

Non-refillable propane and MAPP gas bottles are used for plumbing operations, personal heating and vehicle operations. These gases represent physical and environmental hazards if not disposed of properly.

HANDLING PROCEDURES

- Step 1** All non-refillable cylinders are to be properly labeled and stored in a flammable cabinet.
- Step 2** When disposing of these containers, or turning-in excess, they are to be returned to the hazardous material container connex, located near BLDG 2954.

NOTES:

- A. Helium tanks used to fill balloons shall be taken to the Recycle center, when empty.
- B. Ether cylinders are to be handled as a hazardous waste when disposing. However, full cylinders in a complete case that have not expired can be returned to the manufacturer. Contact EMD at 502-624-3692/6598/8379 for guidance on ether cylinders.
- C. Personal propane cylinders (used on grills) shall be taken to the PX for exchange or turn in.



GENERAL INFORMATION

Contact EMD for additional guidance at 502-624-3692/6598/8379.

GRAY WATER

KPDES Permit Section 3

POSSIBLE AREAS OF CONCERN

Improperly handled gray water during field exercises from Mobile Kitchen Trailers (MKTs) and field showers could result in the release of contaminants into the environment, particularly the stormwater and groundwater.

CHARACTERIZATION

Gray water contains potential environmental pollutants. Digging gray water pits is prohibited at Fort Knox unless it is a training requirement. EMD will issue an authorization for digging gray water pits during training. Visiting units are allowed to bring their own gray water containers to Fort Knox.

HANDLING PROCEDURES

Field Exercises

- Step 1** Contact EMD at 502-624-8187/3692 or e- mail a request to: army.knox.emd@mail.mil to request an application for gray water containers.
- Step 2** Gray water tanks will be obtained from QRP at 502-624-5026. You will need a copy of the approved application.
- Step 3** Collect gray water from field kitchens, field showers and field laundries.
- Step 4** It is the unit's responsibility to transport gray water to the WWTP. The WWTP operates 24/7 and can be contacted at 502-942-6020.
- Step 5** Rinse the gray water tank prior to turn in to QRP at building 2962.



Gray water tank

GENERAL INFORMATION

Contact EMD at 502-624-8187/3692 for additional guidance.

GREASE (Maintenance)

401 KAR 31, 32, 33 and 40 CFR 260-262

POSSIBLE AREAS OF CONCERN

Grease contains petroleum hydrocarbons and additives which may contaminate the groundwater if improperly disposed. Refer to the SDS for specific hazards.

CHARACTERIZATION

Grease requires proper handling and disposal to protect the environment and personnel.

HANDLING PROCEDURES

- Step 1** Grease containers/tubes should be properly labeled from the HMSO, stored out of the weather and protected from direct sunlight or freezing.
- Step 2** Used grease tubes, that are completely empty can be disposed of in a solid waste dumpster. All other containers should be turned-in to the hazardous material container connex (near BLDG 2954).
- Step 3** When turning in usable grease tubes:
- A. They can be taken to the EMD hazardous material container connex (near BLDG 2954).
 - B. Transferred to another organization on the installation.

NOTE: Contact EMD at 502-624-3692/6598/8379 for disposal instructions of expired or contaminated grease.



GENERAL INFORMATION

Contact EMD for additional information at 502-624-3692/6598/8379

HAZARDOUS MATERIALS (PROCUREMENT/STORAGE PROCEDURES)

42 USC § 11002, EO 13834, 40 CFR, 29 CFR, AR 710-2, DA PAM 710-7

POSSIBLE AREAS OF CONCERN

Failure to report the qualifying chemicals to the proper agencies could lead to regulatory violations.

CHARACTERIZATION

All organizations are required to process hazardous materials (HM) through the Hazardous Materials Supply Operations (HMSO). Organizations should adhere to a **14 day on-hand supply** of hazardous materials as required by the organization to accomplish the mission. This allows for annual regulatory reporting in accordance with Emergency Planning and Community Right-to-Know Act (EPCRA) and cradle-to-grave management of hazardous materials.

HANDLING PROCEDURES

Step 1: Obtain approval from EMD prior to purchasing new types of HM. (Products that are new to the installation and have never been processed through the HMSO in the past.)

Step 2: Ensure vendor/manufacture provides a copy of the SDS with the HM purchased.

Step 3: Ensure all HM is delivered, or taken to the HMSO for processing through the HM database and labeled.

Step 4: Ensure all materials are properly marked to identify contents and stored in accordance with the SDS.

Step 5: When HM has been used, the user must return the label to the HMSO to adjust the organization's inventory.

Step 6: Empty/used or excess* HM containers are taken to the HM collection connex near BLDG 2954.



NOTES:

- A. All flammable materials and aerosols must be stored in a flammable locker/connex.
- B. All corrosive materials must be stored in a corrosive cabinet.
- C. Ensure containers are kept closed, and in its original container.
- D. Always practice First In - First Out (FIFO) to avoid creating excess waste.
- E. A chemical inventory must be posted on the front of the flammable cabinet.
- F. It is the responsibility of the user to ensure all HM is properly labelled, have a current SDS on file and available for each product, know and understand the contents.

* EMD has a limited amount of space to store excess HM for reissue. Contact EMD for an appointment in assisting you with large quantities of excess hazardous materials. We will not accept "truck loads" of excess HM.

GENERAL INFORMATION

Contact EMD for additional information at 502-624-8537.

HOUSEHOLD APPLIANCES

*Refrigerator, freezer, air conditioner, etc. which contain refrigerants
e-CFR Title 40 Ch. I Subchapter (C) Part 82 Subpart F*

POSSIBLE AREAS OF CONCERN

Some household appliances contain refrigerants or other harmful elements.

CHARACTERIZATION

Environmental Protection Agency requires refrigerants to be removed prior to disposal of appliances.
e-CFR Part 82, Subpart F—Recycling and Emissions Reduction

HANDLING PROCEDURES FOR MILITARY & CIVILIANS ON POST

- Step 1** All personnel living in government housing with government owned appliances should contact Knox Hills for guidance on work orders for replacement of appliances. Military units and government organizations with government appliances with refrigerants should open a non-emergency work order for recovery/removal of refrigerant. Any person(s) or organization(s) living, working, training or visiting on Fort Knox with a personal appliance or equipment containing refrigerant will need to contact a certified and reputable organization off post to recover/remove the refrigerant (i.e. refrigerator repair service).
- Step 2** Once refrigerant has been recovered/removed from the appliance or equipment and labeled /tagged (ex. below), it may be brought to the Fort Knox Recycle Center. These items can be placed in one of our large scrap metal containers, located in the center of the compound or the scrap metal pile, located in the rear of the facility. Additionally, please ask for assistance in building 2962 when entering the facility.

NOTE: Any appliance or equipment containing refrigerant [Freon/ODC(Ozone Depleting Chemicals)], to include but not limited to freezers, refrigerators, air conditioning units, etc., must have the refrigerant recovered/removed and tagged or marked as such with a sticker or label from a certified and reputable organization. At a minimum the tag will need to indicate refrigerant has been removed, company/organization, technician and phone number. These items will have to be inspected by Fort Knox Recycle Center staff prior to acceptance.

GENERAL INFORMATION

Contact EMD for additional information at 502-624-8537.

LEAD PAINT

(SURFACE PREPARATION-RENOVATION)

401 KAR 31, 32, 33 and 40 CFR 260-262

POSSIBLE AREAS OF CONCERN

Lead paint is common in some old buildings structures, equipment, components, etc. Paints containing lead concentration below 1.0 mg/cm² or 0.5% by weight are considered lead-containing paint (LCP). Paints containing lead concentration at or exceeding 1.0 mg/cm² or 0.5% by weight is considered lead-based paint (LBP). Increased health risks are associated with improper handling procedures.

CHARACTERIZATION

Lead has been used in paint to enhance durability. When preparing areas for resurfacing/repainting worker safety procedures must be followed. LBP will only be removed by properly trained and certified workers. LCP may be removed by non-certified workers, but still require special work practices.

HANDLING PROCEDURES

- Step 1** Contact EMD at 502-624-5245 to schedule an on-site inspection or submit a Demand Maintenance Order through the DPW Demand Maintenance Order Section. See Appendix M for instructions.
- Step 2** EMD will review the building survey information to verify if lead-based paint is present.
- Step 3** If required, EMD will perform a lead-based paint survey.
- Step 4** Follow guidance provided by EMD.



NOTE: Always contact EMD if you are not sure about painted materials before disturbing.

GENERAL INFORMATION

Contact EMD for additional information at 502-624-5245.

MOLD

40 KAR 2:330

POSSIBLE AREAS OF CONCERN

Elevated mold spore levels may cause health effects if contamination and source of contamination is not addressed. Some health effects may include allergy-like symptoms such as skin/eye irritation, watery eyes, nasal congestion, shortness of breath, wheezing, headaches, etc.

CHARACTERIZATION

There is no practical way to eliminate all mold spores indoors as mold naturally occurs outdoors and is brought indoors by opening doors, windows, fresh air supply, etc. Once indoors, any damp, humid, poorly ventilated, poorly insulated areas may allow for mold growth. Fungal reservoirs can be found growing on organic surfaces that may include painted surfaces, drywall, wood paneling, ceiling tiles, some carpets, insulation vapor barrier, dust, etc.

The best practice is to prevent elevated moisture levels in a building and keep humidity below 60% relative Humidity (rH). These practices may include using exhaust fans in shower areas, kitchens and other rooms where humidity is produced, well-sealed vapor barrier in the crawl space, crawl space vents are open and free of blockages and routine cleaning and maintenance of HVAC filters, and associated ductwork/diffusers. HVAC, ductwork and piping should be insulated to prevent condensation. Exterior walls should be properly and adequately insulated and exterior surfaces should be maintained to prevent moisture intrusion.

HANDLING PROCEDURES

- Step 1** When you see what appears to be mold you should avoid all contact.
- Step 2** If possible, isolate the suspected mold area and keep personnel away from the area.
- Step 3** Report the suspected mold to EMD at (502) 624- 5245 or Post Safety.
- Step 4** See Appendix M for Demand Maintenance Order procedures.



Mold growth

GENERAL INFORMATION

Contact EMD at 502-624-5245 for additional guidance.

NBC/CBRN EQUIPMENT

DETECTOR/DECON KITS

401 KAR 31, 32, 33 and 40 CFR 260-262

POSSIBLE AREAS OF CONCERN

Nuclear, Biological and Chemical (NBC) and Chemical, Biological, Radiological and Nuclear (CBRN) kits contain hazardous materials which may be flammable and toxic, and require special disposal procedures.

CHARACTERIZATION

The kit, when disposed of, may be a hazardous waste for ignitability and toxicity.

HANDLING PROCEDURES

NOTE:

Unit will be required to segregate kits by type and condition code. More information on kits may be located at WEBFLIS online.

CONDITION CODE “A” (New, used, repaired, or reconditioned material which is serviceable and issuable to all customers without limitation or restrictions. Includes material with more than 6 months shelf life remaining.)

User must contact DLA at 502-626-3766 for turn-in instructions to the Joint Equipment Assessment Program (JEAP). This is a re-purposing program operated by DLA and provides serviceable NBC/CBRN equipment to units that have shortages.

CONDITION CODE “F” (Economically repairable material which requires repair, overhaul, or reconditioning. Includes repairable items which are radioactivity contaminated.)

User must contact the Defense Accountability, Reutilization and Disposal Program (DARD) for directive on proper disposal requirements. DARD program contact is Support Specialist at Demilhelp@DLA.mil.



GENERAL INFORMATION

Contact EMD at 502-624-3692/6598/8379 for guidance.

OIL WATER SEPARATOR (OWS)

401 KAR 4, 5 AND 10 AND SPCCP

POSSIBLE AREAS OF CONCERN

Pollutants from the OWS may contaminate stormwater discharge points.

CHARACTERIZATION

Oil Water Separators serve as the primary gravity pretreatment device. Dumping large volumes of POL or other pollutants defeats the purpose of the OWS.

HANDLING PROCEDURES

- Step 1** Ensure that no soaps, detergents or emulsifiers are poured into the floor drains.
- Step 2** Ensure maintenance bay floor drains have absorbent socks in place.
- Step 3** Contact EMD 624-8187 for maintenance, See Appendix M for Demand Maintenance Order procedures.
- Step 4** OWS discharging to the stormwater system must have the discharge point or opening inspected (**by EMD**) monthly for discoloration or evidence of spillage.



NOTE: The stormwater site plan shows the location of your OWS and identifies where the OWS discharges – sanitary sewer or stormwater system.

GENERAL INFORMATION

Contact EMD at 502-624-8187 for additional information.

PAINT & PAINT-RELATED MATERIAL

Oil-based Paint and Stain; Latex (Water)-Based Paint and Stain

401 KAR 31, 32, 33 and 40 CFR 260-262

POSSIBLE AREAS OF CONCERN

Paints and paint-related material may contain flammable chemicals. Refer to the SDS for specific hazards.

CHARACTERIZATION

Painting materials (i.e. tarps, rollers, brushes, gloves, cans, stir sticks, etc.) that have dried may have different disposal procedures based on the type of paint.

HANDLING PROCEDURES

- Step 1** Paint must be stored in a climate-controlled area to avoid freezing and becoming a waste.
- Step 2** Paint cans must be sealed when not in use.
- Step 3** Excess, used or empty paint cans must be turned-in to the HM collection connex near BLDG 2954.
- Step 4** Bar code labels must be removed and turned-in to the HMSO.



NOTES:

- A.** Paint materials/brushes/rollers **must not** be cleaned in unit/activity parts washers.
- B.** Materials (i.e. brushes, rollers, etc.) used with oil-based paints and stains **must not** be cleaned in sinks.
- C.** Paint cans/buckets **must not** have any debris inside when turned in (i.e. brushes, rollers, aluminum cans, food wrappers, cigarette butts, etc.)

GENERAL INFORMATION

Contact EMD for additional information at 502-624-3692/6598/8379 for guidance.

PARTS WASHERS / SOLVENT TANK

Fort Knox Air Permit and 401 KAR 31, 32, 33 and 40 CFR 260-262

POSSIBLE AREAS OF CONCERN

Unauthorized use of parts washers (degreasers) may violate Fort Knox and Kentucky regulations. Personnel using these machines are to read and adhere to the SDS, warning labels and information posted on parts washing equipment.

CHARACTERIZATION

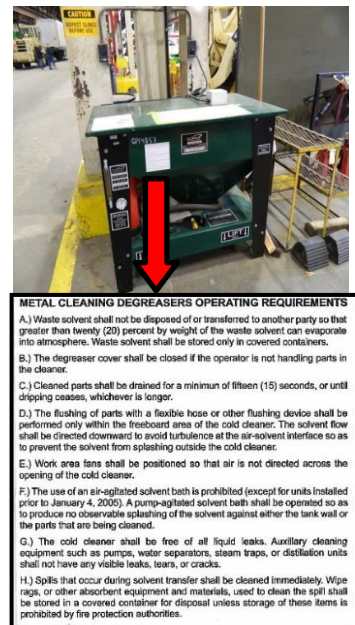
Parts washer solvent can contain heavy metals and other contaminants hazardous to the environment. This solvent is recycled to reduce procurement and the environmental impact of hazardous waste generated. Solvent-based parts washers may be brought on the installation only after prior approval and permitting has been done through EMD for the KY Division of Air Quality requirements.

HANDLING PROCEDURES

- Step 1** Parts washers must contain only solvent approved for degreasing of parts. No other chemicals (e.g. bore cleaner) are to be substitutes for the solvent.
- Step 2** Excessive dirt (etc.) should be removed from parts before using parts washing equipment.
- Step 3** Do not contaminate parts washer solvent with other chemicals, (i.e. paint, paint cleaning solvents, POL products, gasoline, etc.). This helps reduce the generation of hazardous waste and protects the environment.
- Step 4** Do not move parts washing equipment without contacting EMD.
- Step 5** Do not block access to the parts washer.
- Step 6** Parts washers with external filters must have the filters tested prior to disposal.

NOTES:

- A. Parts washer lids must be closed when not in use.** The white regulatory label (pictured at right) will be affixed on the washer by EMD personnel. EMD will also place a "Keep closed when not in use" label on top of the unit.
- B.** EMD Air Program personnel must be notified immediately when solvent is both removed and added to the parts washers. The air permit requires tracking of solvent usage.
- C.** Only EMD Hazardous Waste (HW) personnel are allowed to sign invoices when companies (i.e. Safety Kleen or Crystal Clean) add/remove solvent. The old solvent is considered a hazardous material. Instruct solvent company representatives to contact the HW section to obtain signatures.
- D.** Contact EMD for approved equipment/solvents.
- E.** The absence of the decal constitutes a violation of State and Federal requirements.



GENERAL INFORMATION

Contact EMD at 502-624-8263/8186 for guidance.

PESTICIDES, HERBICIDES, RODENTICIDES

DODI 4150.7

POSSIBLE AREAS OF CONCERN

These items are designed to kill various pests, rodents and plants. These chemicals are regulated through the Fort Knox Natural Resources Branch. The use and application must be done by certified personnel.

CHARACTERIZATION

Fort Knox requires certified personnel in the application of these chemicals.

CONTAINER MARKING AND HANDLING PROCEDURES

- Step 1** Personnel must be a KY/DoD certified applicator and provide the Natural Resources Branch a copy of their certification.
- Step 2** Containers must be marked, labeled and identified in accordance with the SDS and GHS standards.
- Step 4** Maintain an inventory of chemicals both used and stored.
- Step 5** All usage must be recorded and submitted to Installation Pest Management Coordinator-Natural Resources Branch.
- Step 6** All empty containers must be triple rinsed. Users must sign a certification letter at the HM collection connex. Rinse from container should be added to the next application mixture and used for its intended purpose.



NOTES:

- A.** Approval must be obtained from the Installation Pest Management Coordinator before obtaining and applying new products.
- B.** Certified applicators" must obtain approval from the Installation Pest Management Coordinator-Natural Resources Branch before obtaining and applying new products.

GENERAL INFORMATION

Contact the Natural Resources Branch for additional information at 502-624-7368/7373.

POL FILTERS

401 KAR 31, 32, 33, and 40 CFR 260-262

POSSIBLE AREAS OF CONCERN

Used filters may have contaminants in varying levels. Improper disposal affects the environment.

CHARACTERIZATION

Used discarded filters may contain hazardous chemicals and heavy metals.

HANDLING PROCEDURES

Step 1 Turn-in drained filters to Building 2770 for crushing and recycling.

Step 2 Paper filters can be drained, bagged and taken to the Fort Knox Landfill and disposed of in the contaminated soil dumpster.

NOTES:

- A. DO NOT discard any filters in trash dumpsters.
- B. For disposal of other types filter contact EMD 502-624-3598/6598/8379.



GENERAL INFORMATION

Contact EMD for additional information at 502-624-3692/6598/8379

PRESSURE CLEANING EQUIPMENT

KPDES Permit Section 3 401KAR 5:065, Section 2(4) pursuant to KRS 224.70-110

POSSIBLE AREAS OF CONCERN

Vehicle and equipment washing could introduce pollutants into the surface waters of Fort Knox and potentially violate federal, state, local and Fort Knox regulations.

CHARACTERIZATION

All cleaning operations on the exterior of vehicles and equipment will be performed at the wash rack located on the corner of Wilson and Frazier Roads.

HANDLING PROCEDURES

- Step 1** Washing inside of maintenance facilities is only permitted if the building is connected to an oil/water separator.
- Step 2** Absorbent white socks must be placed around floor drains to reduce amounts of POL entering the OWS.
- Step 3** Used absorbent socks are to be drained of free flowing liquids and disposed of in the contaminated soil dumpster at the C/DD Landfill.

NOTE:

The use of emulsifiers and degreasers is prohibited on Fort Knox.

No washing or cleaning is permitted outside on aprons or parking areas.



GENERAL INFORMATION

Contact EMD for additional information at 502-624-8187.

RAGS

401 KAR 31, 32, 33 and 40 CFR 260-262

POSSIBLE AREAS OF CONCERN

Rags contaminated with POL or other materials may be flammable, toxic, or potentially self-combust.

CHARACTERIZATION

Rags contaminated with POL may be considered non-hazardous, however rags contaminated with solvents may exhibit characteristics of a hazardous waste.

CONTAINER MARKING AND HANDLING PROCEDURES

- Step 1** POL contaminated rags - Place in a plastic bag and dispose of at the Fort Knox C/DD Landfill. Make sure the rags do not have free-flowing liquids.
- Step 2** Solvent rags – Must be kept in a self-closing fire rated container. Contact EMD for disposal instructions.
- Step 3** Used rag containers must have a serviceable lid and always kept closed when not in use.



NOTES:

- A. The term “Rags” should also include paper products (i.e. paper towels, napkins, etc.)
- B. Organizations should make every effort to set up a commercial laundry service (i.e. CINTAS, ARAMARK etc.) for their ragsto minimize solid waste generation.

GENERAL INFORMATION

Contact EMD for additional information at 502-624-3692/6598/8379.

RANGE/FIELD PRACTICES

POSSIBLE AREAS OF CONCERN

Improper use of range and training areas may lead to environmental contamination to the soil, stormwater, and groundwater as well as damage the natural environment or disturb historical sites.

CHARACTERIZATION

Training activities, including cooking, personal hygiene, shower/latrine operations, weapons and equipment cleaning use various materials and chemicals that must be collected and properly disposed of at the proper locations or operations. For additional information contact EMD at 502-624-3629 or Range Control at 502-624-2125.

HANDLING PROCEDURES

- Item 1 Range Briefing**-Attend the range briefing to receive information on range practices.
- Item 2 Batteries** – Collect used lead-acid batteries and turn in to QRP. **Tape the contacts/terminals.**
- Item 3 Cooking Grease/Cooking Oil**-Contact **QRP at 502-624-5026** to obtain a grease container for your used cooking grease/oil.
- Item 4 Cultural Resources**-All Fort Knox cemeteries and archeological areas are off limits (50 foot buffer zone) during all training exercises.
- Item 5 Field Latrines**- Use existing constructed latrines or portable latrines. Contact Range Control for information on the delivery of portable latrines.
- Item 6 Fueling Vehicles/Equipment- Spill Prevention** Use the proper size overflow collection container (Pad, pan or containment pallet).
- Item 7 Gray Water Tank**- Contact EMD at 502- 624- 8187/3692 to obtain the application to request authorization for Gray Water generation. It is the unit's responsibility to transport gray .water to the WWTP. Contact WWTP at 502- 942-6020. The WWTP operates 24/7.
- Item 8 Military Vehicle Washing** – Schedule the Wash Rack located at Wilson and Frazier Road. The Wash Rack Contact numbers are 502-624-7213 or 502- 624-2063. **Do not wash vehicles in creeks or streams and only cross streams at ford sites.**
- Item 9 Natural Resources**-Fort Knox has 3 protected bat species. Do not disturb bats. **DO NOT CUT TREES.** See Appendix G for more information.
- Item 10 Parts Washers**- Contact EMD at 502-624-8263/8186 to request authorization.
- Item 11 Recycle/Trash Containers**-EUSS coordinates trash containers with Zero Waste and recycle containers with QRP. Do not burn /bury trash.
- Item 12 Spills & Spill Materials**-(YOU SPILL – YOUTDIG) You must have sufficient spill materials on hand at all times for any potential spills from the unit. Report all range spills to Range Control at 502-624-2125 and cantonment spills to the Fire Department at 911.
- Item 13 Tactical Excavation**-Any digging for training or tactical excavation requires you to submit a memorandum to Fort Knox Cultural Resources (building 9297– Phone 502-624-6581), prior to submission to Range Control. - **Cultural Resources** will approve or forward to other EMD personnel for final approval.-**A sample dig request memo can be found on page 29.**
- Item 14 Used Oil & Used Antifreeze** - Visiting Units may obtain containers for used oil and used antifreeze from QRP. Contact the QRP at 502-624- 5673/5026 to deliver your used oil and antifreeze.
- Item 15 Water Release (Field)**-Units making potable water must contact EMD at 502-624-8187 for authorization and guidance.
- Item 16 Weapons Cleaning Materials**- Collect weapons cleaning materials (Bore patches, Q-Tips and pipe cleaners) and contact EMD at 502-624- 3598/6598/8379 for turn in.

For additional information you can email EMD at: knox.army.emd@mail.mil

SATELLITE ACCUMULATION AREA (SAA)

(Hazardous or Universal Waste)

401 KAR 31, 32, 33 and 40 CFR § 262.15

POSSIBLE AREAS OF CONCERN

Improper waste disposal violates the Resource Conservation Recovery Act (RCRA) and Fort Knox's permit

CHARACTERIZATION

Materials classified as a hazardous or universal waste require special handling and collection. Both hazardous and universal wastes are collected in satellite accumulation areas, however, there are different governing regulations.

HANDLING PROCEDURES

- Step 1** Contact EMD at 502-624-3598/6598/8379 to determine the need for a SAA.
- Step 2** SAA containers must be labeled as Hazardous Waste or Universal Waste with the label facing out and visible. SAA containers must remain closed unless adding waste to the container.
- Step 3** The SAA site must be under the direct control of a trained operator, at or near the point of generation.
- Step 4** Each SAA site requires inspections.
 - A. EMD conducts the monthly inspections.
 - B. Operators should conduct periodic visual inspections.
 - C. All deficiencies must be corrected on the spot and reported immediately to the Hazardous Waste Manager.
- Step 5** Each Hazardous Waste SAA will have an emergency response plan posted at the site, for the associated hazards.



Hazardous Waste Collection Container



Universal Waste Collection Container

NOTES:

- A. Units arriving at Fort Knox for training must contact EMD for guidance on waste disposal.
- B. Universal waste accumulation: \leq one year, no quantity limits.
- C. Hazardous waste accumulation: \leq 55 gallons/SAA, no time limits
- D. Acute hazardous waste accumulation: \leq one quart liquid, or 1kg solid, no time limits.

GENERAL INFORMATION

For guidance see Appendix E or contact EMD at 502-624-3692/6598/8379

STORMWATER BEST MANAGEMENT PRACTICES (BMP) CONSTRUCTION SITES

KPDES Permit Section 3, 401 KAR 5:065, Section 2(4) pursuant to KRS 224.70-110

POSSIBLE AREAS OF CONCERN

Surface and groundwater pollution due to industrial and construction activities.

CHARACTERIZATION

Fort Knox operates under a KPDES permit and uses a Stormwater/Groundwater Protection Plan to ensure compliance with water regulations and protect the storm and ground water at Fort Knox. Construction sites are required to use BMPs pursuant to the KY Stormwater regulations and Best Management Practices Guidelines.

HANDLING PROCEDURES

- Step 1** Industrial activities on the installation operate with an EMD supplied site specific plan for each industrial area. EMD also conducts the monthly inspections associated with the plans. Stormwater inquiries can be directed to EMD at 502-624-8187.
- Step 2** Prior to any construction/excavation activity, a Notice of Construction (NOC) which is available from EMD, must be submitted.
- Step 3** All construction sites will have a BMP plan reviewed by EMD prior to any construction activity.
- NOTE:** BMP template available from EMD must be used.



GENERAL INFORMATION

For additional information contact the EMD at 502-624-8187.

SPILL RESPONSE MATERIALS

40 CFR 112.8 and KPDES Permit Section 3

POSSIBLE AREAS OF CONCERN

Having the proper spill response material available.

CHARACTERIZATION

It may be necessary to conduct monthly inventories of your spill materials to ensure serviceability and availability. Hazardous materials storage areas and units conducting field training exercises will maintain an adequate supply of spill response materials.

HANDLING PROCEDURES

DRIP PADS

Vehicles (leaking only)
Equipment (leaking only)
Make arrangements to repair leaks



SPILL CONTAINMENT PALLETS

Drums (55 Gallon)
Batteries
Chemical Containers (5 Gallon)



WHITE PADS AND SOCKS

Pads will float for light oil sheens on water
Socks will absorb POL liquids but not water
Use around storm or sewer drains



GRAY PADS AND SOCKS

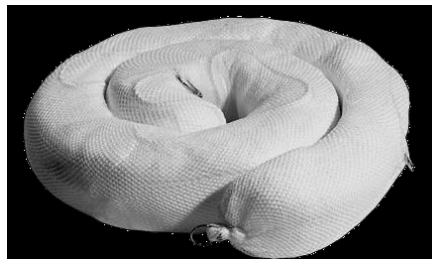
Socks will absorb ALL liquids
Will not float



**DO NOT PLACE AROUND STORM DRAINS—
WILL HOLD WATER**

BOOMS

Use on water surfaces
Use on concrete surfaces to divert large spills
Will absorb POL and float
Made to be hooked in chain form if needed



ACID NEUTRALIZATION

Dry absorbent will neutralize and absorb
Pads will neutralize and encapsulate



NATURE 'S BROOM ABSORBENT

POL Products
Not for creating dams

CLAY ABSORBENT

POL products
Create dams around stormwater drains

CLEAN UP/PLASTIC BAGS

You can use a heavy duty plastic bag
All debris must be:
Double bagged
Disposed of at the landfill - check with landfill office

TOOLS

Appropriate PPE
Brooms & shovels (plastic and metal)
Rakes, trash cans or drums



GENERAL INFORMATION

Spill kits are available for purchase at Base Supply Center, building 717.
For additional information contact EMD at 502-624-8187.

TIRES

401 KAR 48 and 49

POSSIBLE AREAS OF CONCERN

Tires cannot be abandoned on post and must be taken to the permitted collection container located at the Baker landfill. Abandoned tires collect rainwater and create breeding areas for mosquitoes.

CHARACTERIZATION

Vehicle and equipment tires collect rainwater and create breeding areas for mosquitos.

HANDLING PROCEDURES

- Step 1** Military equipment/vehicle tires will be turned in to DLA. Call 502-626-3769 to schedule a drop off. Tires that are stored pending disposal must be covered.
- Step 2** All other tires can be turned in to the Fort Knox Landfill. Contact the Fort Knox Landfill at 502-942-9511 to arrange a drop off.

NOTES:

- A. Abandoning and/or improper storage of tires is a violation of the law.
- B. If tires are used for physical training:
 - 1. Tires must be kept under cover so they do not collect rain water, or
 - 2. Have holes drilled in them to allow for drainage.
 - 3. Kept indoors when not in use.
- C. Tires from off-post cannot be taken to the Fort Knox Landfill.



GENERAL INFORMATION

Contact EMD at 502-624-3692 or the Fort Knox Landfill at 502-942-9511.

VEHICLE MAINTENANCE

40 CFR 112.8 and KPDES Permit 401 KAR 5:065, Section 2(4) pursuant to KRS 224.70-110

POSSIBLE AREAS OF CONCERN

POL products create potential surface or groundwater contamination.

CHARACTERIZATION

POL products that are spilled create contamination and regulatory non-compliances.

FIELD MAINTENANCE PROCEDURES

Field maintenance

- Step 1** Place vehicle(s) on hardstand if available or place a POL resistant covering on the ground under the vehicle(s) (tarp or vehicle cover).
- Step 2** Use pads, absorbent materials, or a drip pan to contain any spills or leaks.
- Step 3** Collect pads/absorbent in plastic bags and transport to the Fort Knox landfill.
- Step 4** Contact Range Control then EMD to report the spill.

NOTE: Precaution must be taken near stormwater drains. Cover drains before beginning maintenance activity.



Vehicle breakdowns

- Step 1** Use pads, absorbent materials, or a drip pan to control any pol spills or leaks to protect the environment.
- Step 2** If possible repair vehicle on site.
- Step 3** If not repairable on site, isolate all leaking parts before towing or hauling the vehicle.
- Step 4** Contact Fort Knox Fire Department then EMD to report the spill.

NOTE: Units must have spill materials sufficient for any potential spill on hand for immediate response.

GENERAL INFORMATION

For more information contact EMD at 502-624-8187/3629.

WASH RACKS

MILITARY VEHICLES

KPDES Permit 401 Section 3, KAR 5:065 Section 2(4) pursuant to KRS 224.70-110

POSSIBLE AREAS OF CONCERN

Discharge of pollutants into wash rack drains or surrounding areas may pose a threat to the environment and potentially create a violation with local, state, federal, and Fort Knox regulations.

CHARACTERIZATION

The wash rack should only be used to remove heavy dirt and mud from vehicles. The wash rack is a closed loop system.

HANDLING PROCEDURES

Follow the posted instructions at the wash rack.

- A. No purging of tankers or HEMTT tankers shall be performed.
- B. No fuel transfers shall be performed.
- C. No defueling or refueling shall take place.
- D. No oil changing of any vehicles or equipment shall take place.
- E. No vehicle washing shall take place on aircraft wash racks.
- F. No detergents are allowed.



NOTE: Call 502-624-7213 or 502-624-2063
to schedule use of the wash rack.

GENERAL INFORMATION

For additional information about wash racks contact EMD at 502-624-8187.

WATER PURIFICATION OPERATIONS

KPDES Permit Section 3, 401 KAR 5:065 Section 2(4) pursuant to KRS 224.70-110

POSSIBLE AREAS OF CONCERN

Chlorine and other chemicals that are added or used during field water operations may have an impact on the environment. The use, storage and transportation of bulk treatment chemicals can create a hazard to individuals and the environment.

CHARACTERIZATION

All water field missions must be approved by EMD. Daily water withdrawals of 10,000 gallons or more from a lake or stream requires a permit from the Kentucky Division of Water.

HANDLING PROCEDURES

Step 1 Water field mission/exercises requiring a withdrawal greater than 10,000 gallons a day will require state water withdrawal approval. Plan appropriately.

Step 2 Units must notify EMD when the field exercise is completed. (State withdrawal permit must be completed and returned to EMD.)

NOTES:

- A. Unit must contact EMD for disposal/discharge guidelines when chlorine or backwash water is generated.
- B. Non-Chlorinated water, or DECON water, may be released to the environment by spraying the water onto ground covered with vegetation, away from any creeks/streams of Kentucky. These water materials must not be discharged back into the original water sources.



Water/Union Bags

GENERAL INFORMATION

Contact EMD for additional guidance at 502-624-8187.

WEAPONS CLEANING MATERIALS

401 KAR 31, 32, 33 and 40 CFR 260-262

POSSIBLE AREAS OF CONCERN

Lead contaminated weapon patches, Q-Tips, pipe cleaners and wipes are disposed of in the trash and may create potential non-compliance with waste disposal regulations.

CHARACTERIZATION

There is residual lead powder in the various parts of the weapon(s).

HANDLING PROCEDURES

- Step 1** Contact EMD at 502-624-3692/6598/8379 to set up a Satellite Accumulation Area (SAA) and schedule SAA Manager training with EMD.
- Step 3** EMD will properly label the container as hazardous waste and place at or near the point of generation.
- Step 4** Place the lead contaminated materials in the SAA container consisting of lead contaminated weapon patches, Q-Tips, pipe cleaners and wipes.
- Step 5** Keep the SAA container closed when not in use.
- Step 6** Contact EMD when the SAA container is full.



NOTE: Visiting units must contact EMD at 502-624-3692/6598/8379 to obtain a container for collecting used weapon cleaning materials.

GENERAL INFORMATION

Contact EMD at 502-624-3692/6598/8379 for additional information.

SECTION 5
APPENDIX A
BULK STORAGE CONTAINERS (BSCs)
&
FORT KNOX SPILL PREVENTION CONTROL &
COUNTERMEASURES (SPCCP)
40 CFR 112.3 and 3.7 and .8

BSCs are required to be double-walled with interstitial space monitoring (electronically or manually) or have secondary containment with an overhead enclosure to protect the BSC secondary containment from collecting rain water.

40 CFR 112 provides the requirements for BSCs in a final rule and applies to Oil Pollution Prevention and Response relevant to Non-Transportation-Related Onshore and Offshore Facilities.

112.1 General Applicability.

(a)(1) This part establishes procedures, methods, equipment, and other requirements to prevent the discharge of oil from non-transportation-related onshore and offshore facilities into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act).

Part 112 Applies to Fort Knox

Non-transportation related facilities which, due to their location could reasonably be expected to discharge oil (includes vegetable oil and animal fats) into or upon the navigable waters of the United States or adjoining shorelines.

Bulk Storage Container (BSC)

BSCs include containers with a volume of 55 gallons or larger and requires some form of secondary containment. All BSCs must be visually inspected for leaks.

BSCs can be double-walled or dual-walled which has an interstitial space designed to trap any liquid that may leak from the main tank holding the product.

BSCs may be single-walled but must have secondary containment. If the secondary containment area has an open top then there is a means for releasing captured rainfall, such as a manual valve.

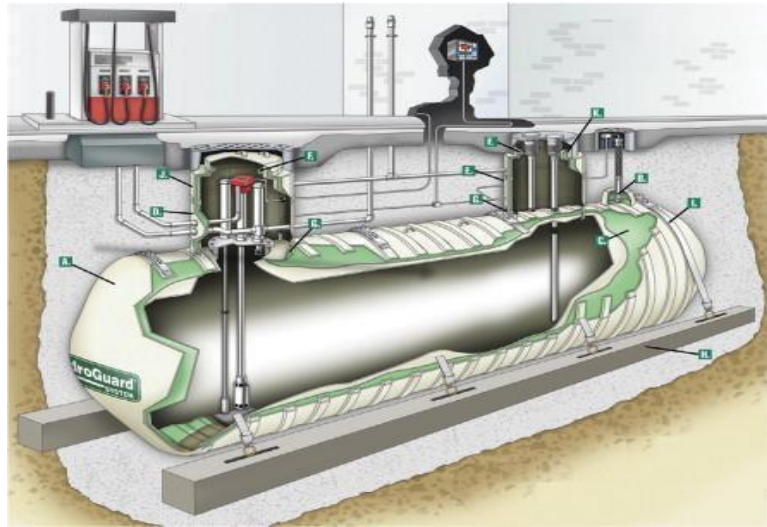
Keep the valve closed at all times and open only to release rain water once you have inspected the rain water for any type of sheen or floating POL.

Rainwater Release Form must be maintained and discharged quantities recorded. Contact EMD Storm Water Manager (502-624-8187) for guidance.

Interstitial Space

What is Interstitial Space?

Interstitial Space is the space located between the main tank body which holds the material and the external wall of the BSC as shown in this picture.



Monitoring of Interstitial Space

The interstitial space for some BSCs may have electronic sensors for detecting liquid between the double-walls. Check and make sure these electronic sensors are working properly.



Some BSCs may have interstitial space gauges that will indicate a leak between the double-wall by raising the red or other colored float in the sight glass.



Some BSCs may have interstitial space gauges that are controlled by vacuum between the double-wall. Make sure the gauge is reading a vacuum pressure.



Some BSCs may have a manual check for the interstitial space. This check may be a screw out bung or a dip stick.



Grease Containers

Some grease containers have the interstitial space check on the top under the primary top door.



Some grease containers have a sight glass located at the bottom of the grease container.





Do not store 55 gallon drums inside next to doors or floor drains.



55 Gallon drums stored outside must be on spill containment pallets and covered.

SPILL PREVENTION CONTROL & COUNTERMEASURES PLAN (SPCCP)

40 CFR 112 3.7 and .8 requires an SPCCP for all POL storage facilities, including vegetable oils and animal fats. Each site plan must detail the equipment, workforce, procedures, and steps to prevent, control, and provide adequate countermeasures to a discharge. The SPCCP must be certified by a Professional Engineer (PE).

Each site plan will include the following:

- Area description
- Listing of site containers, drums and above-ground storage tanks
- Product handling explanation
- Site map with all containers (including container volumes) located on the map
- Site map will have information about the receiving waters should a spill occur
- Secondary containment description
- Inspection and testing explanation
- Potential spill scenarios in a table format

EMD provides the site specific plans along with the required training.

BULK STORAGE CONTAINER INSPECTIONS (Including 55 gallon drums)

Monthly Inspection for Hazardous Materials

EMD5085 (Used for 55 gallon drums)

EMD conducts monthly inspections on BSCs using the Standard Tank Inspection form (STI) for monthly and annual inspections. EMD recommends that contractors who bring their own BSCs for fuel onto Fort Knox use the Standard Tank Inspection form for their monthly and annual inspections. The STI forms are available on the EPA website.

All 55 gallon drums must be on secondary containment, both inside and outside. The secondary containment can be spill containment pallets and/or HAZMAT sheds which have built in secondary containment.

EMD does not inspect 55 gallon containers. Each site activity is responsible for the monthly inspections of their 55 gallon drums (inside and outside, and in-process/storage). The inspection worksheet EMD5058 is used to inspect all 55 gallon drums. This worksheet is located in Appendix C.

NOTE: All BSC locations must meet state and local fire codes. You should contact the Fire Department for guidance.

APPENDIX B

CULTURAL RESOURCES

AR 200-1 and AR 290-5

The purpose of this section is to provide information about the management of the Installation's cultural resources through the coordinated efforts of the Environmental Management Division, Directorate of Public Works (DPW), Directorate of Plans, Training, Mobilization and Security (DPTMS), and the training community.

MANAGEMENT OF CULTURAL RESOURCES

Fort Knox features a broad assortment of cultural resources. The Fort Knox Cantonment Historic District contains 181 buildings constructed during the 1930s and 1940s. Five other buildings, Cavalry Chapel, Hanger 1, Landing Ship Tank (LST) Building, Crittenger School and the Old Guest House (Building # 4248) are eligible for the National Register of Historic Places (NRHP). Two cemeteries, Fort Knox Post Cemetery and Lincoln Memorial Cemetery, are also eligible for the NRHP. One property, a one-mile segment of the Louisville and Nashville Turnpike (Bridges to the Past) is listed on the NRHP. Tioga Falls Trail is co-located with Bridges to the Past off US 31W near the town of West Point. Both trails are open to the public. Over 1100 archaeological sites have been identified at Fort Knox. Two of these are eligible for the NRHP and another 87 are potentially eligible. A total of 120 historic cemeteries have been identified on Fort Knox and it is likely that numerous others have yet to be identified.

Federal policy regarding preservation of cultural resources (i.e., archaeological sites, cemeteries, historic sites, structures and districts) is established in numerous laws, regulations and executive orders. The most important of these in terms of installation management are the National Historic Preservation Act (NHPA) and the Archaeological Resources Protection Act (ARPA).

Fort Knox's cultural resources are managed in accordance with the Fort Knox Integrated Cultural Resources Management Plan. Specific guidance for maintaining historic buildings is specified in the Fort Knox Standards for the Treatment of Historic Buildings.



Lincoln Memorial Cemetery No. 39

In accordance with the NHPA all federal undertakings that have the potential to affect historic properties must be reviewed by the Environmental Management Division. This includes construction, maintenance and repair projects within the Fort Knox Cantonment Historic District, or that affect any buildings over 50 years old. This also applies to any ground-disturbing activities (digging) on post. Projects that are determined to have the potential to affect historic properties must be reviewed in consultation with the Kentucky State Historic Preservation Office (SHPO). Project proponents should allow 45 days for SHPO review.

DIG PERMITS

All excavations on post require dig permits. Dig permits must be coordinated with the EMD Cultural Resources Office (see page 39). If ground-disturbing activities inadvertently encounter archaeological materials, archaeological deposits or features, all work in the vicinity of the finds must cease. The Fort Knox Cultural Resources Office shall be notified. Also, if human remains are discovered, all work in the vicinity of the remains must cease, the area must be secured and declared off-limits to unauthorized personnel, and the Fort Knox Cultural Resources Office and Fort Knox Criminal Investigation Division (CID) must be notified. Use of metal detectors at Fort Knox is prohibited under ARPA, as is collecting artifacts or damaging archaeological sites.

GENERAL INFORMATION

The POC for Cultural Resources Management can be contacted at 624-6581. An inventory of historic buildings is available upon request though EMD.



Fort Knox Cantonment Historic District



APPENDIX C

ENVIRONMENTAL COMPLIANCE WORKSHEETS/FORMS

Forms are available from EMD:
army.knox.emd@mail.mil

Monthly Inspection Worksheet

Monthly Inspection for Hazardous Materials

(include 55 gallon drums)

EMD5058 APR18

Spill Incident Report Form

Spill Incident Report

Spill Response Placard

FK5053 FINAL

Regulated Waste Worksheet

Regulated Waste Information Worksheet

EMD6175 SEP15

Contractors Spill Contingency Plan

Spill Contingency Plan (For Contractors)

EMD5123_A NOV16

Gas Cylinders

Defense Supply Center Richmond (DSCR)

Cylinder Return Tracking List

Page 72

| MONTHLY INSPECTION FOR HAZARDOUS MATERIALS | | | | | | | |
|--|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| 01APR18 | | | | | | | |
| DATE: | | INSPECTOR: | | UNIT/ACTIVITY: | | AREA OR SITE: | |
| CHECKLIST ITEM | | Storage ID | Storage ID | Storage ID | Storage ID | Storage ID | Storage ID |
| Questions apply to each storage location. | | | | | | | |
| A | Use Section A for HAZMAT Sheds, Flammable Storage Cabinets, and Battery Storage | | | | | | |
| 1 | Are cabinet or shed doors closed at all times except when adding or removing materials? | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ |
| 2 | If the spill containment sump has a drainage valve or plug, is the valve or plug closed? | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ |
| 3 | Is there a spill kit in the immediate area and does the spill kit have adequate spill response materials. | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ |
| 4 | Are SDSs readily available for the materials in the cabinet or shed? | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ |
| 5 | Is a chemical inventory posted on each cabinet or shed door? | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ |
| 6 | Is the stock rotated so the oldest stock is issued (used) first? | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ |
| 7 | Are all material containers serviceable, no rust, dents or leaking containers.? | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ |
| 8 | Are batteries stored on a spill containment pallet or battery storage room? | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ |
| 9 | Are corrosive spill response materials available? | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ |
| B | Use Section B for 55 gallon drums. | | | | | | |
| 1 | Are Spill Containment Pallets in good condition? | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ |
| 2 | Are free liquids in containment pallets removed periodically? | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ |
| 3 | Are drums stored outside covered? | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ | Yes _____ No _____ NA _____ |

| SPILL INCIDENT REPORT | | | |
|------------------------------|---|--|--|
| 1 | See page 2 below or on the back of this page for INSTRUCTIONS on completing this form. | | |
| 2 | Complete this report for any spill of OIL, HAZARDOUS MATERIALS, HAZARDOUS WASTE, AIR RELEASES, or any substance which is a threat to humans or the environment. | The information is to be provided immediately to: a. The Environmental Management Division (EMD), 624-3629 b. The Fort Knox Fire Department 624-6016/1876 c. Range Control 624-2125 for Training Areas | |
| 3 | Identification Information | Complete the Information Below | |
| 4 | Date | | |
| 5 | Time of Call In | | |
| 6 | Caller Name | | |
| 7 | Caller Telephone No. | | |
| 8 | Unit/Activity/Organization | | |
| 9 | POC at Spill Scene | | |
| 10 | Location (building/street intersection/grid coordinate) | | |
| 11 | When did Spill Occur (TIME) | | |
| 12 | Material Spilled/Released | | |
| 13 | Quantity of Material Spilled or Released (QTS.-GALS.-LBS.) | RQ (EMD Use) | |
| 14 | Source | | |
| 15 | <u>Cause</u> | | |
| 16 | IMPACT/MEDIA (spilled on grass, asphalt, concrete, dirt) (health, safety, environment)(in a waterway, storm drain)(sheen on water) | | |
| 17 | WEATHER CONDITIONS | Describe the current weather conditions. | |
| a | Temperature | | |
| b | Rain or Snow | | |
| c | Sunny or Cloudy | | |
| d | Windy (light breeze, moderate or high wind, no wind) | | |
| 18 | Danger or Threat Posed by the Spill or Release | | |
| 19 | Number and Types of Injuries or fatalities (if any) | | |
| 20 | If Injuries or Fatalities, was Post Safety Notified? (Yes or No) If Yes, Who was Notified? | | |
| 21 | Has an Evacuation Occurred? (Yes or No) If yes, explain. | | |
| 22 | Were Vehicles Involved? (Yes or No) If Yes Explain. | If yes, contact EMD - 624-3629 | |
| 23 | CORRECTIVE ACTION | | |
| 24 | DISPOSAL INFORMATION (Landfill, Other) | | |
| 25 | Does the Emergency Preparedness and Response Plan require changes as a result of this spill incident? | YES | NO If yes, contact EMD - 624-3629 |
| 26 | COMMENTS | | |
| 27 | UNIT/ACTIVITY POC PRINTED NAME | | |
| 28 | UNIT/ACTIVITY POC SIGNATURE AND DATE | Date: | |
| 29 | EMD POC PRINTED NAME | | |
| 30 | EMD POC SIGNATURE AND DATE | Date: | |
| 31 | FK5053 FINAL | | |

| INSTRUCTIONS | |
|--------------|--|
| 1 | |
| 2 | <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Complete this report for any spill of OIL, HAZARDOUS MATERIALS, HAZARDOUS WASTE, AIR RELEASES, or any substance which is a threat to humans or the environment.</p> </div> <div style="width: 50%;"> <p>The information is to be provided immediately to:</p> <p>a. The Environmental Management Division (EMD), 624-3629 b. The Fort Knox Fire Department 624-6016/1876 c. Range Control 624-2125 for Training Areas</p> </div> </div> |
| 3 | Identification Information |
| 4 | Complete the Information Below |
| 5 | Date |
| 6 | Actual date of spill |
| 7 | Time of Call In |
| 8 | Actual time you received or reported the spill to EMD |
| 9 | Caller Name |
| 10 | Name with Rank or Title |
| 11 | Caller Telephone No. |
| 12 | Your phone number |
| 13 | Unit/Activity/Organization |
| 14 | Your unit/organization |
| 15 | POC at Spill Scene |
| 16 | The on site person controlling the spill scene |
| 17 | Location (building/street intersection/grid coordinate) |
| 18 | Building number, street address, grid location |
| 19 | When did Spill Occur (TIME) |
| 20 | The time the spill actually happened |
| 21 | Material Spilled/Released |
| 22 | Name or names of materials spilled |
| 23 | Quantity of Material Spilled or Released (QTS.-GALS.-LBS.) |
| 24 | Best estimate of quantity |
| 25 | RQ (EMD Use) |
| 26 | Source |
| 27 | Actual starting point of the spill |
| 28 | Cause |
| 29 | Identify what created the spill or where it came from |
| 30 | IMPACT/MEDIA (spilled on grass, asphalt, concrete, dirt) (health, safety, environment)(in a waterway, storm drain)(sheen on water) |
| 31 | Describe what the material came in contact with, gravel, concrete, grass, dirt, waterway, and estimate the size of the spill |
| 32 | WEATHER CONDITIONS |
| 33 | Describe the current weather conditions. |
| 34 | Temperature |
| 35 | Rain or Snow |
| 36 | Sunny or Cloudy |
| 37 | Windy (light breeze, moderate or high wind, no wind) |
| 38 | Danger or Threat Posed by the Spill or Release |
| 39 | EXPLAIN THE DANGER OR THREAT POSED |
| 40 | Number and Types of Injuries or fatalities (if any) |
| 41 | COMPLETE IF THIS APPLIES AT THIS SPILL |
| 42 | If Injuries or Fatalities, was Post Safety Notified? (Yes or No) If Yes, Who was Notified? |
| 43 | INDICATE WHO YOU CALLED (POST SAFETY, MPs, FIRE DEPT.) |
| 44 | Has an Evacuation Occurred? (Yes or No) If yes, explain. |
| 45 | Provide details of any evacuation |
| 46 | Were Vehicles Involved? (Yes or No) If yes, contact EMD - 624-3629 |
| 47 | If yes contact EMD. If yes, contact EMD - 624-3629 |
| 48 | CORRECTIVE ACTION |
| 49 | Explain cleanup and any protective measures taken to minimize impact. |
| 50 | DISPOSAL INFORMATION (Landfill, Other) |
| 51 | Explain how you disposed of the cleanup materials. |
| 52 | Does the Emergency Preparedness and Response Plan require changes as a result of this spill incident? |
| 53 | YES _____ NO _____ If yes, contact EMD - 624-3629 |
| 54 | COMMENTS |
| 55 | Add any supporting information about the spill or release. |
| 56 | UNIT/ACTIVITY POC PRINTED NAME |
| 57 | UNIT/ACTIVITY POC SIGNATURE AND DATE |
| 58 | EMD POC PRINTED NAME |
| 59 | EMD POC SIGNATURE AND DATE |
| 60 | FK5053 FINAL |

FORT KNOX SPILL CONTINGENCY PLAN & RESPONSE PROCEDURES

**Report ALL spills to Environmental Management Division (EMD)
(502) 624-3629**

INCIDENTAL SPILL

- Small amount of non-hazardous substance
- Small amount of oil
- Poses no threat to the safety or health of persons, but is a threat to the environment

SIGNIFICANT SPILL

- Measurable Quantity
- Potential to threaten the environment
- Has not reached a waterway (but could)
- No potential safety or health hazard
- Can be absorbed, neutralized or otherwise controlled

Spill Response Actions:

1. Evaluate the incident
2. Confine the spill
3. Stop the source
4. Notify the appropriate personnel - EMD @ (502) 624-3629 & Fire Dept. @ 911
5. Select the appropriate PPE per SDS
6. Initiate cleanup
7. Containerize the contaminated material
8. Decontaminate personnel if necessary
9. Complete reports – Spill Incident Report Form FK5053

MAJOR SPILL

- Large Quantity Spill
- Definite threat to the environment or the health or safety of persons in and around the area
- Characterized by any of the following:
 - Injuries have occurred
 - Spilled into a waterway
 - Poses significant safety or health hazards (fire, explosion, HAZMAT exposure)
 - Cannot be absorbed, neutralized, or otherwise controlled at the time of the release

Spill Response Actions:

1. Notify the Fire Department & EMD Immediately - 911 & EMD – (502) 624-3629
2. Evacuate the area if necessary
3. Wait for Emergency Response Personnel to Arrive
4. Waterway spills – Place booms downstream to contain the pollutant
5. Complete reports – Spill Incident Report Form FK5053

PROTECT WATERWAYS AND STORM WATER DRAINS

April 2016

REGULATED WASTE INFORMATION WORKSHEET

(Includes all waste, hazardous, non-hazardous, universal, special and other)

UNIT/ORGANIZATION: _____ BLDG#: _____
 DODAAC#: _____ POC: _____
 PHONE NUMBER: _____ ALTERNATE: _____

ALL INFORMATION MUST BE TAKEN FROM THE CONTAINER, NOT THE SAFETY DATA SHEET (SDS)

1. NSN/MSN/UPC: _____
2. PART NUMBER / CATALOG NUMBER: _____
3. NAME OF ITEM: _____
4. MANUFACTURER / CAGE CODE: _____
5. UPC: _____
6. CONTAINER TYPE: ☐ DM ☐ DF ☐ BX ☐ OTHER: _____
☐ 2.5G ☐ 5G ☐ 10G ☐ 14G ☐ 20G ☐ 30G ☐ 55G ☐ 4FT
7. NUMBER OF INDIVIDUAL CONTAINERS: _____
8. HOW FULL IS CONTAINER: ☐ 1/4 ☐ 1/3 ☐ 1/2 ☐ 3/4 ☐ FULL
9. LIST ALL INGREDIENTS PER CONTAINER ON THE ORIGINAL PRODUCT LABEL: _____

10. CONTENTS (Check one): ☐ LIQUID ☐ SOLID ☐ PASTE/SLUDGE ☐ GAS

11. LIST THESE CHARACTERISTICS: _____ PH _____ FLASHPOINT

12. REASON FOR DISPOSAL: _____

13. EMD COMMENTS: _____

14. ☐ REIMBURSEABLE

PROFILE NUMBER: _____ CLIN: _____

LBS: _____ GALS: _____

EMD DOCUMENT#: _____

EMD APPROVAL: _____ DATE: _____

EMD6175

ENVIRONMENTAL HANDBOOK Issue 021 Ver .01

| Fort Knox Contractor Site Specific Spill Contingency Plan Environmental Management Division Building 1110 125 Sixth Ave, Fort Knox, KY 40121 502-624-8187/6057 | | | |
|---|----------------------|---|----------|
| Contractor Name | | Contractor Identification Number | |
| General Description | Location | Start Date | |
| Primary Contractor Person (Required) | | | |
| Name/Title | Primary Office Phone | Secondary Office Phone | |
| Address | City | State | Zip Code |
| Secondary Contractor Person (Required) | | | |
| Name/Title | Primary Office Phone | Secondary Office Phone | |
| Address | City | State | Zip Code |
| Primary Contractor Information (Required if subcontractor) | | | |
| Name/Title | Primary Office Phone | Secondary Office Phone | |
| Address | City | State | Zip Code |
| Hazardous Material and Quantity (If not applicable, write "N/A") | | | |
| 1 | Substance | Quantity | Location |
| 2 | Substance | Quantity | Location |
| 3 | Substance | Quantity | Location |
| 4 | Substance | Quantity | Location |
| 5 | Substance | Quantity | Location |
| Safety Data Sheet(s) (Required) | | | |
| Safety Data Sheet(s) are readily available in the following locations: | | Location | |
| Bulk Storage Containers (BSCs) | | | |
| Will Bulk Storage Containers be onsite? <input type="checkbox"/> Yes <input type="checkbox"/> No <u>Requires Monthly Inspections</u> | | If yes, send an e-mail to the address below to schedule a mandatory monthly compliance inspection army.knox.EMD@mail.mil | |
| <p style="text-align: center;">E-mail Completed Form to: army.knox.emd@mail.mil or fax to 1-502-624-3000</p> | | | |

FK FORM 5123 1-00 NOVEMBER 2016
EMD5123_A22 NOVEMBER 2016

Page 1 of 2

ENVIRONMENTAL HANDBOOK Issue 021 Ver .01

EMD5123_A22 NOVEMBER 2016

| Fort Knox Contractor Site Specific Spill Contingency Plan (Continued) | | | |
|---|---|---|--|
| Emergency Spill Equipment (Required) | | | |
| Mark all emergency spill equipment that will be stored and maintained onsite (*Recommended) | <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"><input type="checkbox"/> Clay Absorbent*</div> <div style="width: 50%;"><input type="checkbox"/> Drain Blocker</div> <div style="width: 50%;"><input type="checkbox"/> Containment Unit</div> <div style="width: 50%;"><input type="checkbox"/> Disposal Bags*</div> <div style="width: 50%;"><input type="checkbox"/> Dry Sweep*</div> <div style="width: 50%;"><input type="checkbox"/> Spill Putty</div> <div style="width: 50%;"><input type="checkbox"/> Baking Soda</div> <div style="width: 50%;"><input type="checkbox"/> Rubber Gloves</div> <div style="width: 50%;"><input type="checkbox"/> Absorbent Pads*</div> <div style="width: 50%;"><input type="checkbox"/> Overpak*</div> <div style="width: 50%;"><input type="checkbox"/> Broom*</div> <div style="width: 50%;"><input type="checkbox"/> Respiratory Masks</div> <div style="width: 50%;"><input type="checkbox"/> Absorbent Socks/Pillows*</div> <div style="width: 50%;"><input type="checkbox"/> Drip Pan</div> <div style="width: 50%;"><input type="checkbox"/> Dust Pan</div> <div style="width: 50%;"><input type="checkbox"/> Safety Goggles*</div> <div style="width: 50%;"><input type="checkbox"/> POL Booms*</div> <div style="width: 50%;"><input type="checkbox"/> Spill Pool or Dike*</div> <div style="width: 50%;"><input type="checkbox"/> Non-Sparking Shovel*</div> <div style="width: 50%;"><input type="checkbox"/> Tyvek Suit</div> <div style="width: 100%;"><input type="checkbox"/> Other (Please Explain) _____</div> </div> | | |
| Spill Response Procedure | | | |
| 1. Be Prepared | 2. Be Safe | 3. Stop the Source | 4. Protect Water |
| <ul style="list-style-type: none"> - Know response material - Know response procedures - Have Safety Data Sheets on site | <ul style="list-style-type: none"> - Identify spilled substance/Read SDS - Use personal protective equipment | <ul style="list-style-type: none"> - Plug, roll or right drums - Use emergency shut-off devices | <ul style="list-style-type: none"> - Confine spills with sandbags or booms - Block access to stormwater grates and drains |
| 5. Notify | 6. Clean Up | 7. Dispose | 8. Restock |
| <ul style="list-style-type: none"> - Report all spills - Know response material location - Call EMD-624-3629 and 911 | <ul style="list-style-type: none"> - Neutralize hazardous substances - Pump or sweep into safe container | <ul style="list-style-type: none"> - Contain waste water or sweepings - Call EMD for proper disposal | <ul style="list-style-type: none"> - Replace materials and equipment - Review the incident for lessons learned |
| Notification Procedure | | | |
| 1. Who to Call | | 2. When to Call | 3. What to Report |
| <ul style="list-style-type: none"> - Fort Knox Emergency Dispatch 911 and 64-3629 - Range Control (if in training area) 502-624-2125 - SPCCP/Storage Tank Program 502-624-8187/6057 | | <ul style="list-style-type: none"> - For all spills - 502-624-3629 - Enters any waterway, drain or drainage ditch | <ul style="list-style-type: none"> - Location and address of release - Name and phone number of POC - Date and time of release - Type and quantity of release - Cause and source of release - Complete a Spill Incident Report |
| Training | | | |
| PETROLEUM, OIL, AND LUBRICANT PRODUCTS (POL) | | | |
| <p>TRAINING is required for all contractor personnel that are responsible for the transfer, transport, or handling of Petroleum, Oil and Lubricant (POL) products in bulk quantities <i>greater than or equal to 55 gallons</i>. POL Training records must be kept at the contract site.</p> | | | |
| <p>Spill Awareness Training is a best management practice for any installation personnel that may or may not be responsible for the transfer, transport, or handling of POL products. This training provides awareness of the proper procedures for reporting responding, and preventing POL discharges by becoming familiar with the Spill Prevention Response and Notification Procedure.</p> | | | |
| <p>ADDITIONAL SPILL INFORMATION - REFER TO THE FORT KNOX ENVIRONMENTAL HANDBOOK - Contact Number: 502-624-8187/6057</p> | | | |
| Failure to make all three boxes will result in form being disapproved, and may impact contract activity. | | | |
| <input type="checkbox"/> I certify that all information provided in this document is true to the best of my knowledge. <input type="checkbox"/> I have read and agree to follow the Spill Notification Procedure as described in this document. <input type="checkbox"/> In the event of a discharge, I understand and agree to notify Fort Knox Environmental Management Division who will report spill activities to State/Federal agencies as appropriate. | | | For Office Use Only Initials _____ Date _____ <input type="checkbox"/> Approve |

[illegible]

Technical drawing of a 1000 ml gas cylinder. The main view shows a side profile with labels: CAP, VALVE, MOUNTING PLATE, and FLAME. Dimensions include a total height of 100 mm and a diameter of 10 mm. A detail view of the top shows the 'VALVE' and 'MOUNTING PLATE' with a diameter of 10 mm. The text '1000 ml' is also present.

1. CONUS (Hudson Technologies) Cylinders: Call (866) 724-0932 or email cyreturn@hudsonstech.com
2. EUCOM (IGS) Cylinders: Call (877) 352-2255 or Tel (+32) 3 860 95 60
3. CENTCOM (ISS) Cylinders
KUWAIT +965 66879860
BAHRAIN +973 39600859
QATAR +974 33192165
DUBAI & DJIBOUTI +971 50550436
Or email: DLGA@Project@iss-shipping.com

APPENDIX D

HAZARDOUS MATERIALS MANAGEMENT & MINIMIZATION

EO 13834, 40 CFR, 29 CFR, AR 710-2, DA PAM 710-7

The purpose of this section is to provide guidance and information for the reduction of hazardous materials stored at Fort Knox through the utilization of the Hazardous Material Control Center (HMSO).

OPERATION OF THE HAZARDOUS MATERIAL CONTROL CENTER

Due to the high cost of hazardous waste disposal, increased Environmental Protection Agency (EPA) reporting requirements and the Presidential Executive Order 13834, Federal Government entities are required to reduce the quantity of hazardous materials used. Fort Knox has established a Hazardous Materials Supply Operations (HMSO) to centralize control of management and processing of hazardous materials and help minimize the amount of hazardous materials used on the installation and reducing the amount of hazardous waste produced. The HMSO is located on Frazier Road in Administration Bldg. 2954 – (502) 624-4275/6688, and Warehouse Bldg. 2953 – (502) 624-5101. Hours of operation are from 0730-1630 Mon-Fri to include Training Holidays.

The key concept of the HMSO is to provide cradle-to-grave tracking of hazardous material on Fort Knox. Upon receiving hazardous material, personnel label the material and issue the material to the customer inventory. When the container is empty, the customer will return the tracking label to the HMSO to be dispositioned from the corresponding inventory. The Logistics Readiness Center (LRC) operates the HMSO by contract.

Requisitions: Requisitions must use the HMSO as the delivery address. Central receiving will direct all shipments of controlled hazardous materials to HMSO for processing. Suppliers of credit card purchases must be notified that HMSO, Bldg. 2953/2954, located on Frazier Road, Fort Knox, KY 40121 is the shipping address. Local purchases of controlled hazardous materials must be processed through the center on a walk-in basis. Please note, HMSO does not order materials.

Purchases: Purchases delivered by vendors or their representatives will be delivered only to the HMSO and will include an SDS for each product. **Door-to-door deliveries to units or activities by vendors are not authorized.** HAZMAT and non-HAZMAT items need to be shipped separately. Non-HAZMAT items may be delivered door-to-door to the customer. It is the purchaser's responsibility to inform the vendor of these requirements.

Should you require an SDS for your product, please contact the HMSO with the barcode number on your yellow tracking tag (example below). This number will allow personnel to locate your information quickly. If you are requesting a mass number of SDS sheets, please send those in an email to HMSO personnel.



RESPONSIBILITIES

CUSTOMER RESPONSIBILITIES

Customers shall:

- Ensure all materials that require tracking are processed through the HMSO, prior to use.
- Maintain inventory levels that meet current operational needs. Customers will provide an Authorized Use List (AUL) to the Hazardous Material Control Board (HMCB) for approval. The AUL will be for a 14-day or less supply of on-hand materials. This is to reduce stockpiling and minimize workplace safety hazards, potential spills and excessive hazardous waste. Exceptions to the 14 day limit must be requested through and approved by the HMCB.
- Select materials that pose the least risk to personnel and the environment.
- Ensure all empty containers are returned to the HW turn in connex near building 2954.
- Exceptions:
 - ✓ Chemlights, fire extinguishers and brake shoes.
 - ✓ Only Military lead acid vehicle batteries with the National Stock Numbers (NSN) listed below will be turned in to the HMSO:
NSN 6140-01-446-9506, NSN 6140-01-390-1968, and NSN 6140-01-390-1969
- All other Military and commercial lead acid vehicle batteries must be turned-in to the Recycle Center (QRP). All other battery types (Ni-Cad, Lithium, Manganese, etc.) must be turned into the EMD Hazardous Waste section.
- Batteries **do not** go in the trash under any circumstances.

All products that have not been used on the Installation before must be approved by the HMCB, prior to purchase. Call the HMSO if you are unsure if a product is new to Fort Knox. You will be required to provide the SDS as part of the approval process.

ORDERING NEW MATERIALS

The HMSO does not order material for the customer. Customers will procure new materials through normal supply channels; i.e., through the Global Combat Support System- Army (GCSS-A) or through the contracting office. Materials will be shipped or taken to HMSO for processing through the automated tracking system before use. Purchases delivered by vendors or their representatives will be delivered to the HMSO and include an SDS for each product. It is the purchaser's responsibility to inform the vendor of these requirements. Materials ordered through GCSS-A will be directed to HMSO by the Central Receiving Point (CRP) located in Bldg. 2803.

The use of the government GPC credit card to purchase hazardous materials is prohibited without appropriate authorization from the Garrison Commander.

The ship to address is: Hazardous Materials Supply Operations, Bldg. 2954, Frazier Road, Fort Knox, KY 40121. Instruct the vendor to list your name, unit and DODAAC (if applicable) on the delivery form. Without this information, the HMSO will have no way of knowing who the material belongs to.

APPENDIX E

HAZARDOUS/UNIVERSAL WASTE GUIDANCE

401 KAR 31, 32, 33 and 40 CFR 260 - 262

The purpose of this section in the Environmental Handbook is to ensure the proper disposal of Hazardous Waste (HW)/Universal Waste (UW) in compliance with Subtitle C of the Resource Conservation and Recovery Act (RCRA), Kentucky State Regulations and AR 200-1, Environmental Protection and Enhancement. As laws and regulations are constantly changing the info contained within shall be used as a guide. Contact EMD with any questions or concerns you may have.

ROLES AND RESPONSIBILITIES

Each organization on Fort Knox which has activities generating HW shall delegate an Environmental Officer, who is responsible for the daily management and compliance within their organization, IAW AR200-1 1-23 *h*.

WHAT IS A HAZARDOUS WASTE?

A RCRA hazardous waste is any hazardous material that can no longer be used for its intended purposes and meets any of the following criteria:

- **Ignitability**--flash point less than 140° F (40 CFR261.21).
- **Corrosivity**--pH less than or equal to 2, or greater than or equal to 12.5 (40 CFR 261.22).
- **Reactivity**—normally unstable, reacts violently with water, generates toxic gas/fumes when mixed with water (40 CFR 261.23).
- **Toxicity**--having concentrations equal to or greater than the levels listed in (40 CFR 261.24, Table 1).
- **Listed waste**—(any waste, by name) appearing on the list in (40 CFR 261.30, Subpart D and 261.33).
- **Unknown waste**--must be tested by an accredited laboratory to determine if it meets the criteria of a RCRA hazardous waste, contact EMD.
- **Used/unused commercial chemical products** containing any listed hazardous waste.

Adequate information must be provided for proper identification of waste and any contaminants being turned in. This information is required to preclude more costly identification measures and to insure prompt and environmentally acceptable disposal of Hazardous Waste (HW). Laboratory analysis is required for all waste that does not have adequate user knowledge or an acceptable SDS/MSDS.

TURN-IN OF HAZARDOUS/UNIVERSAL WASTE

The following procedure will be followed by the generating activity for all hazardous waste turn-in.

Generator or Generating Activity Responsibilities:

- Call EMD hazardous/universal waste POC at 502-624-3692/6598/8379 for guidance.

Generator will obtain the correct SDS for the hazardous materials being turned in. The SDS must match the exact stock number, name of item and manufacturer for the material. To locate the correct SDS, contact HMSO with the barcode number for the product. If you are unable to procure an SDS for your product via the HMSO, contact Environmental Management Division for assistance.

Regulated Waste - To turn in regulated waste, the generator must fill out the Regulated Waste Information form, EMD6175, found in Appendix C. The information found on the item or the container label must be included on the form. DO NOT COPY from the SDS. If there is no information on the item or container label, write “no information available” on the form. **Use one form for each different item to be turned in.**

Call Environmental Management Division, 502-624-3598/6598/8379, to make an appointment **at your location** for review and turn-in with proper Safety Data Sheet (SDS). Instructions will be given to the waste generator at this time concerning proper packaging, labeling procedures and turn-in to DLA Disposition Services.

PACKAGING AND LABELING OF HAZARDOUS WASTE

The proper packaging and labeling of all hazardous/universal waste is handled by the EMD Hazardous Waste Office.

ALL BATTERY TERMINALS/POSTS MUST BE TAPED TO PREVENT ARCING BEFORE TURN-IN IS ACCEPTED.

BATTERIES

Different types of batteries (e.g. Magnesium Batteries, Mercury Batteries, Lithium Batteries, or Nickel-Cadmium Batteries) cannot be mixed or stored together.

Contact EMD to confirm disposal guidance for all non-lead acid battery types, to include but not limited to: Lithium, Lithium-Ion, Nickel- Cadmium, Magnesium, NiCad (wet), Mercury, Nickel Metal Hydride, rechargeable batteries and alkaline batteries.

Batteries may be dropped off at the HW office, BLDG. 2954 during business hours for disposal.

NOTES:

1. Batteries are not to be left outside of the HW offices, building or fence line.
2. Where possible, all batteries should be completely discharged before packing and listed on the Regulated Waste Information Worksheet found in Appendix C.

TYPES OF WASTES TURNED IN THROUGH EMD

Keep all waste in the original containers.

Common Types of RCRA Hazardous Waste:

- Fuel Line Anti-Freeze (Methanol)
- Oil-based and Epoxy Paints
- Paint Thinners
- Alcohols
- Adhesives
- Calcium Hypochlorite
- Off Spec Chemicals
- Weapon Bore Cleaning Patches
- Pesticides and Pesticide Containers
- CARC Paint
- Cleaners

Common Types of Non-Hazardous Waste:

Contact EMD for disposal of the following common Non-Hazardous Wastes

- Greases
- Latex Paint, Dried Paint
- Free flowing liquids that cannot be disposed of in regular trash
- Cleaners
- NIMH Batteries
- Adhesives
- Alkaline Batteries (AA, AAA, C, D, 6v and 9v)

Common Types of Universal Waste:

Contact EMD for disposal of the following common Universal Wastes

- Fluorescent lamps – separate by size (length or type)
- Mercury vapor lamps & mercury switches
- Lithium batteries (these may include, AA, AAA, and 9v)
- Ni-Cad batteries

The items listed below must be turned in to the agency listed for recycling:

- Used oil and antifreeze QRP Building 2962
- Off spec Diesel/Mogas/JP8/JAA QRP Building 2962
- Serviceable Material HW Connex near bldg. 2954

Collection and Disposal Guidance

Hazardous and Universal waste **MUST NOT** be mixed. Contact EMD at 502-624-3598/6598/8379 for disposal guidance.

Solvents

Units purchasing parts washers and solvent are responsible for testing and disposal costs.

Paints and paint related material

Contact EMD at 502-624-3692/6598/8379. Keep in the original container with the label intact. Provide EMD a completed copy of EMD Regulated Waste Information Worksheet found in Appendix C along with the proper SDS/MSDS(s).

Personal NBC Equipment

Filters, suits, and gloves will be disposed of in accordance with DRMS DEMIL Bulletin FY-07-008. Contact DLA at 502-626-3768 for disposal procedures concerning NBC Items.

SATELLITE ACCUMULATION AREA (SAA) UNIVERSAL WASTE COLLECTION AREAS (UWCA) REQUIREMENTS

Definition: Satellite Accumulation Area/Universal Waste Collection Areas - locations where hazardous waste or universal wastes are accumulated in sufficient quantities as to make it cost effective prior to dispose of through DLA Disposition Services Knox.

There are 2 types of collection sites.

- A **hazardous waste SAA** is used for the accumulation of hazardous wastes such as paints, filters and/or other waste materials that meet the definition of a hazardous waste. These items are turned into DLA Disposition Services Knox for disposal.
- A **universal waste UWCA** is used for accumulation of universal waste materials such as fluorescent lamps, lithium or Ni-cad batteries and some items containing mercury, that are turned into DRMS as a recyclable material.

Maintaining SAA/UWCA Sites

- The generator/operator is responsible for maintaining and inspecting the SAA/UWCA site.
- Due to the complexity of the various materials used on the installation, EMD guidance and approval should be sought prior to establishing a location of a SAA/UWCA site and the waste materials stored at the site.
- Containers will always be stored in such a manner that the labels will be facing forward and are able to be seen when an individual enters the area.
- Lids/tops and caps will be kept closed at all times unless waste is being added to the container.
- SAA/UWCA locations should be free of litter and not have materials stored on top of containers.
- The locations of the SAA/UWCA site should be at or near the point of waste generation,

The SAA/UWCA site must be under the control of the SAA/UWCA site manager to avoid mixing and contamination of waste streams.

SAA/UWCA sites that contain multiple waste streams must have ample containment to avoid the cross contamination of waste streams in the event of spills.

Universal Waste (UWCA) sites must be marked with a “date in use” of the waste placed at the UWCA site. This is the date that you first placed the Universal Waste, “used batteries,” into the UWCA site. The start date cannot exceed more than 1 year, regardless of how much waste is accumulated there.

EMD personnel will work with the SAA site managers to establish the limits on the amount of waste accumulated at each site in order to not exceed the 55-gallon rule for Hazardous Waste SAAs.

The EMD Regulated Waste Information Worksheet found in Appendix C is used to notify EMD of a new waste stream that needs profiling.

All hazardous waste information sheets should be scanned and sent electronically to the Hazardous Waste Program Manager.

Refer any questions concerning SAA/UWCA sites or other related hazardous/universal waste issues to the Environmental Management Division at 502-624-3598/6598/8379.

REUSE PROGRAM

Excess serviceable materials turned into HW/HM will be made available to all customers. Requisition forms are not required to obtain reuse materials. Inventory is not guaranteed and is limited to on hand quantity.

EXCESS MATERIALS

Customers are encouraged to turn-in excess, serviceable materials to HW if they are not needed for current operations. After HW has determined material is suitable for reuse, materials will be made available to other customers.

No paperwork or signature card is required to turn in excess materials but they must meet the following criteria:

- Common use material
- Serviceable/useable material
- In the original container with the original label
- Container must be serviceable; i.e. able to seal, no leaks, not excessively rusty or dented
- ¼ or more of the material remaining
- Not already expired or within 90 days of expiration for materials that cannot have their shelf-life extended.
- HW personnel will make all common use and serviceability determinations.

CONTAINER RETURN

All empty containers/consumed materials with the exception of fire extinguishers, brake shoes, chemlights and batteries (other than vehicle lead acid) that were processed through HMSO must be returned to HW for proper disposal. Tracking labels must be turned in to the HMSO for chemical usage tracking for EPA reporting purposes.

This process is necessary for two reasons:

- It gives “cradle to grave” visibility of hazardous materials stored and used on the installation.
- After label is recorded in the automated database, metal containers are sent to the Recycle Center for sale as scrap.



NAVOSHENVTRACEN COMPATIBILITY CHART



| HMUG GROUP | HCC see note 2 | GROUP NAME | EXAMPLES | INCOMPATIBLE MATERIALS | EXAMPLES | REACTION IF MIXED |
|------------|---------------------------------------|---------------------------------------|--|--|---|---|
| 1 | C1, C2, C4, C5 | ACIDS | Battery Acid Paint Removers De-Rust Spray | FLAMMABLES/ COMBUSTIBLES ALKALIS/BASES/CAUSTICS OXIDIZERS (HMUG Groups 2, 3, 4, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 22) | Degreasers, Carbon Removers, Anti-Fogging Compounds | HEAT Gas Generation |
| 2 | F1 to F7, P1, T6, V3, V4 | ADHESIVES | Epoxies Isocyanates Diethylenetriamine | ALKALIS/BASES/CAUSTICS OXIDIZERS (HMUG Groups 1, 3, 18) | | HEAT FIRE HAZARD |
| 3 | B1, B2 | ALKALIES BASES/ CAUSTICS | Ammonia Sodium Hydroxide Cleaners | ACIDS/OXIDIZERS FLAMMABLES/COMBUSTIBLES (HMUG Groups 1, 2, 6, 8, 9, 10, 11, 14, 17, 18, 19, 20, 22) | Battery acid, Paint Removers, De-Rust Sprays, Paints, Solvents | HEAT Gas Generation VIOLENT REACTION |
| 4 | C1-C4, B1-B3, F2 to F7, T4, T6, V2-V4 | CLEANING COMPOUNDS | Degreasers Carbon Removers Antifogging Compounds | DETERGENTS/SOAPS OXIDIZERS (HMUG Groups 1, 7, 18) | Calcium Hypochlorite, Sodium Nitrite, Hydrogen Peroxide | HEAT FIRE HAZARD |
| 5 | G1 to G9 | COMPRESSED GASES | Acetylene, Propane, Nitrogen, Argon, Helium, Oxygen | HEAT SOURCES Consult paragraph C23 for specific handling and storage guidance (HMUG Groups 8, 9, 10, 11, 12, 15, 18, 19) | | FIRE HAZARD EXPLOSION HAZARD |
| 6 | F2 to F5, T6, V2, V3, V4 | CORROSION PREVENTIVE COMPOUNDS | Corrosion Inhibitors Chemical Conversion Compounds | ACIDS/BASES OXIDIZERS IGNITION SOURCES (HMUG Group 1, 3, 18, 20) | | FIRE HAZARD |
| 7 | B3 | DETERGENTS/ SOAPS | Trisodium Phosphate Scouring Powders Disinfectants | ACID-CONTAINING COMPOUNDS (HMUG Groups 1, 4, 18) | Battery Acid, Paint Removers, De-Rust Sprays | VIOLENT REACTION HEAT |
| 8 | F8, V6, V7 | GREASES | Lithium Grease Silicone Molybdenum | OXIDIZERS ALKALIS/BASES/CAUSTICS (HMUG Groups 3, 5, 18) | | FIRE HAZARD HEAT |
| 9 | T6, V4, V6, V7 | HYDRAULIC FLUIDS | Petroleum-Based Synthetic Fire-Resistant | CORROSIVES, OXIDIZERS (HMUG Groups 1, 3, 5, 18) | | VIOLENT REACTION |
| 10 | F2 to F4, T4, T6, V2-V6 | INSPECTION PENETRANTS | Petroleum-Based Dyes | CORROSIVES, OXIDIZERS (HMUG Groups 1, 3, 5, 18) | Battery Acid Caustic Soda Chlorine laundry bleach Calcium Hypochlorite Hydrogen Peroxide OBA Canisters Paint Removers | EXPLOSION HAZARD |
| 11 | F4, T6, V2, V3, V4, V6 | LUBRICANTS/ OILS | General Purpose, Gear, Turbine, Weapons | | | |
| 12 | F2 to F6, P1, T3, T4, T6, V1-V4 | PAINT MATERIALS | Primers, Enamels, Urethanes, Lacquers, Varnishes, Non-Skid, Thinners | ACIDS, OXIDIZERS (HMUG Groups 1, 5, 18) | | HEAT FIRE HAZARD |
| 13 | C1-C4, B1-B3, D1 | PHOTO CHEMICALS | Developers, Stopbath, Toners, Bleaches, Replenishers | ACIDS HEAVY METALS (HMUG Groups 1, 18, 20) | | HEAT FIRE HAZARD |
| 14 | F4 | POLISH/WAX COMPOUNDS | Buffing Compounds Metal Polishes General Purpose Waxes | CORROSIVES OXIDIZERS (HMUG Groups 1, 3, 18) | | HEAT, FIRE HAZARD VIOLENT REACTION |
| 15 | F2 to F6, T3, T4, T6, V1-V4 | SOLVENTS | Methyl Ethyl Ketone (MEK) Toluene, Xylene Acetone | CORROSIVES OXIDIZERS BATTERIES (HMUG Groups 1, 5, 18, 21, 22) | Battery Acid Calcium Hypochlorite Sodium Nitrite Sodium Hydroxide | HEAT FIRE HAZARD |
| 16 | T6, T7, Z1 | THERMAL INSULATION | Asbestos Fiberglass Glass Wool | MATERIAL IS NOT REACTIVE KEEP DRY | | NO REACTION |
| 17 | C1-C4, B1-B3, D1 | WATER TEST/ TREATMENT CHEMICALS | Nitric Acid Mercuric Nitrate Caustic Soda | CORROSIVES OXIDIZERS HEAVY METALS (HMUG Groups 1, 3, 18, 20, 21) | | HEAT VIOLENT REACTION |
| 18 | D1 to D4 | OXIDIZERS | Calcium Hypochlorite Laundry Bleach OBA Canisters | PETROLEUM BASED MATERIALS FUELS, SOLVENTS, CORROSIVES, HEAT (HMUG Groups 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22) | | FIRE HAZARD VIOLENT REACTION EXPLOSION HAZARD TOXIC GAS GENERATION |
| 19 | F1 to F4, V4, V5, V6 | FUELS | JP4, JP5 Gasoline Diesel Fuel | CORROSIVES OXIDIZERS (HMUG Groups 1, 3, 5, 18) | Battery Acid Calcium Hypochlorite Sodium Nitrite Sodium Hydroxide | FIRE HAZARD TOXIC GAS GENERATION |
| 20 | T6, V7, Z2 | HEAVY METALS | Mercury Lead Beryllium | CORROSIVES OXIDIZERS WATER TREATMENT/PHOTO CHEMICALS (HMUG Groups 1, 3, 6, 13, 17, 18, 21) | | VIOLENT REACTION GENERATION OF TOXIC AND FLAMMABLE GAS |
| 21 | Z4 to Z7 | BATTERIES | Lead-Acid Dry-Cell Alkaline | SOLVENTS HEAVY METALS OXIDIZERS (HMUG Groups 15, 17, 18, 20) | Xylene Toluene Alcohol | HEAT VIOLENT REACTION TOXIC GAS GENERATION |
| 22 | T2 to T6 | PESTICIDES | Insecticides, Fungicides Rodenticides Fumigants | CORROSIVES OXIDIZERS (HMUG Groups 1, 3, 15, 18) | | TOXIC GAS GENERATION |

1. This chart is to be used as a **GUIDE ONLY!**
2. Compare the desired HMUG Group/HCC in the left column with the Incompatible Material(s) of that Group in the center column on the same row. Mixing of the HMUG Group/HCC with the Incompatible Material(s) may result in the reaction(s) listed in the right column.
3. Not all applicable HCCs are listed; only the most frequently encountered HCCs (except N1) are listed.

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APPENDIX F

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

AR 200-1

The purpose of this section is to provide guidance for assessing the environmental effects of Army actions at Fort Knox and developing the necessary documentation in accordance with 32 CFR Part 651, Environmental Analysis of Army Actions; Final Rule. Dated March 29, 2002 and the National Environmental Policy Act (NEPA) of 1969 as amended. NEPA requires federal agencies to evaluate the environmental impacts of their actions and integrate such evaluations into their decision-making processes. During the preparation of the NEPA document, agencies are required to integrate public participation, responding to comments from the public, interested or affected parties and government agencies on the effects of proposed actions that have a significant impact on the environment.

APPLICABILITY

NEPA applies to all units, organizations and staff agencies assigned to Fort Knox as well as units visiting the installation for annual or special training events.

ENVIRONMENTAL REVIEW CATEGORIES

The Army has five broad categories into which a proposed action may fall for environmental review. Those categories are: Exemption by Law, Emergencies, Record of Environmental Consideration/Categorical Exclusions; Environmental Assessments (EA) and Environmental Impact Statements (EIS). Fort Knox commonly uses: Categorical Exclusions (CX), Environmental Assessments and the Environmental Impact Statement. Under the provisions of NEPA, environmental assessments and environmental impact statements require public involvement and review/comment periods.

TYPES OF ACTIONS/PROJECTS REQUIRING EVALUATION

Actions which normally require an Environmental Impact Statement are as follows:

- Significant expansion of a military facility or installation,
- Construction of facilities that have significant effect on wetlands, coastal zones, or other areas of critical environmental concern,
- Land acquisition, leasing or other actions that lead to significant changes in land use,
- Realignment or stationing of a brigade or larger table of organization equipment,
- Training exercises conducted outside the boundaries of an existing military reservation, and
- Major changes in the mission or facilities either affecting sensitive resources or causing significant environmental impact.

The following actions normally require an Environmental Assessment (EA):

- Special field training exercises or test activities,
- Construction that exceeds five contiguous acres of previously undisturbed land,
- Changes to established installation land use that generate impacts to the environment,
- Alteration projects affecting historically significant structures,
- Actions that could cause significant increase in soil erosion or affect prime farmland, wetlands, floodplains, etc.,
- Actions proposed during the life cycle of a weapon system,
- Actions that take place in, or adversely affect, important wildlife habitats, and
- Activities that affects a federally listed threatened or endangered plant or animal species.

Categorical Exclusions (CX) are categories of actions with no individual or cumulative effect on the human or natural environment and for which neither an EA nor an EIS is required. Screening criteria determines whether an action falls into the listed CXs. The CXs are listed in 32 CFR Part 651, Environmental Analysis of Army Actions; Final Rule. Dated March 29, 2002.

Samples of actions covered under the CXs are:

- Administration/operation activities,
- Construction and demolition, cultural and natural resource management activities,
- Procurement and contract activities, and
- Real estate activities.

PROCEDURES

This paragraph describes the roles and responsibilities of the installation players, Army reviewers and Commanders as described in 32 CFR.

Proponent/Decision Maker: The proponent is the person, unit, organization or staff agency responsible for planning and implementing the proposed action to carry out their prescribed Army mission. The proponent is responsible for:

- Consulting with the DPW EMD NEPA Coordinator as soon as an action is proposed to alert the environmental staff of the requirement;
- Developing/funding the NEPA document and funding any studies (i.e. air quality, water quality, socio-economic, noise, etc.) that may be required. Development of the NEPA document should begin as soon as the potential action is identified;
- Clearly defining the proposed action and all reasonable alternatives (including the “no action” alternative) and providing the information to the NEPA Coordinator;
- Preparation of the NEPA document as early as possible in the planning process and in coordination with the DPW NEPA Team. The appropriate command levels must sign the NEPA document and all required public review periods must be completed before the action can begin;
- Implementing the decision and mitigation measures;
- Mitigation (reduction) must be listed as line items in the proponent’s budget;
- NEPA documentation will be coordinated with Range Control, Integrated Training Area Management (ITAM) when any training lands are involved.

DPW NEPA Team: The NEPA team consists of the Installation Environmental Coordinator, Project Proponent, Attorney Advisor, NEPA Coordinator, Interdisciplinary Environmental Management Division personnel from each of the following disciplines: air quality, noise, hazardous materials, stormwater management, erosion control, forestry, fish and wildlife management, natural and cultural resource, environmental engineer and others as needed (Safety Office, Public Affairs, etc.).

- The DPW EMD NEPA Coordinator, 502-624-5174, will serve as the point of contact for the coordination of all NEPA documents.
- The NEPA Coordinator and NEPA Team will work with the proponent and the Office of Staff Judge Advocate to determine the appropriate level of documentation (Record of Decision/Categorical Exclusion, Environmental Assessment or Environmental Impact Statement) that is legally sufficient.
- The NEPA Team will assist the proponent with the development of the appropriate NEPA document by reviewing the proposed action and providing recommendations.
- The NEPA Coordinator will staff training related actions through appropriate staff agencies.
- Subject matter experts (SMEs) on the NEPA Team will coordinate with federal, state and local agencies and the general public throughout the development of the document to ensure compliance with environmental laws.

The NEPA Coordinator will staff the final document through the Office of the Staff Judge Advocate, Environmental Coordinator and the command channels and staff elements as appropriate for the level of the document.

APPENDIX G

NATURAL RESOURCES

AR 200-1

The purpose of this section is to provide information about the conservation and management of the installation's natural resources (land, forest, wildlife, water) through the coordinated efforts of the DPW Environmental Management Division, Directorate of Plans, Training, Mobilization and Security (DPTMS), and the training community.

PROTECTION OF STREAMS AND WATERWAYS

AR 200-1 and the Clean Water Act mandate the installation to control non-point source pollution of streams.



Soil erosion contributes to the buildup of sediment in drainage channels, clogs drainage ways and results in poor water quality. These are violations of the Clean Water Act and Kentucky Administrative Regulation (KAR) 401, Water Quality, and are punishable by fines up to \$25,000 per day for negligence, or by imprisonment of not more than 1 year, or both. Fines for knowingly violating the laws are punishable by fines up to \$50,000 per day, or by imprisonment of not more than 3 years or both.

Crossing streambeds and traveling along the stream bank with heavy vehicles contribute to the loss of the installation's training lands by soil erosion. Heavy vehicle traffic destroys vegetation and loosens the bank materials. Gully and stream bank erosion accelerates when runoff water funnels down the rutted banks.

To reduce the sedimentation of Otter Creek, three permanent concrete water crossings have been constructed in Training Areas 9 and 10. These structures are the only authorized crossings on Otter Creek. A vegetated buffer of at least 70 feet must be maintained along all creeks and natural waterways to reduce sedimentation entering the surface waters.

To sustain the training lands and protect the installation's water resources, the following Best Management Practices (BMPs) must be followed:

- Cross-streams only at designated crossing site,
- Washing vehicles in a stream or driving vehicles along a stream bed is prohibited,
- Do not use dry streambeds and natural waterways as travel routes, and
- Field servicing of vehicles should be conducted only in approved locations which are away from lakes, streams or rivers.

PRESCRIBED BURNS

Prescribed burning is performed by trained natural resource professionals as a tool to manipulate existing stands of trees and growth of woody vegetation to improve both forestry and wildlife habitats. Also by reducing the accumulation of dead vegetation, prescribed burning is used to reduce the high volume of fuels which contribute to uncontrollable wildfires.

Trained personnel in a controlled environment conduct prescribed burns. Temperature, weather, wind speed and direction, humidity and fuel moisture are used to determine the safety of burning a particular area at a given time. Burns are conducted at different times of the year depending on the desired outcome. Fire breaks are constructed around each burn unit to reduce the potential of fire jumping the fire line.

FIREBREAKS

Firebreaks and fire access lanes are located on the installation to provide access for control of wildfires and to act as a barrier to keep installation wildfires from escaping and burning private lands. Firebreaks are clearly marked with signs and are OFF-LIMITS.

FIREWOOD

A “cut your own” firewood lot is located off Frazier Rd. Personnel desiring to cut firewood for personal use must obtain a firewood permit that must be purchased through the iSportsman website (<https://ftknox.isportsman.net>) for 10\$ per day. **Dead and downed trees only - no cutting of standing trees.**

Military units requesting firewood for fire barrels should contact the Forestry Office at Bldg. 9297. The Installation Forester will determine whether to allow cutting of downed trees only near the bivouac area, or issue a free permit to get wood from the “cut your own” lot. Soldiers using chainsaws to cut firewood for unit use must be trained on safe chainsaw operation. Training can be scheduled with the Forestry Office.

All wood, standing or down, is considered property of the US government and removal without a permit from the Natural Resources Branch, Forestry Office is not authorized. For more information on fire wood, contact the Hunt Control Office at 502-624-7368 or visit the Ft Knox iSportsman Page at <https://ftknox.isportsman.net>.

FORESTRY

The Natural Resources Branch is responsible for overseeing the vast and diversified forest ecosystem and ensuring the forest health is monitored and maintained for long-term training area enhancement. This includes the urban forest within the cantonment area. Military units training within Fort Knox forests are required to minimize their impact on the forest so other units can benefit from its use in the future. Nails, spikes, screws or other devices are not to be driven into trees.

Remove all wire you may have wrapped around trees prior to vacating training areas. The cutting of standing trees, live or dead, is not authorized.

Units requiring fuel wood for fire barrels should refer to the preceding Section on “Firewood” for contact information on obtaining fuel wood. No open burning is permitted outside of fire barrels. All trees, plants, shrubs, nuts, etc., located within the confines of the installation boundary are the property of the US government and no digging or removal is authorized without a permit. This includes residential units. Units or residences having trees or shrubs in need of work should contact the DPW Demand Maintenance Order Section. See Appendix M for Demand Maintenance Order instructions.

No tree houses are allowed to be built in any trees. No harvesting of wild ginseng or yellow root is permitted.

WILDLIFE FOOD PLOTS

Throughout the installation 1/4- to 5-acre plots have been established to provide food for wildlife. These areas are generally plowed, fertilized, and/or planted on an as needed basis. Areas may be planted in clover, wheat, millet, sunflowers or other vegetation to provide food for wildlife. Species that benefit from food plots include rabbit, deer, quail, turkeys, dove and non-game species. Trainers should make every effort to avoid these food plots.

POLINATOR PLOTS

The Natural Resources Branch manages approximately 250 acres of native grasses and forbs in and around the cantonment area for pollinators and other species of wildlife. They provide quality escape, bedding, and nesting cover for many species of wildlife and nectar producing plants for pollinators.

ENDANGERED SPECIES MANAGEMENT



The installation has two federally-listed endangered species (gray bat and Indiana bat), one federally-threatened species (northern long-eared bat), and two species of management concern (Henslow’s sparrow and cerulean warbler). To comply with the Endangered Species Act, the installation must protect these species and their habitats. Additionally, AR 200-1 requires installations to ensure that actions are not taken to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species.

Fort Knox has an Endangered Species Management Plan (ESMP) that was developed by the U.S. Fish and Wildlife Service to protect and manage these species. The ESMP requires the installation to establish vegetated buffers approximately 70-feet wide around sinkholes and waterways. Permanent concrete crossings have been constructed at three locations along Otter Creek.

In order to comply with the ESMP, no cutting of standing trees (dead or alive) is authorized on Fort Knox without approval from Environmental Management Division.

LAKE MANAGEMENT AND FISHING PROGRAM



There are six lakes on the installation that are managed by the Natural Resources Branch. Personnel desiring to fish in the installation's lakes must obtain a state fishing license and a Fort Knox Fishing Permit prior to fishing. Additional information is provided in Fort Knox Fishing Guidelines, by calling Hunt Control at 502-624-7311, or on the iSportsman website, <https://ftknox.isportsman.net>.

Throughout the summer trout are released along Otter Creek. Fishing for trout in Otter Creek requires a state fishing license, trout stamp, and Fort Knox Fishing Permit. A delayed harvest trout program has also been placed on Otter Creek. All trout caught in the delayed harvest area will be immediately released back into the water during the time period of 1 October – 31 March. Anglers shall use artificial lures only during this period. Additional information pertaining to the fishing or the trout program can be obtained at the Hunt Control Office, BLDG 9297, or at the Fort Knox iSportsman page at the link above.



HUNTING PROGRAM



The Natural Resources Branch Hunt Control office, conducts the installation's hunting program. The Hunt Control office coordinates with DPTMS Range Branch to open areas for the purpose of hunting deer and turkey as well as dove, rabbit, quail and other small game.

Recreationists use the iSportsman website (<http://ftknox.isportsman.net>) to reserve, check-in/out of hunting areas and record their game harvest.



PESTICIDE & HERBICIDE MANAGEMENT

The pest management contractor is responsible for the application and management of insect and rodent pests that occur on Fort Knox. Integrated Pest Management is highly implemented on Fort Knox assuring that the least amount of pesticide is used to control the pest problem with the least effect to the environment.

The installation has a policy on the control of pest animals. Pest Management services can be obtained by submitting a Demand Maintenance Order. See Appendix M for Demand Maintenance Order instructions.

The Installation Pest Management Coordinator in the Natural Resources Branch is responsible for ensuring that the installation is meeting its goals of reduced pesticide use. Pesticides include insecticides, herbicides, fungicides, etc. The Installation Pest Management Coordinator also has the oversight of herbicide application and monitoring for the installation.

APPENDIX H

POLLUTION PREVENTION (P2) & GREEN PROCUREMENT PROGRAM (GPP)

Executive Order 13834 and Pollution Prevention Act of 1990

The purpose of the Pollution Prevention Section is to provide information which is necessary to accomplish the goal of reducing the harmful effects of chemicals, solvents and other materials on the environment. The enactment of the Pollution Prevention Act in 1990 along with Executive Orders 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements (3 August 1993) and 12873, Federal Acquisition Recycling and Waste Prevention (20 October 1993) set the foundation for compliance in pollution prevention for all federal facilities and agencies. Since then, Executive Order 13834 has been issued which strengthens the previous executive orders.

WHAT IS POLLUTION PREVENTION?

As defined under the Pollution Prevention Act, pollution prevention means "source reduction" and other practices that reduce or eliminate the creation of pollutants through:

- Increased efficiency in the use of raw materials, energy, water, or other resources.
- Protection of natural resources by conservation that includes recycling, reclaiming and treatment.
- Reducing, Reusing and Recycling.

WHY IS POLLUTION PREVENTION IMPORTANT?

- Saves dollars, results in cost reductions, improves productivity.
- It is a compliance issue, not just discretionary! It applies to all of us.
- Minimizes legal liabilities and health risks.
- Establishes the Army as a good steward of the environment - demonstrates Army leadership.
- It is the "right thing to do" and the public expects it.
- Allows Army to perform its "METL" (Mission Essential Task List).

POLLUTION PREVENTION GOALS

The main goals of pollution prevention which can be accomplished at the unit and above level are listed below.

- Reduce/eliminate/substitute hazardous materials usage and hazardous waste producing operations and processes.
- Repair/reuse materials and products.
- Executive Orders (EO) 13834, and Green Procurement requires all agencies to integrate the four existing disparate purchasing requirements into an integrated federal purchasing effort that applies to all types of acquisitions of goods and services.
- Federal purchasing of energy efficient, recycled content, bio-based, and environmentally preferable products will increase as a result. Also, the EO communicates the requirement that agencies purchase office paper containing 30 percent post-consumer fiber.
- Recycle

EXAMPLES OF POLLUTION PREVENTION BY REDUCTION/REUSE

- Reduce paper usage: maximize the use of e-mail; copy on both sides of paper; and use routing slips.
- Purchase materials/products in sizes that reflect the usage. Activities are to store no more than a 14 day material requirement. Refer to the HMSO guidelines.
- Purchase items that can be used more than once such as ceramic coffee cups and glasses instead of Styrofoam containers.
- Reuse material, such as absorbents when possible.
- Repair equipment instead of discarding.
- Utilize the HMSO to turn in excess products for others to use.
- Comply with Appendix I.

GREEN PROCUREMENT PROGRAM

Fort Knox has a Green Procurement Policy and Program Manual – Memo. These documents are available on the Fort Knox Intranet.

Green Procurement has a sustainability payoff in:

- sustaining the future,
- protecting the environment, and
- reducing pollution.

Green Procurement includes increasing purchases of green products and services consistent with the demands of mission, efficiency, and cost-effectiveness, with continual improvement toward federally established procurement goals.

The Green Procurement program requires a reduction in solid waste, consumption of energy and natural resources, and expanded markets for green products and services.

Green products must be used when available. If a green product is inadequate or unavailable then a letter of justification, stating the reason for the deviation, must be maintained on file and provided when requested. When you buy green products you must keep purchase records in your files.

Green Procurement of Sustainable Acquisition involves the Federal Government's requirements to purchase products with environmental and energy saving attributes. Green products are made from recycled materials and approved by EPA and have the following attributes:

- creates markets for recycled materials & agricultural products,
- conserves resources & saves energy,
- saves landfill space & reduces pollution, and
- supports sustainability.

Examples of “Green” products:

These are the Green Procurement Categories

- Energy efficient products and bio-based products,
- Environmentally preferable products (EPP),
- Water efficiency products and non-ozone depleting substances,
- Recycled content product which means replacing virgin materials with recycled materials, including post-consumer products,
- Alternative fuel vehicles & alternative fuels, and
- Low or non-toxic and/or non-hazardous chemicals.

Examples of designated recycled products:

- Structural fiberboard,
- Plastic lumber, landscaping timbers and post
- Printing and writing papers
- Playground equipment
- Retread tires, and
- Sorbents.

Environmentally Preferable Products (EPP)

EPP Products and Services have a lesser reduced effect on human health and the environment when compared with competing products or services.

- Examples of EPP
 - ✓ Cleaning products that are non-toxic, non- volatile, and biodegradable,
 - ✓ Paint with no or low volatile organic compounds, and
 - ✓ 100 percent post-consumer paper that is not chemically de-inked and is processed chlorine free.
- Paper and paper products
- Non-paper office products,
- Plastic lumber & carpet,
- Recycled latex paint
- Pallets,
- Vehicular products,
- Landscaping materials, and
- Park & recreation products.

Water Efficient Products

Federal agencies are required to purchase water efficient products. EPA manages the Water Sense Program which identifies and promotes efficient products that meet criteria for water efficiency and performance.

- Examples of Water Efficient Products
 - ✓ High efficiency toilets & urinals,
 - ✓ Sink faucets & showerheads, and
 - ✓ Landscape irrigation systems.

Non-Ozone Depleting Substances

EPA created the Significant New Alternative Policy (SNAP) Program which reviews and approves use of alternatives which do not present a substantially greater risk to public health and the environment than the substances they replace or than other available substances. SNAP provides lists of acceptable and unacceptable substitutes in the following sectors:

- ✓ Fire suppressants
- ✓ Refrigeration & air conditioning
- ✓ Aerosol solvents and propellants,
- ✓ Adhesives & coatings.

Alternative Fuel Vehicles and Alternative Fuels

Title III of the Energy Policy Act of 1992 defines alternative fuel vehicles and alternative fuels. This program was developed to help reduce petroleum consumption. Alternative fuel vehicles (AFV) are defined as any dedicated, flexible-fuel, or dual fuel vehicle designed to operate on at least one alternative fuel. The widespread use of alternative fuels is critical to reducing dependence on foreign oil, and improving air quality.

- Examples of Alternative Fuels:
 - ✓ Electricity
 - ✓ Hydrogen and Compressed Natural Gas (CNG)
 - ✓ Bio-diesel and Ethanol (E85)
 - ✓ Methanol
 - ✓ Propane (liquefied petroleum gas)

Non-Toxic and Less Toxic

Executive Order 13834 mandates that 95% of all new contract actions require products that are non-toxic or less toxic than traditional alternatives, where products and services meet performance requirements.

- Examples of Less Toxic Product Categories:
 - ✓ Paints
 - ✓ Cleaners
 - ✓ Herbicides
 - ✓ Pest Controls

Green Procurement Resources

ABILITY ONE is a federal procurement program that employs handicapped persons. UNICOR is a federal procurement program, which employs members of the Federal Prison Industries.

Green Procurement Training

Green Procurement Training is available at the following EPA website.
http://www.energyworkshops.org/Green_Purchasing_Training/

APPENDIX I
RECYCLING CENTER
Qualified Recycling Program (QRP)
401 KAR 48 AND 49, and Fort Knox Regulation 200-2

The QRP is a critical component of the installation's Integrated Solid Waste Management Program. The mission of the program is to minimize the amount of waste discarded in the landfill; save natural resources; increase the percentage of waste recycled; support the Army's Green Procurement policies; expand the education program with a focus on public awareness in support of recycling and comply with Army regulations.

Currently, the Fort Knox community must continue to follow IMCOM and Department of Defense guidance for diversion of solid waste, to include construction and demolition debris, from the landfill. The goal is to increase diversion of compostable and organic materials from the waste stream.

References and Fort Knox Regulations:

- Executive Order 13834, "Federal Leadership in Environment, Energy and Economic Performance", May 2018
- Department of Defense-Guidance for Executive Order 13834: Efficient Federal Operations - March 2016
- 10 USC Section 2577 – disposal of recyclable materials
- DOD Directive 4715.1E, 17 March 2005, Environmental, Safety, and Occupational Health (ESOH)
- DODI 4715.23, October 23, 2016, Integrated Recycling and Solid Waste Management
- Fort Knox Regulation 200-2

PURPOSE: The purpose of the QRP is to provide installation-wide recycle services, to help implement mandatory recycle regulation and to educate the Fort Knox Community about who must recycle, how to recycle, where to recycle and what is recycled.

SCOPE: This policy applies to all service members, Fort Knox residents, civilian employees, private entities, contractors, and partners assigned to, visiting and/or conducting any form of business or recreational activity on Fort Knox. This policy also includes all mobilization and demobilization activities as well. This policy is effective upon signature and will remain in effect until superseded or rescinded. The Fort Knox Qualified Recycling Program, Environmental Management Division, Directorate of Public Works is the lead organization for the Fort Knox recycling program. Point of contact for this policy is the Chief, Qualified Recycle Branch, Environmental Management Division at 502-624-5673 or the Chief, Environmental Management Division at 502-624-3692.

Participation in the Fort Knox Recycling Program is a requirement, not an option. Everyone who lives, serves or works on Fort Knox is responsible for recycling all solid waste that qualifies as recyclable. Waste minimization and pollution prevention are fundamental components of Fort Knox's overall environmental policy. Recycling materials, which would otherwise be disposed of as

waste, saves the installation money, and saves the environment. REMEMBER: REDUCE, REUSE, AND RECYCLE!

QRP OPERATIONS

The Fort Knox Recycle Center is located at Building 2962, Frazier Road. There is an additional recycling point for the Fort Knox Community in the Post Exchange parking lot near the Commissary. It is open 24 hours/day, 7 days/week for cardboard, aluminum cans and paper products.

RECYCLABLE MATERIALS

| Materials Recycled/Reused | Method to Recycle/Reuse | Areas and Facilities Serviced |
|---|---|--|
| PAPER PRODUCTS | | |
| <u>High-Grade office paper</u> Computer paper, copy paper (no carbon), notebook paper, legal pad paper, envelopes and manila folders. | For office buildings with FOUO bins, place high-grade office paper in bins. For buildings without FOUO bins but recycle bins located outside, Bag High-Grade Paper separately from mixed paper and all other recyclables in a clear bag, tie and place in the nearest blue paper recycle dumpster. Please remove all plastics, mixed paper recyclables, carbon sheets, large metal, document protectors and laminated material. (Recycle) | Non-housing cantonment pickup services and also installation wide customer drop off NOTE: Free shredding services are available at the Fort Knox Recycle Center. |
| <u>Mixed Paper</u> Newspaper & advertisements, Magazines, phone books and paper bags. | Bag Mixed Paper separately from mixed paper and all other recyclables in a clear bag; tie and place in the nearest paper recycle dumpster. Please remove all plastics (to include document protectors), carbon sheets, large metal, and laminated material. (Recycle) | Non-housing cantonment pickup services and also installation wide customer drop off |

| Materials Recycled/Reused | Method to Recycle/Reuse | Areas and Facilities Serviced |
|--|---|--|
| DRINK AND FOOD CONTAINERS | Bring to Fort Knox Recycle Center; Free of debris (Recycle) | Installation wide Customer drop off |
| MIXED RECYCLABLES Aluminum foil and trays, lead free glass bottles and jars, tin, steel, and aluminum cans | | |
| PRINTER CARTRIDGES | Bring to Fort Knox Recycle Center (in original boxes; may be placed next to FOUO bin) (Recycle) | Installation wide customer drop off |
| Ink jet cartridges (in original boxes) Toner cartridges (in original boxes) | | |
| OTHER MATERIALS | Do not mix with other fluids; Recycle Center (recycle) | Unit/activities turn-in by appointment |
| Off-spec Fuels | | |
| Cooking oils and greases | Bring to Fort Knox Recycle Center (recycle); bins provided for larger producers on-site | Vendor pickup large producers; Small amounts turn-in to Recycle Center (recycle) |
| Government lead-acid battery (Certain NSN batteries go to HMCC only) | Bring to Recycle Center with terminal taped (recycle) | Installation wide; Customer Drop off |
| Old corrugated cardboard | Break down all cardboard. If there is paper packing material, stuff the material into one or more un-flattened boxes and place in the cardboard dumpster. | Installation-wide collection or drop off |
| Brake pads/shoes | Brake pads/shoes that have been wetted and wrapped in plastic can be placed in the scrap metal collection bin, or taken directly to the Recycle Center. | Unit/ Activities turn-in; Customer drop off |
| Safes (If asbestos free) | Must have certificate of abatement. | Installation-wide customer drop off |
| Scrap metal (includes steel, copper, aluminum, wire and brass) | Roll-off boxes are provided for collection of large mounts. Small amounts are brought to the Recycle Center by the customer | Installation-wide collection for large amounts with special arrangements. Small amounts can be dropped off at the center |
| Small arms brass/ Ammunition(only from ASP) | Bring to Recycle Center (recycle) | Collected at the Ammo supply point (ASP) |

| Materials Recycled/Reused | Method to Recycle/Reuse | Areas and Facilities Serviced |
|--|---|--|
| USED ANTIFREEZE | | |
| Used antifreeze. | Do not mix with other fluids; Bring to Recycle Center (recycle) | Unit/activities will drop off amounts less than 55 gal to the Recycle Center. Unit/activities will contact QRP for an appointment for amounts over 55 gal. |
| USED OIL | | |
| Used oil. | Do not mix with other fluids; Bring to Fort Knox Recycle Center(recycle) | Unit/activities will drop off amounts less than 55 gal to the Recycle Center. Unit/activities will contact QRP for an appointment for amounts over 55 gal. |
| Used Metal Oil Filters (Must be drained 24 hrs. and crushed) | Customer collection points (Must be drained 24 hrs. and crushed) then bring to Fort Knox Recycle Center (recycle) | Unit/activities turn-in small amounts to the; Customer drop off |
| Household Appliances (Refrigerant removed and tagged) | Bring to Recycle Center (recycle) | Installation-wide drop-off |
| Wood pallets (untreated) | Recycle Center (reuse or recycle) | Regular customers routinely pickup; Customers who amass 10 or more may call for pick-up; all others may drop-off |
| Plastics | NO LONGER ACCEPTED AS OF 1 JUNE 2020 | Not accepted from on or off post patrons |

KNOX HILLS

Knox Hills shall continue the procedure for the issue and replacement of household recycle containers to all occupants of family quarters on Fort Knox. Funding for the purchase of containers is the responsibility of Knox Hills. Knox Hills' residents can also take recyclable material to the PX satellite location or bring recyclables directly to the Recycle Center.

PUBLIC AFFAIRS OFFICE (PAO)

PAO will provide program assistance by publishing advertisement and articles in all forms of media. Coordination will be made with DPW.

ALL ORGANIZATIONS, UNITS AND ACTIVITIES ON FORT KNOX

Each Commander will be responsible for ensuring their waste producing activities are evaluated to determine which are and are not essential. Waste audit assistance is available through the QRP. Based upon this evaluation, commanders will implement waste stream reduction procedures. Examples of waste stream reductions are:

- Ensure proper supply discipline practices are followed; use routing slips instead of multiple copies; when possible, make copies on both sides of paper; where appropriate and use electronic filing.
- Use reusable products such as ceramic coffee cups and glasses; maintain and repair durable products; reuse containers and other items.

Each commander will appoint a Recycle Coordinator (Environmental Officer) for his or her unit. The Recycle Center will be provided with a memorandum appointing the unit Recycle Coordinator, giving name, rank, office symbol, e-mail address and telephone number. With the aid of the QRP, these coordinators will implement a mandatory recycle program within their unit and will appoint building monitors or points of contact (POC) for each building. The Recycle Center will issue exterior recycling containers upon request. Cleanliness of recycle containers and surrounding areas are the responsibility of the building POC. When more than one unit occupies a building, the responsibility for recycle monitoring will fall to the unit hand receipt holder for the building. All appointed Environmental Officers (EOs) for units, directorates, private entities, partners and contractors on Fort Knox will adhere to this section of the handbook.

COMPLIANCE

EMD Personnel will perform compliance inspection by spot checking dumpsters. Compliance will also be part of Inspector General (IG) and EMD Inspections.

SEPARATION/TURN-IN PROCEDURES FOR QRP

OFFICES

All office paper, to include junk mail, aluminum cans, toner, and ink jet cartridges, after separation, should be recycled through the Fort Knox Recycle Center. Proper separation and bagging procedures are as follows: All office paper products in one clear bag; newspaper, inserts telephone books, magazines and mixed paper in one clear bag; rinsed glass, and cans in one clear bag; toner cartridges and ink jets in original boxes in one clear bag. NOTE: Ink and toner cartridges should be in original package, bagged and placed in designated containers provided at the Recycle Center or placed next to FOUO bins. Periodic pickup may be coordinated with the Recycle Center.

SUPPLY FUNCTIONS AND MAINTENANCE FACILITIES

Old Corrugated Cardboard (OCC)

Clean, brown paper bags and most packing paper (not newspaper) may be mixed with OCC. Plastic or coated OCC or OCC that is contaminated with food particles or petroleum products is not recyclable and should not be mixed with other OCC. Outdoor containers are available from the QRP for the collection and storage of recyclable OCC. All OCC shall be broken down to conserve space in collection containers. This reduces fuel costs of heavy trucks and emission pollution into the Fort Knox environment. Periodic or special pickup may be coordinated by the building recycle coordinator with the QRP.

Wooden Pallets (Untreated)

Standard wooden pallet are recyclable. The organization POC may coordinate periodic pickup with the QRP for 10 or more pallets. Pallets, so broken as to be unusable as a pallet, should also be taken directly to the landfill. Some older pallets (pre-1980) may have been treated with PCB and other harmful chemicals and should be handled with caution. Units may draw pallets from the QRP as needed.

FOOD PREPARATION FACILITIES

Old Corrugated Cardboard (OCC)

Clean, brown paper bags and most packing paper (not newspaper) may be mixed with OCC. Plastic or wax coated OCC or OCC that is contaminated with food particles is NOT recyclable and should NOT be mixed with other OCC. Outdoor, metal containers are available from the QRP. All OCC shall be broken down to conserve space in collection containers.

Metal & Aluminum Cans/Glass and Paper

These recyclables should be separated from all other recyclables. All items should be free of liquids and waste and placed in the proper recycle dumpster.

GOVERNMENT QUARTERS OCCUPANTS

Residents of government quarters should contact their local community office for recycling guidance and requirements. For further questions concerning recycling on Fort Knox, the following numbers are available:

Historic Community: 502-799-6560

Chestnut Glen Community: 502-799-6580

UPH Community: 502-799-6582

Dietz Community: 502-799-6570

Van Voorhis Community (Oak Park): 502-799-6590

Executive Homes: 502-799-6501

Family housing residents are encouraged to bring their recyclable cardboard and paper to the Recycling Drop-Off Points located in the parking lot near the Post Exchange/Commissary at the corner of Maxwell and Binter Street (next to the Commissary). The Recycling Drop-Off Point is open 24 hours a day, 7 days a week. The QRP site, located in building 2962 on Frazier near Brandenburg gate, has additional recycling bins, to include glass, cardboard, paper, cans (aluminum/tin). The QRP is open 0730-1530 Monday-Friday, excluding federal holidays.

Move-In Cardboard

When cardboard is generated from moving into quarters, residents have the option to flatten and deliver this material to the Recycle Center or take it to the Recycling Drop-Off Points located in the parking lot near the Post Exchange/Commissary at the corner of Maxwell and Binter Street (behind the Commissary) or in the east parking lot of HRC (BLDG 6434). The Recycling Drop-Off Point is open 24 hours a day, 7 days a week.

ITEMS TURNED-IN TO DEFENSE REUTILIZATION AND MARKETING SERVICES (DRMS)

Recyclable material that may not be recycled through the QRP

If the material is not required for disposal through higher priority programs such as re-utilization, transfer, donation, foreign military sales, precious metals recovery, strategic and critical materials stockpile, used military vehicles, military vehicle or machine parts and electrical components, it should be recycled through the Recycle Center. Also, discarded materials which must undergo demilitarization or mutilation before sale, strategic list items and munitions list items (Small arms brass and mixed metals gleaned from firing range cleanup) must be turned-in to Military Ammunitions Supply Area (MASA) not recyclable through the QRP.

All other types of scrap material may be turned into QRP.

APPENDIX J

SPILL PREVENTION AND EMERGENCY RESPONSE PROCEDURES/FORT KNOX SPCCP *(Emergency Preparedness and Response)* **40 CFR 112, KY Division of Water Regulations, AR 200-1, EPCRA and OSHA 29 CFR 1910**

The purpose of this Section is to provide guidance for the safe and effective response to spills or releases. All spills or releases must be reported on EMD form, Spill Incident Report found in Appendix C. Spills can be hazardous and non-hazardous. You must be properly trained to handle a hazardous spill.

SPILL PREVENTION

The first course of action in spill prevention is preventive maintenance. The EO must ensure that:

- All containers, 55 gallons or larger are in secondary containment (covered if outside) or that containers are double walled;
- Containers are in good condition (not rusting or damaged);
- Adequate spill supplies are in the immediate area where a spill might occur and available
-DO NOT LOCK SPILL MATERIALS UP
- Emergency Spill Response Procedures and phone numbers are prominently posted (see poster below);
- Emergency phone numbers are posted close to telephones;
- Inspections are performed in a timely manner;
- Spill training is conducted for Unit personnel and available from EMD;
- Post a spill response poster available from EMD.

If a spill occurs, “Have a Plan.” Make a Contingency Plan/Standard Operating Procedure (SOP). Advance planning is the smart, easy way to help reduce the risk of injury to workers and reduce potential damage to the environment. Contractors can obtain a Spill Contingency Plan form by contacting EMD at 502-624-6057/2072.

POST YOUR SPILL CONTINGENCY PLAN/OR EMERGENCY NOTIFICATION PROCEDURE IN A VISIBLE LOCATION

- Post an emergency notification placard on the building door(s). Contractors should post a completed Spill Contingency Plan (See Appendix C, for SCP form) at their job site.
- Make an inventory of all liquids on site and post your inventory for accessibility.
- List the quantity of each liquid at each location.
- Identify “high risk” or “spill prone” areas.
- Record the maximum (worst-case) quantities of liquids which could potentially spill at each location.

- Keep updated Safety Data Sheets (SDS) for all liquids at each location.
- Make sure you are trained on your appropriate SDSs and understand what chemicals you are dealing with in usage and in spills.
- Select the correct type of kit and clean up accessories, based on the type of liquid in each area and the information on the SDS.
- Plan routes for best access to each location, allowing for all determining factors, such as the weather, traffic, and work activities.
- Maintain kits and clean-up accessories to be sure they are fully useable and available.

SPILL TYPE

REMEMBER ALL SPILLS ARE REPORTABLE

Fort Knox categorizes spills into three separate types:

Incidental

An incidental spill is a non-hazardous substance of POL that poses no threat to the safety or health of persons or to the environment. Typically, these are spills inside/outside a building that can be immediately cleaned up and are basically a result of routine housekeeping actions (i.e. the spill of a small amount of motor oil on a maintenance shop floor as a result of an oil change). Any spill that is reportable under environmental regulations will not be classified by Fort Knox EMD as incidental.

Significant – CALL FOR HELP - 911 Range 502-624-2125

A significant spill is one that has the potential to threaten the environment, but no injuries have occurred, has not reached a waterway (but could), does not pose a safety or health hazard (such as fire, explosion, or hazardous material exposure), and can be absorbed, neutralized, or otherwise controlled at the time of release by personnel in the immediate spill area.

Major – CALL FOR HELP – 911 Range 502-624-2125

A major spill is one of such nature as to pose a definite threat to the environment and/or the health or safety of persons in and around the area of release. A major spill would be characterized by any of the following.

- Injuries have occurred
- Any spill into a waterway
- Poses significant safety or health hazards (such as fire, explosion, or hazardous material exposure)
- It cannot be absorbed, neutralized, or otherwise controlled at the time of release by personnel in the immediate release area

SPILL RESPONSE AND REPORTING

Regardless of where a spill or release occurs (motor pool, range, etc.); any unit or individual observing a spill or release of a POL product or hazardous substance shall immediately notify the Facility Manager (FM) or Officer in Charge (OIC) and the EO. If the spill is a significant or

major release, it is to be reported to the Fire Department and EMD immediately. **CALL 911.** Spills must be reported immediately and cleaned up as soon as practical, without risk of injury or significant exposure to personnel. Assess the risk. Determine if the spill is a threat to human health and/or to the environment.

For spills that are **incidental or significant**:

- Notify the appropriate personnel and agencies (FM/OIC, EMD, & Fire Dept.).
- Select the appropriate personal protective equipment.
- Confine the spill.
- Stop the source.
- Evaluate the incident and initiate cleanup.
- Containerize the spilled material and contaminated soil. Decontaminate personnel responding to the spill.
- Complete required reports

For spills that are **major**:

- Notify the appropriate personnel and agencies with the appropriate information (FM/OIC, EMD, & Fire Dept.).
- Evacuate the area if necessary.

For spills that have **entered a waterway** place booms downstream to contain the pollutant or place or construct diversions to prevent the spill from entering a waterway or manhole.

- Wait for emergency response personnel (FKFD Incident Commander) to arrive.

SPILL RESPONSE AND REPORTING

The Environmental Management Division and the Fire Department are available 24 hours a day, 7 days a week for spill or release response. Information required for oral reporting is outlined on the SPILL INCIDENT REPORT found in Appendix C. The following telephone numbers should be used for reporting spills or releases:

| | | |
|---|----------------|-------------------|
| FIRE DEPARTMENT | | 911 |
| | | 502-624-6016/1876 |
| ENVIRONMENTAL MANAGEMENT DIVISION (EMD) | | 502-624-3629 |
| DEMAND MAINTENANCE ORDER SECTION, DPW | | |
| (EMERGENCIES ONLY) | | 502-624-1171 |
| MILITARY POLICE | Emergency Only | 911 |
| | Routine | 502-624-2111/2112 |
| IOC OFFICER | | 502-624-2707 |
| RANGE CONTROL | | 502-624-2125/1447 |

The EMD is responsible for reporting any reportable releases or spills occurring on the installation to state, federal and local agencies; therefore, it is essential to report timely information involving a spill. EMD

personnel are trained in spill reporting and are available for assistance for spill response or other environmental guidance.

SPILL RESPONSE IN TRAINING AREAS

Spill equipment and materials are required on ranges and training areas. All units are required to have the capability to immediately capture and contain **any spill of Petroleum, Oil, and Lubricant (POL)** product released by their unit. The following list of equipment and materials is required for all units using training areas on the Fort Knox installation.

- A commercial spill kit designed for absorbing POL products
- Containers to place contaminated spill absorbent material – 55-gal drums w/lids or equivalent
- An appropriate supply of oil absorbent material to respond to any spill of POL product
- Enough shovels, brooms and picks to sweep, dig up and/or build a berm to contain any spill of POL product
- A supply of plastic sheeting sufficient to cover a spill area
- A sufficient number of drip pads to place under any leaking vehicles
- A supply of plastic bags for contaminated of oil absorbent
- The spill equipment and materials must be readily available for quick access; and therefore, must be stored near or on the training site.

Commercial spill kits are available from the Base Supply Center (BSC) or through private companies and vary in size. The size of the spill kit required on-site is dependent on the type of equipment used in the training exercise. Replacement materials for the kits are available through the same sources. The responsibility for replenishing the supply of exhausted materials is the responsibility of the individual unit.

All units should maintain a sufficient supply of spill absorbent materials and equipment to fulfill their particular needs and support their mission. All contaminated materials shall be taken to the Fort Knox landfill for proper storage and off-site disposal.

Range Division will instruct all units of their responsibility for spill response and reporting prior to allowing them to use training areas during Range Briefings. The following response procedures should be adhered to:

IMMEDIATELY REPORT THE SPILL TO:

- Range Division,
- The Fort Knox Fire Department, The Fort Knox Environmental Management Division, and follow the Spill Prevention and Emergency Response Procedures above.

Range Control will maintain a back-up supply of Spill Response Materials to allow units to continue training if the unit has exhausted their own supply of materials. If units use spill supplies from Range Control they must reimburse Range Control for the cost of these items.

APPENDIX K
STORMWATER/GROUNDWATER POLLUTION
PREVENTION PLAN (SWGPP)/BEST MANAGEMENT
PLAN (BMP)

Kentucky Regulations KAR 5:065 Section 2(4) pursuant to KRS 224.70-110 and the Fort Knox KPDES Permit

The regulatory requirements for the Stormwater/Groundwater Pollution Prevention and Best Management Plan (SWGPP/BMP) are designed to prevent the pollution of the surface waters and groundwater resources of the Commonwealth of Kentucky. This primary SWGPP/BMP covers all activities, units, and tenants at Fort Knox having a requirement for a SWGPP/BMP plan. Each activity, unit or tenant will have a site specific plan relevant to the site activities. The SWGPP/BMP provides compliance with the terms and conditions of the KPDES permit.

This SWGPP/BMP Plan is intended to:

- Identify sources of potentially polluting materials and industrial activities that could contaminate stormwater and groundwater.
- Identify non-structural and structural controls to be used at the source to prevent significant pollutant materials from entering the watershed.
- Provide the installation with Best Management Practices (BMP) and controls to manage and/or eliminate contaminated water discharges
- Develop an inspection schedule to ensure all practices are in place and functioning properly.
- Develop and implement a schedule for employee training and awareness programs for spill response, and material-handling practices.

The SWGPP/BMP Plan describes and evaluates the potential pollution sources and significant materials at each facility. These sources include material loading and unloading areas, other material handling operations, significant materials storage, outdoor manufacturing and process activities, solid waste disposal, hazardous waste management practices, maintenance and cleaning operations, and areas of past spills or leaks.

Facility/Site Assessment Phase

- Develop Individual Facility Site Maps
- Inventory and Describe Exposed Materials
- Conduct a Risk Assessment for Potential Spills
 - ✓ The Risk Assessments are rated using a scale of “Low”, “Moderate”, and “High”
- List Significant Spills and Leaks
- Test for Non-Stormwater Discharges
- Evaluate Monitoring Data
- Summarize Pollutant Sources and Risks
- List Immediate BMPS and Advanced BMPs

As required by the KPDES permit the BMP details the Best Management Practices to be used in conjunction with the SWGPP/BMP.

Best Management Practices (BMPs) Requirements includes,

- BMP Committee
- Reporting of BMP Incidents (SPILLS)
- Risk Identification and Assessment
- Employee Training
- Inspections and Records
- Preventive Maintenance
- Good Housekeeping
- Materials Compatibility
- Security
- Materials Inventory

The BMPs are included in many of the operational controls throughout the Fort Knox Handbook, and are an important monthly compliance activity.

Additional KPDES permit requirements includes,

- Hazardous Waste Management (including solid waste)
- Modification (site/facility changes)
- Periodically Discharge Wastewaters Not Specifically Covered by Effluent Conditions

BEST MANAGEMENT PRACTICES (BMPs)

Fort Knox KPDES Permit

SWGPP/BMP Committee

This committee is made up of EMD personnel who oversee the SWGPP/BMP. This information is available at EMD from the SWGPP/BMP Program Manager.

Reporting of BMP Incidents (SPILLS)

- Spill Prevention Control and Countermeasures Plan (SPCCP) (provided by EMD) requires that;
 - ✓ Your spill control procedure (EMD supplied poster) is posted,
 - ✓ You have spill kits available,
 - ✓ Your Potential Polluting Materials (PPMs) are protected from stormwater,
 - ✓ You have a current inventory of PPMs,
 - ✓ All PPMs are properly labeled, and
 - ✓ A copy of the Spill Incident Report is available for reporting spills.

NOTE: The appropriate SPCCP plan will be referenced in the site SWGPP/BMP. The SPCCP provides specific spill reporting procedures and pertinent information relevant to the possible area of contamination created from a spill. Also, contractors should post a completed copy of their spill contingency plan at their work site.

Risk Identification and Assessment

- Each site plan will have the following information identified on the map.
 - ✓ BSC Container Location with Volume
 - ✓ HAZMAT Storage Sheds
 - ✓ Other bulk storage units (55 gallon drums)
 - ✓ Flow direction
 - ✓ Runoff receiving waterways

Employee Training

- Appropriate site personnel are trained on the following,
 - ✓ Stormwater inspection requirements
 - ✓ Spill reporting
 - ✓ Spill cleanup
 - ✓ Managing spill kit materials, and
 - ✓ Fuel handlers annual training

Inspections and Records (Maintain for 3 years)

- Inspections and records will include the following,
 - ✓ Stormwater Inspections are conducted by EMD personnel
 - ✓ Monthly Bulk Storage Container Inspections are conducted by site personnel
 - ✓ Monthly HAZMAT Storage Inspections are conducted by site personnel
- Visual Inspections
 - ✓ Look for oil surfaces
 - ✓ Plugged drains
 - ✓ Flow direction – particularly after a rainfall event
 - ✓ Water clarity – clear or dirty
 - ✓ Stains on concrete, gravel or grass

Preventive Maintenance - General

- Your site specific SWGPP/BMP must be up-to-date and on file (both electronic and hard copy),
- You are using drip PADS under leaking vehicles
- Your oil filter presses are operating properly
- You are changing fluids in the authorized areas, and

Preventive Maintenance for Sediment and Erosion Control

- Sediment accumulation will be reported to EMD
- Eroded areas
- Contact EMD
- Submit a request for repair work (see Appendix M) to repair,
 - ✓ Grassy ditches and spillways
 - ✓ Concrete lined ditches/spillways and piping

Preventive Maintenance for the Management of Stormwater Runoff

- Water reuse for irrigation
- Increased filtering materials to reduce sediment
- Inlet controls and detention devices (settling basins)

Preventative Maintenance for Fuel Points will have the following:

- Drip PANS or PADS under fueling point
- Spill cleanup equipment on hand
- All automatic shutoffs on fuel pumps are working properly.

Good housekeeping requires that you:

- Have clean and organized areas
- Post and use your inspection schedule
- Ensure that Oil Water Separators (OWS) have a clean discharge to stormwater if applicable

Materials Compatibility

Compatible materials are stored correctly in HAZMAT sheds, outbuildings, and Flammable Cabinets, and incompatible materials are not stored together.

Security

HAZMAT sheds are locked when not in use. All security fence gates are locked after hours or when the site is closed.

Materials Inventory

Each site will have a materials inventory of all stored materials to determine the potential contamination sources from associated runoff. The inventory will include HAZMAT storage facilities, scrap metal, wood pallets, trash/recycle dumpsters (roll-offs) bulk storage containers, and any other materials that may have the potential to create runoff contaminants.

Hazardous Waste Management

The management of solid and hazardous waste will be in accordance with the regulations promulgated under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1978 (RCRA) (40U.S.C. 6901 et seq.). The SWGPP/BMP will include practices required under RCRA regulations and the Fort Knox Solid Waste Plan.

Modification

Site plans will be modified whenever there is a change in the facility or change in the operation of the facility which materially increases the potential for the ancillary activities to result in the release of potential pollutants.

Periodically Discharge Wastewaters Not Specifically Covered by Effluent Conditions

Procedures and controls are in place necessary for the handling of periodically discharged wastewaters such as intake screen backwash, meter calibration, fire protection, hydrostatic testing water, and water associated with demolition/construction projects.

STORMWATER DEMAND MAINTENANCE ORDER(DMO)

Refer to Appendix M for instructions on placing a Demand Maintenance Order.

APPENDIX L
SOLID WASTE MANAGEMENT
401 KAR 48 AND 49, AND FORT KNOX REGULATION 200-2

The purpose of this Integrated Solid Waste Management Plan (ISWMP) is to define and document Fort Knox's current solid waste management program and meet the requirements of Army Regulation 420-1. The plan outlines goals, recommends strategies, defines roles and responsibilities, and emphasizes the use of the integrated solid waste management hierarchy of source reduction, recycling and reuse, treatment and disposal to maintain compliance and cost-effectively achieve solid waste minimization and diversion goals. ISWMP reflects the United States Environmental Protection Agency's pollution prevention hierarchy, which includes (in preferential order) source reduction, recycling, treatment, and disposal. The ISWMP addresses each of these components by:

- 421—Identifying source reduction measures that may be used to reduce the waste stream;
- 422—Defining the various elements of the waste stream and identifying the avenues of reuse, recycling or disposal for each;
- 423—Documenting correct procedures for all aspects of solid waste management including storage, collection, segregation, transportation, treatment, recycling, and disposal;
- 424—Presenting factors potentially affecting solid waste management and listing alternatives and contingency plans for future consideration; and,
- 425—Assigning responsibilities and tasks to installation personnel for the effective execution of the solid waste program.

The decisions involved in solid waste management today are diverse and far reaching:

- Will recycling generate revenues or cost the installation money?
- Which recyclables should be included in the recycling program?
- How can the installation best meet Department of Defense (DOD) diversion goals for nonhazardous solid waste and construction and demolition waste?
- How can the installation motivate its personnel to recycle and implement source reduction practices?
- How can Green Procurement (GP) practices be used to minimize waste generation?

Integrated Solid Waste Management

Solid waste, as defined in the Resource Conservation and Recovery Act (RCRA), is any garbage, refuse, sludge, or other discarded material resulting from industrial, commercial, institutional, and residential activity. Discarded materials include those that are disposed of, abandoned, recycled, or are inherently waste-like. Hazardous wastes are solid wastes that meet specific RCRA or state criteria involving hazardous characteristics or the presence of listed constituents. For the purposes of ISWMP, hazardous wastes are not included.

The ISWMP is a comprehensive, hierarchical approach to managing solid waste that incorporates a variety of solid waste management practices to safely and effectively handle the non-hazardous solid waste stream. The hierarchical approach means that source reduction is the first preferred method for managing solid waste, then recycling, and lastly the disposal of solid waste. The goal of the ISWM approach is to use combinations of these methods to safely and effectively manage non- hazardous solid waste.

Purpose

The purpose of the Fort Knox ISWMP is to:

- Define and document the installation's current solid waste management program;
- Set goals for improving solid waste management through source reduction and Affirmative Procurement (AP);
- Specify the strategies and responsibilities for achieving those goals; and,
- Meet the Army requirement to develop an ISWMP in accordance with Army Regulation (AR) 420-1.

Program Objectives

The objectives of the Fort Knox integrated solid waste management program are to:

- Comply with applicable Federal, State, local, and Army Solid Waste Management (SWM) regulations.
- Achieve waste reductions goals (diversion rates for construction debris and general trash) set by the Army, DOD, Federal government, and respective state governments.
- Characterize the types and amounts of solid waste (including non-regulated or special wastes, potential recyclables, and construction debris) based on information obtained using standardized data collection procedures.
- Describe the storage, collection, transportation, and disposal for each category of solid waste identified.
- Demonstrate that alternate disposal mechanisms have been identified and evaluated prior to the selection of the preferred disposal method.
- Evaluate future disposal options based on changes in waste generation, governing regulations, and/or the availability of regional disposal facilities.
- Assess recycling and composting programs and identify ways to improve these programs.
- Identifying Green Procurement practices that reduce waste and conserve resources.

Plan Organization

The Fort Knox ISWMP follows the framework for developing a complete and effective ISWMP in accordance with AR 420-1 and as set forth in the United States Army Center for Health Promotion and Preventive Medicine (USACHPPM) Technical Guide (TG) 197, Guide for Developing Integrated Solid Waste Management Plans at Army Installations (November 2013).

Responsibilities

Integrated Solid Waste Management (ISWM) at Fort Knox requires the involvement of a number of directorates, activities, and organizations in order to have an effective ISWM program.

Fort Knox Landfill

The Fort Knox Construction/Demolition Debris (C/DD) Landfill is operated and maintained by the Fort Knox solid waste management contractor. The contractor operates the landfill in accordance with AR 420-47, EPA 40 CFR 241, Kentucky Solid Waste Management Regulation. 401 KAR 48:060, and other applicable regulations. The policies and procedures for the operation of the C/DD landfill are contained in solid waste management contract.

Fort Knox Landfill Permit Number 047-00008

This permit was issued by the Kentucky Natural Resources and Environmental Protection Cabinet, Department for Environmental Protection, Division of Waste Management to Fort Knox, KY for the construction/operation of the Construction/Demolition Debris Landfill.

APPENDIX M

DEMAND MAINTENANCE ORDERS (DMOs)

DPW operates the Demand Maintenance Order program. It is imperative that you follow the correct process for requesting a Demand Maintenance Order. Following the correct process will ensure your request is properly handled and meets all Fort Knox standards and regulatory mandates.

DPW's Process for Demand Maintenance Orders (DMOs).

Non-Emergency (Priority 2 and 3) Do not submit these on DA Form 4283.

1. Please remember a Demand Maintenance Order (DMO) is maintenance/repair/replacement of any real property.
2. On all DMO request emails, please use the following format:
 - a. Building #/Room #
 - b. Issue:
 - c. POC Name:
 - d. Contact Number:
 - e. Customer ID:
3. Email your request to: usarmy.knox.imcom-atlantic.mbx.dpw-work-orders@mail.mil

Emergency (Priority 1 (Health and Safety))

1. DPW will determine if DMO is a priority 1.
2. Priority 1 requests must involve life, health or safety.
3. Priority 1s should be called in to 502-624-1171.

NOTE: Mold removal requests should be noted as a Safety Requirement/Priority 2.

Project Work Order (PWO)

PWOs are submitted for any new work or construction. These require the submission of a DA Form 4283.

Completed Demand Maintenance Orders

When the work is completed, the technician has to get a signature. Please ensure the person signing off on the work knows what he/she (POC) is doing. Often someone (non-POC) will sign off on the work because no one else is around, and either the wrong work is done or the POC is never notified that the work has been done.

Demand Maintenance Order Duplication

Areas should forward all maintenance request traffic through their Facility Manager. The Facility Manager will then be able to track work orders and verify that no duplicate orders are/have been submitted.

NOTE: Contact UD Contracting directly for air conditioning & heating issues at 502-942-5221.

APPENDIX N

ACRONYMS

| | |
|--------|--|
| AC | Asbestos Coordinator |
| ACM | Asbestos Containing Materials |
| AAFES | Army and Air Force Exchange Service |
| AR | Army Regulation |
| AST | Aboveground Storage Tank |
| AUL | Authorized Use List |
| BMP | Best Management Practice |
| BOD | Biological Oxygen Demand |
| BSC | Bulk Storage Container |
| CAA | Clean Air Act |
| CARC | Chemical Agent Resistant Coating |
| CBRN | Chemical, Biological, Radiological and Nuclear |
| C/DD | Construction/Demolition Debris |
| CFR | Code of Federal Regulation |
| CGC | Compressed Gas Cylinder |
| CO | Commanding Officer |
| COCO | Contractor Owned Contractor Operated |
| CRP | Central Receiving Point |
| CSM | Command Sergeant Major |
| CWA | Clean Water Act |
| CX | Categorical Exclusions |
| DA | Department of Army |
| DAO | Division Ammunition Officer |
| DARD | Defense Accountability, Reutilization and Disposal |
| DeCA | Program Read more at http://acronymsandslang.com/definition/446986/DARD-meaning.html |
| DCSR | Defense Commissary Agency |
| DFMWR | Defense Supply Center Richmond |
| DLA | Directorate of Family, Morale, Welfare and Recreation |
| DMO | Defense Logistics Agency |
| DOD | Demand Maintenance Order |
| DODAAC | Department of Defense |
| DOT | Department of Defense Activity Address Code |
| DPTMS | Department of Transportation |
| DPW | Directorate of Plans, Training, Mobilization and Security |
| DRMS | Directorate of Public Works |
| EA | Defense Reutilization and Marketing Services |
| EIS | Environmental Assessment |
| EMD | Environmental Impact Statement |
| EO | Environmental Management Division |
| EPA | Environmental Officer or Executive Order Environmental |
| EPAS | Protection Agency |
| EPCRA | Environmental Performance Assessment System |
| EQCC | Emergency Planning and Community Right-to-Know Act |
| EQCS | Environmental Quality Control Committee |
| EPP | Environmental Quality Control Subcommittee |
| ESMP | Environmentally Preferable Products |
| FGS | Endangered Species Management Plan |
| FIFO | Final Governing Standards |
| FM | First In-First Out |
| FSS | Facility Manager |
| | Fire Suppression Systems |

| | |
|--------|--|
| GC | Garrison Commander |
| GCSS-A | Global Combat Support System- Army |
| GHS | Globally Harmonized System |
| GIS | Geographic Information System |
| GOCO | Government Owned Contractor Operated |
| GOV | Government Owned Vehicle |
| GPC | Government Purchase Card |
| GPP | Ground Water Protection Plan |
| HM | Hazardous Material |
| HMCB | Hazardous Materials Control Board |
| HEMMT | Heavy Expanded Mobility Tactical Truck |
| HQDA | Headquarters Department of Army |
| HMSO | Hazardous Materials Supply Operations |
| HMMP | Hazardous Materials Management Program |
| HMMS | Hazardous Materials Management System |
| HRC | Human Resources Command |
| HW | Hazardous Waste |
| IAHC | Ireland Army Health Clinic |
| IAW | In Accordance With |
| IBP | Industrial Base Planning |
| ICAP | Installation Corrective Action Plan |
| ICUZ | Installation Compatible Use Zone |
| IG | Inspector General |
| IMCOM | US Army Installation Management Command |
| IMPAC | International Merchant Purchase Authorization Card |
| INRMPs | Integrated Natural Resource Management Plans |
| ISWMP | Integrated Solid Waste Management Plan |
| ITAM | Integrated Training Area Management |
| IOC | Installation Operation Center |
| ISSA | Installation Services Support Agreement |
| ISO | International Standard Organization |
| ITAM | Integrated Training Area Management |
| JEAP | Joint Equipment Assessment Program |
| KAR | Kentucky Administrative Regulation |
| KPDES | Kentucky Pollutant Discharge Elimination System |
| KRS | Kentucky Revised Statutes |
| LEED | Leadership in Energy Environmental Design |
| LRC | Logistics Readiness Center |
| MACOM | Major Army Command |
| MASA | Military Ammunitions Supply Area |
| METL | Mission Essential Task List |
| MOI | Memorandum of Instruction |
| MOS | Military Occupation Series |
| MVAC | Motor Vehicle Air Conditioning |
| NBC | Nuclear-Biological-Chemical Weapons |
| NEPA | National Environmental Policy Act |
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| NSN | National Stock Number |
| OCC | Old Corrugated Cardboard |
| ODS | Ozone Depleting Substances |
| OIC | Officer in Charge |
| OSC | On-Scene Coordinator |
| OWS | Oil Water Separator |

| | |
|-----------|---|
| OHSA | Occupation Health and Safety Administration |
| OPORD | Operations Order |
| P2 | Pollution Prevention |
| PAO | Public Affairs Office |
| PCB | Polychlorinated Biphenyls |
| POC | Point of Contact |
| POL | Petroleum, Oils & Lubricants |
| POV | Personally Owned Vehicle |
| PPE | Personal Protective Equipment |
| PWO | Project Work Order |
| PPM | Potential Polluting Materials |
| PX | Post Exchange |
| QRP | Qualified Recycling Program |
| RCRA | Resource Conservation and Recovery Act |
| ROA | Reports of Availability |
| ROD | Record of Decision |
| ROWPU | Reverse Osmosis Water Purification Unit |
| RTLA | Range and Training Land Assessment |
| SAA | Satellite Accumulation Area |
| SCP | Spill Contingency Plan |
| SDS | Safety Data Sheet |
| SHPO | State Historic Preservation Office |
| SJA | Staff Judge Advocate |
| SMC | Senior Mission Command |
| SME | Subject Matter Expert |
| SNAP | Significant New Alternative Policy |
| SOP | Standard Operating Procedure |
| SPCCP | Spill Prevention, Control and Countermeasures |
| SPP | Standard Practices and Procedures |
| SSA | Supply Support Activity |
| SWGPP/BMP | Stormwater/Groundwater Pollution Prevention Plan/ Best Management Plan |
| SWM | Solid Waste Management |
| TG | Technical Guide |
| TSCA | Toxic Substance Control Act |
| TV | Tactical Vehicle |
| TWPS | Tactical Water Purifications Systems |
| UWCA | Universal Waste Collection Area |
| UN | United Nations |
| US | United States |
| USAEC | US Army Environmental Command |
| USACHPPM | United States Army Center for Health Promotion and Preventive Medicine |
| UST | Underground Storage Tank |
| WWTP | Waste Water Treatment Plant |
| XO | Executive Officer |

REVISIONS

| Date | Change Description | Page Number |
|----------------------|---|--------------------|
| December 2009 | General review and update | All pages |
| December 2010 | Commander's Remarks Revised, all operational controls updated as needed/sections added for clean air, noise, solid waste and stormwater. | All pages |
| May 2012 | Complete revision of the handbook. | All pages |
| December 2013 | Complete revision of the handbook. | All pages |
| December 2014 | Complete revision of the handbook | All pages |
| December 2015 | Complete revision of the handbook | All pages |
| December 2016 | Complete revision of the handbook | All pages |
| December 2017 | Complete revision of the handbook | All pages |
| December 2018 | Complete revision of the handbook | All pages |
| February 2019 | Complete revision of the handbook | All pages |
| January 2020 | Complete revision of the handbook | All pages |
| December 2020 | Complete revision of the handbook | All pages |
| March 2021 | Complete revision of the handbook | All pages |

ENVIRONMENTAL HANDBOOK Issue 021 Version .01

Fort Knox Environmental Policy

Prevent Pollution

Comply with the Law

Continual Improvement

SUSTAINABILITY



PROTECT
her.

**There is no
planet B.**