Environmental Management Procedure (EMP) 4.4.6.8.5

Subject: Battery Recycling and Disposal Management

1. Purpose: This EMP establishes the procedures for Battery Recycling and Disposal.

2. Document Control: This is a controlled document. Controlled documents are updated as required, reviewed at least annually, and re-dated if changed. Any documents to include blank forms appearing in paper form are not controlled and should be checked against the file version prior to use on the:

   JBLE – Eustis Environmental website: http://www.jble.af.mil/Units/Army/Eustis-Enviromental/

3. References:

   A. JBLE-I 32-101, Environmental Management

   B. EMP Dictionary

4. Scope: This EMP applies to all Activities and personnel who work for or on behalf of the installation, including military, civilians, vendors, suppliers, and contractor personnel working directly for the installation or working as a tenant on the installation.

5. Roles and Responsibilities:

   A. Civil Engineer Directorate (CED); Environmental (CEIE) will:

      (1). Inspect storage and accumulation areas on a periodic basis to ensure proper container management.

      (2). Report findings to other appropriated organizations.

   B. Activities will:

      (1). Inspect and maintain containers for Universal Wastes (UW), ensuring they are in good condition and properly stored.

      (2). All areas must meet all applicable health, safety, and fire rules and regulations. Personnel should contact Post Safety and the Fire & Emergency Services for specific requirements.

6. Procedures:

   A. General battery procedures:

      (1). The following is a list of common battery types, but should not be considered all inclusive:

         (a). The following Non-Rechargeable Batteries are considered Non Hazardous Wastes (NHW) and cannot be discarded in the trash:

            i. Alkaline batteries.

            ii. Carbon-Zinc batteries.

            iii. Zinc-Air batteries

         (b). The following Non-Rechargeable Batteries are considered Universal Waste (UW):

i. Magnesium batteries.

ii. Mercury containing batteries (usually button type).

iii. Silver containing batteries (usually button type).

iv. Thermal batteries

v. Lithium-Manganese Dioxide batteries.

vi. Lithium-Sulfur Dioxide batteries.

(c). The following Rechargeable Batteries are considered Universal Waste (UW):

i. Lithium-Ion batteries.

ii. Nickel-Cadmium batteries.

iii. Nickel-Metal Hydride batteries.

iv. Lithium-Iron Disulfide batteries.

(d). The following Rechargeable Batteries are not considered Universal Wastes (UWs):

i. Lead-Acid batteries (all types) have their own recycling program and can be managed IAW the procedures in paragraph E below.

(2). Significant safety concerns when handling batteries: Protection of terminals to prevent unintended discharge and protection to prevent leakage:

(a). U.S. Department of Transportation (DOT), Pipeline and Hazardous Materials Safety Administration (PHMSA) is concerned that many persons who ship batteries for recycling or disposal do not appreciate the hazards posed by batteries during transportation. PHMSA has documented numerous shipments that were not in compliance with requirements in the Hazardous Materials Regulations (HMR).

(b). **All batteries** are subject to requirements in the HMR because they have two types of hazards:

i. The chemicals or other materials contained in the battery, and

ii. The electrical potential of the battery.

(c). **All batteries** must be packaged for transportation in a manner that prevents short circuiting and damage to the battery or its terminals. This may be achieved by:

i. Packing each battery in fully enclosed inner packaging made of non conductive material.

ii. Separating the batteries from each other and other conductive material in the same package.

iii. Pack to prevent damage and shifting while in transport.

(d). **All terminals** must be protected from possible contact with other terminals. This can be achieved by:

i. Taping each terminal or packaging so that a terminal can not contact another terminal. Use only electrical tape or Gorilla tape for this process. **CAUTION, do not** use duck tape as some types are conductive.

ii. Original containers that the batteries came in that still provide terminal protection will be allowed.

(3). Broken or significantly leaking UW batteries have to be managed as HW.

(4). Good house keeping will be maintained at all times.

B. Alkaline:

(1). These will be recycled and can be turned in at the Solid Waste, Recycling, & Pollution Prevention Center (SWRPPC), B1209 as recyclable materials.

(2). If being recycled, these batteries may be collected and stored prior to turn-in in any serviceable box or container that is clearly labeled as recyclable materials and for these battery types only. They may not be mixed with other types of batteries.

(3). While in storage and prior to turn-in, the terminals must be protected.

(4). Batteries with unprotected terminals will not be accepted at the HWAF or the SWRPPC.

C. Carbon-Zinc, and Zinc-Air Batteries (paragraph 6.A.(1).(a) above):

(1). These batteries are Non Hazardous Wastes and must be managed as such through the Hazardous Waste Accumulation Facility (HWAF), B1208.

(2). If being recycled, these batteries may be collected and stored prior to turn-in in any serviceable box or container that is clearly labeled as recyclable materials and for these battery types only. They may not be mixed with other types of batteries.

(3). While in storage and prior to turn-in, the terminals must be protected.

(4). Batteries with unprotected terminals will not be accepted at the HWAF or the SWRPPC.

D. Universal Waste (UW) Batteries (paragraphs 6.A.(1).(b) & (c) above):

(1). Universal Waste (UW) Battery Sites:

(a). UW Battery sites need to be sited where a spill or leak would not constitute a discharge to surface waters, storm drains, or the sanitary sewage system.

(b). All activities using any type of outside or free standing storage building must coordinate with CED/AMF..

(c). Sites will be protected from the elements. Collection of rain water or any other materials in the containment unit must be containerized and treated as a HW until determined otherwise.

(d). UWs that have liquids must have containment in sufficient capacity to hold 110% of the largest volume of a single container.

(e). Containment systems will be kept clean and dry at all times.

(f). UWs that have liquids must have containment and the appropriate spill kits (acid, base, etc).

(g). AEC must keep a file on all locations. These must be recorded on the facility inventory: EMP 4.5.2.3 Tab 2 Form - Activity Facilities and Operations Inventory.

(h). UW will be stored in existing NHSs, SASs, or TSSs where practical.

(i). UW Battery sites will be inspected at least monthly using the TCFE Form 6270 (EMP 4.4.6.8.2 Tab 3).

(j). Portable fire extinguishers, and/or fire control equipment.

i. Portable fire extinguishers must be a minimum single 10 lb ABC Dry Chemical type or Class K for dining facilities with "Wet Chemical" hood systems. CO2, Purple K, Water, Halon or BC are not approved for use.

ii. An inspection log which shows that the extinguisher has been inspected within 30 days is required. Since this is an inspection item on weekly on TSSs, SASs, and NHWs, this satisfies the requirement. Inspection tags do not have to be used, however if they are on the extinguisher, then they have to be up to date regardless of other logs.

iii. Must be maintained IAW NFPA 10. Must be inspected internally every 6 years and hydrostatically tested every 12 years. Fire extinguishers that don't pass their hydro test date must be removed from service.

iv. Fire extinguishers cannot be refilled or hydrostatically tested on Post.

v. Must have operational pressure gage.

(k). Proper Personal Protection Equipment (PPE).

(l). Eye washing facilities as required.

(m). Emergency Response Information: "Points of Contact" and "Telephone Numbers" will be posted at each site utilizing Emergency Notification, TCFE Poster 20-E.

(n). Each site will have a site specific Contingency Plan (CP) specifying emergency procedures to be followed by activity personnel.

(2). Containers of Universal Wastes (UWs) Batteries:

(a). All containers of UWs must have a label indicating the type of UW, e.g., UW Batteries.

(b). The Accumulation Start Date (ASD) must be the date that UW is first put into a container.

(c). Some UWs will be required to have a DOT label.

(d). All UWs batteries must be in DOT approved containers.

(e). All UWs batteries will have a CCL.

(f). Turn-ins of all UWs batteries will be recorded on the CTL.

(g). Containers will be closed to prevent releases from the container.

(h). UW batteries cannot be stored in the same container with serviceable batteries.

(3). UW Battery Turn-in procedures:

(a). UWs must be turned-in at the Hazardous Waste Accumulation Facility (HWAF) within the shorter of 270 days of the ASD or container issue date.

(b). Turn-in procedures in EMP 4.4.6.8 for HWs will be used for UWs.

(c). The Container Turn-in Log (CTL):

i. Activities are required to maintain a calendar year CTL (EMP 4.4.6.8.1 Tab 4) for each waste site. A CTL must be maintained and kept with the Activity's completed copy of the DD Form 1348-1As for each site.

ii. Most of the items on the CTL come directly from the CCL and DD Form 1348-1A and are self- explanatory. The following items may need clarification:

a. Date of turn-in: This date must match the date the material was received by the HWAF or manifested (if other disposal options are used).

b. Person turning-in: This should be the AEC or HWC.

(d). While in storage and prior to turn-in, the terminals must be protected.

(e). Batteries with unprotected terminals will not be accepted at the HWAF or the SWRPPC.

E. Procedures for Lead-Acid batteries (all types) only:

(1). While in storage awaiting turn-in, Lead-Acid batteries will meet the UW battery site requirements in paragraph 6.D. (1) above.

(2). Lead-Acid batteries are used in many different applications such as and not limited to:

(a). Military vehicles and vessels.

(b). Privately Owned Vehicles (POVs).

(c). Emergency lighting fixtures.

(d). Battery backup systems.

(3). Just as there are many different sources for batteries and applications, there are nearly as many different turn-in locations and procedures. The following list is subject to change and is not all inclusive:

(a). Repairable Item Exchange (RIXA).

(b). Auto Craft Shop.

(c). AAFES.

(d). SWRC.

(e). HWAF.

(4). Depending on the turn-in location for your batteries, you must follow those established procedures.

(5). Broken or significantly leaking batteries have to be managed as HW and turned-in at the HWAF.

(6). Special procedures for those Activities that cause batteries to be shipped off of the installation by a battery vendor or other service provider:

(a). EMP 4.4.6.8.5 Tab 1 Lead Acid Battery Tracking must be used to track all such transactions.

(b). Section one must be completed for each vendor or service provider. All items must be completed.

(c). The quantities shipped must be recorded by calendar quarter and submitted to CEIE by the 15 day of the month following the end of each quarter.

(d). Starting at the end of the second quarter, the total worksheet will be used to record the total transactions for the year to date.