U. S. AIR FORCE

HAZARDOUS WASTE MANAGEMENT PLAN

SPACE LAUNCH DELTA 45



9/1/2023

Template Version June 2020

ABOUT THIS PLAN

This installation-specific Environmental Management Plan (EMP) uses the U.S. Air Force's (AF) standardized Hazardous Waste Management Plan (HWMP) template. This plan is not an inventory of all hazardous waste (HW) requirements and practices. Where applicable, external resources and associated document links, including Air Force Instructions (AFIs); Air Force Manuals (AFMANs); AF Playbooks; and federal, state, local, and permit requirements, are referenced to ensure current content.

Each section of this plan begins with standard language that addresses AF and Department of Defense (DoD) policy and federal requirements. The standard language is restricted from editing to ensure consistent application across the AF enterprise. Standard language is maintained by the Air Force Civil Engineer Center (AFCEC) designated Subject Matter Expert (SME) for this plan.

Immediately following the standard text are installation-specific sections that address state, local, and installation-specific requirements and processes. Installation sections are maintained and updated by the installation HW Program Manager and/or the AFCEC Section appointed to support this installation.

This document is optimized to be accessed and viewed electronically on the installation and AF eDASH website, the primary communication tool for AF EMPs.

TABLE OF CONTENTS

DOCUMENT CONTROL **4**
Standardized HWMP Template **4**
Installation HWMP **4**
1.0 OVERVIEW AND SCOPE **6**
2.0 INSTALLATION PROFILE **9**
3.0 ENVIRONMENTAL MANAGEMENT SYSTEM **9**
4.0 ROLES AND RESPONSIBILITIES **10**
5.0 TRAINING **17**
6.0 RECORDKEEPING AND REPORTING **18**
7.0 PROCEDURES **19**
7.1 Waste Inventory **19**
7.2 Waste Identification **19**
7.3 Container Management **28**
7.4. Labeling and Marking **28**
7.5 Accumulation Area Management **30**
7.6 Transportation **41**
7.7 Turn In/Disposal **46**
7.8 Inspection **46**
7.9 Waste Minimization/HW Recycling **47**
7.10 Preparedness and Prevention **47**
7.11 Waste Specific Procedures **52**
8.0 REFERENCES **57**
9.0 ACRONYMS **59**
10.0 DEFINITIONS **60**
11.0 INSTALLATION-SPECIFIC CONTENT **64**
APPENDICES **64**
Appendix A – Waste Analysis Plan **65**
Appendix B– Hazardous Waste Streams/Profiles **65**
Appendix C– Hazardous Waste Training Plan **65**
Appendix D– Inspection Forms **65**

DOCUMENT CONTROL

Standardized HWMP Template

In accordance with (IAW) the AFCEC Environmental (CZ) Business Rule (BR) 08, *EMP Review, Update, and Maintenance*, the standard content in this HWMP template is reviewed periodically, updated as appropriate, and approved by the HW SME.

This version of the template is current as of 06/05/2020 and supersedes the 2018 version.

NOTE: When installations update their HWMPs, they should refer to the AF EMP Repository on eDASH to ensure the most current version is applied. Installations are not required to change HWMPs after template updates.

Installation HWMP

The initial HWMP must be approved and signed by the Installation Commander (at the time of publication) as the legal HW Generator for the Environmental Protection Agency (EPA) ID assigned to this installation. The approval can be via signature or as documented in appropriate Environment, Safety, and Occupational Health Council (ESOHC) minutes (AFMAN 32-7002, 3.2.2.). NOTE: This is not a Wing Contingency Plan and is not governed by installation or Wing plans or readiness format or coordination requirements of AFI 10-401, *Air Force Operations Planning and Execution.* It is governed by AFMAN 32-7002, *Environmental Compliance and Pollution Prevention,* Section 5.2. *Hazardous Waste Management Plan (HWMP).* Because this is not a contingency plan, coordination should be with EMS CFT and applicable units with roles and responsibilities in the HWMP. The plan does not require a new signature after each change in wing command.

Record of Updates – The HWMP is updated as changes to waste generation and management practices occur, including those driven by changes in applicable regulations and approved by the installation HW Program Manager as the plan Office of Primary Responsibility (OPR). Formatting and administrative changes such as the incorporation of updated regulatory language, or other minor updates are documented below.

Record of Updates

Change No.	Nature of Change	Date of Change	Approved By:
	Annual Review		
First Edition 001	New Format	1/23/2017	
002	Annual Review/Format Change	7/15/2019	
003	Annual Review	6/2/2020	
004	Annual Review	9/3/2021	
005	Annual Review	9/1/2022	
006	Annual Review	9/1/2023	

Record of Annual Review – IAW AFMAN 32-7002, this plan is reviewed annually by the EMS CFT. Formatting and administrative changes should be noted in the previous paragraph for record of updates as approved by the EMS CFT Chair and do not require Installation Commander or Environmental, Safety, and Occupational Health Council (ESOHC) approval. Substantive revisions require coordination and approval by the Installation Commander as determined by the EMS CFT Chair and/or IAW host installation procedures. Substantive changes include manpower or resource requirements changes that impact installation hazardous waste generating organizations.

Record of EMS CFT Annual Review

Review Date	EMS CFT Chair	Notes/Remarks
12/3/2020	45 MSG/CD	Annual Review – administrative changes only
12/1/2021	SLD 45/TD	Annual Review (AFCEC template change)

1.0 OVERVIEW AND SCOPE

This HWMP contains procedures for management of HW. In lieu of federal, or state requirements, AFMAN 32-7002, acts as the main driver for the HWMP. The HW Playbook serves as supplemental guidance to this plan. Where applicable, DoD, AF, and Federal Resource Conservation and Recovery Act (RCRA) requirements are included. Each installation must include supplements as warranted to address applicable State and/or local HW requirements/procedures.

Installation Supplement – Overview and Scope

Summary

The purpose of the Space Launch Delta 45 (SLD 45) HWMP is to provide guidance to ensure the proper handling and disposal of all hazardous waste in accordance with 40 Code of Federal Regulations (CFR) 260-279 and Florida Administrative Code (FAC) 62-730. The SLD 45 HWMP is intended to be utilized by all relevant personnel and supervisors that produce or could potentially produce waste.

To ensure uniformity and continuity on environmental issues, 45 CES/CEIE Environmental Office is the single point of contact with federal, state and local environmental regulatory agencies. Each organization generating hazardous waste is responsible to identify, characterize, segregate, containerize, label, mark and minimize their wastes in accordance with federal and state regulations. Each organization must retain all records of their hazardous waste activities.

The Patrick Fence to Fence Contractor (Patrick F2F), as directed by 45 CES/CEIE Environmental Office, will provide hazardous waste management and technical support for Cape Canaveral Space Force Station (CCSFS) and Patrick Space Force Base (PSFB), including tenants and SLD 45 mainland sites.

Downrange outside continental United States (OCONUS) sites will receive hazardous waste management and technical support from the Range Operations Support (ROS) Contractor. Hazardous wastes generated at United States (US) installations located overseas are subject to notification requirements in 40 CFR 264.12.

Federal and state hazardous waste regulations and AFMAN 32-7002 require personnel managing or handling hazardous waste to be trained no later than 6 months after assignment to hazardous waste duties and annually thereafter.

Scope

The collection, management, transportation and disposition of hazardous wastes are defined and strictly regulated in the Resource Conservation and Recovery Act of 1976 (RCRA) as amended and in the corresponding regulations in 40 CFR, Parts 260 through 280 and FAC Chapter 62-730. The collection, management, transportation and disposition of waste petroleum products and other waste are also regulated by various federal and state regulations. Civil and criminal penalties are associated with the violation of these regulations.

This plan applies to all SLD 45 personnel, contractor and tenant organizations that generate waste on CCSFS, PSFB, Jonathan Dickinson Missile Tracking Annex, Malabar Transmitter Annex and Ascension Auxiliary Air Field. Non-Department of Defense (DOD) tenants (e.g., National Aeronautics and Space Administration (NASA), Department of State and US Coast Guard) are responsible for environmental compliance, waste management and disposal in accordance with applicable regulations under their own

EPA Identification Number. Commercial space companies that are required to obtain their own EPA Identification Number for their commercially generated waste may also be required to adhere to this plan.

US Space Force (USSF) hazardous waste operations on PSFB are identified by a unique EPA ID number. PSFB stores hazardous waste in excess of 90 days under a permit issued by the FDEP.

USSF hazardous waste operations on CCSFS are identified by a unique EPA ID number. CCSFS stores hazardous waste in excess of 90 days and operates a thermal treatment unit under a permit issued by FDEP.

AF hazardous waste operations on Malabar Transmitter Annex (MTA) and Jonathan Dickinson Missile Tracking Annex (JDMTA) are identified by a unique EPA ID number. Both MTA and JDMTA may operate as Very Small Quantity Generators as long as the requirements of 40 CFR 262.14 are met.

AF hazardous waste operations on Ascension Auxiliary Air Field (AAAF) are identified by a unique EPA ID number. Wastes generated from operations at this OCONUS location are retrograded back to continental United States (CONUS) for treatment or disposal.

Overview

To ensure uniformity and continuity on environmental issues, 45 CES/CEIE Environmental Office is the single point of contact with state, local and federal environmental regulatory agencies. Commercial space entities operating under a company specific EPA ID number are authorized to contact the state, local and federal environmental agencies directly and notify the USSF.

Each organization generating hazardous waste is responsible to identify, characterize, segregate, containerize, label, mark and minimize their wastes in accordance with state and federal regulations. Each organization must also retain all records of their waste activities. USSF generated waste will be profiled using the Process Waste Questionnaire (PWQ) Technical Response Package (TRP) process. This hazardous waste characterization mechanism will be performed by Patrick F2F.

Organizations utilizing contracted services and contractors utilizing sub-contractors are responsible for ensuring their contractors comply with all federal, state, local and AF environmental regulations as well as with this plan. For the purpose of contract operations, the word "should" means "shall" for all contract operations pertaining to this plan.

Hazardous waste/controlled waste generated from contracted cleanup or remediation projects or construction or demolition and renovation contracts does not have to be disposed through the Defense Logistics Agency (DLA). If a contract is written where the contractor is responsible for the proper disposal of hazardous waste/controlled waste, the waste manifest will use the Air Force EPA ID number and the 45 CES/CEIE Hazardous Waste Program Manager will sign the manifest.

Commercial space entities operating under an executed real property agreement with the AF are required to obtain a company specific EPA ID number. These commercial contractors must manage and dispose of their hazardous waste under that number.

Under RCRA, as the landowner, the Installation Commander retains the authority to request that any tenant organization or contractor generating regulated hazardous wastes obtain their own independent EPA Identification Number.

Environmental management and technical support for CCSFS, including tenants and SLD 45 mainland sites, will be provided by the Patrick F2F as directed by 45 CES/CEIE Environmental Office. The Patrick F2F will maintain a hazardous waste site listing of all generators at PSFB and CCSFS which can be accessed by CEIE and will be supplied to emergency personnel as necessary. A hard copy of all site openings and closings will also be maintained by the Patrick F2F.

45 CES/CEIE Environmental Office will provide downrange OCONUS sites with environmental management and technical support to Range Operations Support (ROS). 45 CES/CEIE Hazardous Waste Program Manager will provide RCRA Reporting Notice to Air Force Hazardous Waste SME for any OCONUS waste entering a CONUS port or Air Force installation. Specific guidance for OCONUS downrange sites is provided in Appendix J.

Services for waste sampling, pickup, PWQ, TRP, packaging assistance and disposal of petroleum products, hazardous and controlled wastes are currently the responsibility of SLD 45 and the Patrick F2F Contractor, unless otherwise specifically identified.

Federal and State hazardous waste regulations and AFMAN 32-7002 require personnel managing or handling hazardous waste to be trained no later than 6 months after assignment to hazardous waste duties and annually thereafter. A new hazardous waste operator must work under the direction of a trained operator until hazardous waste training is received. Current guidance from FDEP defines annually as once per calendar year. In guidance from EPA, Faxback 14286, the Agency states “While it may be infeasible for companies with many employees to train each employee exactly one year after the last training, the Agency does expect companies to attempt to provide training so that personnel are trained every year.”

Personnel must maintain and at the time of inspection by USSF, EPA or FDEP be able to provide documentation that they have received the required hazardous waste training as well as a job description as described in 40 CFR 262.17. Training may be obtained by contractor "In-House", commercial or Government sources.

Lead based paint removal and disposal shall be conducted in accordance with Federal, State and local regulations. All paint waste generated from paint removal operations must be containerized, sampled and analyzed to determine whether the waste meets the definition of hazardous waste.

Polychlorinated Biphenyl (PCB) items will be managed in accordance with 40 CFR 761 and Appendix M of this plan.

Asbestos management, removal and disposal shall be conducted in accordance with Federal, State, local regulations and SLD 45 Asbestos Management Plan. Coordination with 45 CES/CEIE Environmental Office and Bioenvironmental Engineering is required prior to any asbestos operations to include disturbance, removal, or disposal.

Per 40 CFR 264.12 the AF must notify both FDEP and EPA in writing 60 days prior to receipt of hazardous waste from a foreign source. For the USSF to supply hazardous waste support to a foreign vessel, the Patrick F2F office must be notified prior to the anticipated receipt of waste with the following information:

- Nature of the waste (i.e., EPA waste codes)
- Reason/requirement for off-loading the waste.

2.0 INSTALLATION PROFILE

Installation Profile

Scope of Plan	This plan applies to all SLD 45 personnel, contractor and tenant organizations that generate waste on CCSFS, PSFB, the Florida Annexes and all downrange licensed or operated sites. Non-DOD tenants (i.e., NASA, Department of State and US Coast Guard) are responsible for environmental compliance, waste management and disposal in accordance with applicable regulations under their own EPA Identification Number. Commercial space entities that are required to obtain their own EPA Identification Number for their commercially generated waste may also be required to adhere to this plan
OPR (Civil Engineer or other designated office)	45 CES/CEIE has overall responsibility for implementing the HW management program and is the lead organization for monitoring compliance with applicable federal, state, and local regulations.
HW Program Manager	Brian Ellis: 321-494-9270
Alternate HW Program Manager	Heather Goslin: 321-494-9268
Emergency contacts	45 CES/CEIE 24/7 Spill Phone: 321-298-7022
Waste registration numbers	Waste registration numbers are available as necessary from the Hazardous Waste Program Manager
HW generator status	Large Quantity Generator (LQG)
Universal waste handler status	LQG
Permitted HW operations	Treatment, Storage and Disposal Facilities and EOD Range
Federal regulatory references	40 CFR 260-280
State and local regulatory agencies	Florida Department of Environmental Protection
State and local regulatory references	FAC 62-730
DLA-DS area office and/or approved HW disposal contractors	Defense Logistics Agency (DLA)
HW accumulation sites	Contact Patrick Fence to Fence (Patrick F2F) Contractor
HW accumulation time limits	<90 Days
HW generator reporting frequency	Biennial

3.0 ENVIRONMENTAL MANAGEMENT SYSTEM

The AF adheres to the EMS framework and its Plan, Do, Check, Act cycle for ensuring mission success. Executive Order (EO) 13834, *Efficient Federal Operations*, U.S. Department of Defense Instruction (DoDI) 4715.17, *Environmental Management Systems,* AFI 32-7001, *Environmental Management*, and International Organization for Standardization (ISO) 14001, *Environmental management systems - Requirements with guidance for use*, provide guidance on how environmental programs should be established, implemented, and maintained to operate under the EMS framework.

The HW management program employs EMS-based processes to achieve compliance with all legal obligations and current policy drivers, effectively manage associated risks, and instill a culture of continuous improvement. The HWMP serves as an administrative operational control that defines compliance-related activities and processes.

Environmental Action Plans (EAPs) are developed and maintained as part of the overall EMS on eDASH. EAPs are tools that translate environmental requirements and targets into actionable plans for the HWPM and responsible personnel. HW requirements should be incorporated in installation EAPs to record monitoring and conformance for inspections and audits.

4.0 ROLES AND RESPONSIBILITIES

The major roles/organizations involved in supporting the HW program include:

- Wing/Installation Commander
- ESOHC
- EMS CFT
- HW Program Manager/Alternate(s)
- Shop/HW Generator Personnel
- Initial Accumulation Point (IAP) and Hazardous Waste Accumulation Site (HWAS) Supervisors/Managers
- Unit Commanders
- Unit Environmental Coordinators (UECs), see AFI 32-7001 for role description
- Contracting Officer
- Defense Logistics Agency (DLA) Disposition Services
- Tenant Organizations
- AFCEC

Detailed information about typical responsibilities for these and other roles is available in AFMAN 32-7002, applicable installation supplements, and the HW Playbook. This plan implements these responsibilities for this installation. Additional HW management-related roles and responsibilities are described throughout this plan and in referenced documents.

Installation Supplement – General Roles and Responsibilities

Environmental Safety and Occupational Health Council

The Environmental, Safety and Occupational Health Council (ESOHC) is required by AFI 90-801. The ESOHC meets biannually to discuss SLD 45 environmental issues. The ESOHC membership is defined in AFI 90-801. This committee has the function of communicating environmental policy and environmental actions to SLD 45 organizations. The ESOHC is responsible for SLD 45 compliance with all federal, state and local environmental regulations. If an ESOHC member is unable to attend, the role should be delegated to someone who is aware of all major actions of that organization.

The ESOHC members must regularly attend SLD 45 ESOHC meetings. With only two one-hour meetings a year, 100 percent attendance of the ESOHC meetings is expected. The ESOHC will:

- Ensure that all activities in the organization implement procedures to comply with State and Federal hazardous waste laws and SLD 45 Environmental Policies and Plans.
- Provide organizational data to the 45 CES/CEIE Environmental Office for environmental permit applications, compliance reports and corrective response resulting from spill incident, regulatory inspections and enforcement actions.

- Ensure that all organization personnel are currently trained per Federal and State regulations and provide supplemental training and supervision to new personnel who handle or manage hazardous materials or wastes.

45 CES/CEIE Environmental Office

- The office responsible for this plan.
- Provides technical assistance to operational activities and oversight of Patrick F2F, ROS, CCSFS and PSFB contracts.
- Submits petroleum and hazardous waste reports to regulatory agencies as required by permits, State and Federal regulations.
- Oversees the USSF hazardous waste training programs.

Fire Emergency Services, 45 CES/CEF (PSFB)

- Ensures fire protection equipment and base wide fire extinguishers are in working order.
- Responds to hazardous waste or materials spill/release incidents upon notification.

Fire Emergency Services, 45 CES/FEMS (CCSFS)

- Ensures fire protection equipment and base wide fire extinguishers are in working order.
- Responds to hazardous waste or materials spill/release incidents upon notification.

Bioenvironmental Engineering, 45 OMRS/SGXB

- For limited special circumstances and upon request, collects, prepares and coordinates sampling for analysis to an approved laboratory.
- As requested and during routine surveys, identifies special personal protective equipment requirements for AF personnel.

Cape Launch Operations and Infrastructure Support (CLOIS)

- Responds to all spills (hazardous materials, oil, fuel, etc.) at all SLD 45 mainland sites. At CCSFS, response will include immediate containment of spill and any other actions necessary to avoid hazards to human health or the environment. Provides cleanup and containerization of any spilled material at all SLD 45 mainland locations.

Defense Logistics Agency (DLA)

- Markets excess and/or recyclable materials in accordance with DLA procedures and Federal, State and local regulations. Disposes of hazardous items that cannot be marketed.
- Upon request, obtains off-site disposal contracts in accordance with applicable regulations for hazardous and non-hazardous wastes and PCB items for all SLD 45 sites.
- Contracts for recycling/treatment/disposal services. Responsible for ensuring hazardous waste disposal services comply with all applicable regulations governing the handling, transportation, storage, treatment and disposal/reclamation of the waste.
- Arranges for off-site treatment, storage and disposal of waste streams to include completion and submission of all required paperwork. Arranges for transportation to the off-site facility. Ensures

off-site facility is permitted to accept wastes as generated. Maintains copies of required records including disposal contracts, manifest, land disposal restriction (LDR) certifications and certifications of disposal. Provides the Patrick F2F and 45 CES/CEIE Environmental Office with originals of completed manifests and LDR certifications within 45 days from date of off-site shipment. Audits off-site disposal facilities for regulatory and permit compliance annually.

HazMart

- HazMart is responsible for management and operation of the AF approved hazardous materials tracking system and of the hazardous materials storage and distribution facility.
- HazMart personnel are responsible for determining current conditions and identifying further uses of hazardous materials returned by initial user. Hazardous materials determined not to be viable for further use are managed in accordance with this plan as hazardous or controlled waste.

Materials Recycling Facility (MRF)

- The MRF is responsible for recycling services through innovation, technology and other means, for both PSFB and CCSFS. The MRF recycles all paper (white, colored, newspaper, light cardboard), cardboard, some plastic bottles, used oil and oil filters, aluminum & steel cans, scrap metal, magazines, notebooks (binders), brown paper and plastic bags, CD disks, floppy disks, jewel cases, binder spines, toner and laser cartridges and other materials as determined economically feasible. For more information on recycling services call (321) 494-6848.

Patrick Fence to Fence (Patrick F2F)

- Implements a Hazardous Waste Management Program for the SLD 45 as directed by 45 CES/CEIE Environmental Office. This program includes coordinating with other organizations/contractors to ensure proper identification, storage and removal of all hazardous wastes. Provides guidance and technical support for environmental questions, concerns and problems on CCSFS, PSFB and other AF mainland sites. Generates, collects and consolidates technical data and prepares, revises, updates and implements hazardous waste management plans and procedures. Performs the requirements of the Commander's Compliance Inspection Program (CCIP) self-inspection checklists.
- On a quarterly basis, reviews and inspects all hazardous waste accumulation sites on CCSFS, PSFB and mainland annexes including tenants and contractors, to ascertain compliance with State, Federal and AF hazardous waste regulations and this plan. Provides written notification of inspection deficiencies to the 45 CES/CEIE Environmental Office of accumulation sites to ensure deficiencies are corrected in a timely manner; re-inspects sites to verify deficiencies have been corrected.
- Operates and maintains compliance at AF permitted hazardous waste storage facilities.
- Maintains listing of all hazardous waste <90-day and satellite accumulation areas and information concerning waste streams generated. Provides site approval for all new hazardous waste accumulation sites and inspections for site closures.
- Responds to all spills (hazardous materials, oil, fuel, etc.) at CCSFS for the purpose of information gathering and to provide technical assistance if requested. Provides all information gathered to 45 CES/CEIE Environmental Office.

- Provides services for waste determinations, PWQ TRPs, hazardous waste sampling, transportation, packaging assistance and disposal of petroleum products, hazardous and controlled wastes.
- Provides written TRPs to the requester for all PWQs. TRPs include technical assistance on matters of containerization, labeling, marking, handling and parameters for chemical analyses.
- Provides proper containerization for purposes of both on base waste transportation and shipment to off-site disposal facilities.
- Establishes and supports transportation operations for the expeditious removal of waste from operational areas as requested. Transports hazardous waste from satellite accumulation sites to <90-day accumulation sites and/or on-site permitted storage facilities within regulatory time limits. Coordinates transportation operations with requestor.
- Provides chemical analyses of waste products for disposition purposes in a timely manner for all SLD 45 generators as requested.

Range Operations Support Contractor (ROS)

- Implements a Hazardous Waste Management Program for the ROS operated facilities. Generates, collects and consolidates technical data and prepares, revises, updates and implements hazardous waste management procedures. Implementation shall include review of facility adequacy, forecast of yearly generation, provides training for all personnel managing hazardous waste, quarterly site inspections and coordination with other agencies/contractors to ensure proper identification, storage and removal of all hazardous wastes. Ensures deficiencies found during quarterly inspections are corrected in a timely manner and verifies deficiencies have been corrected. Provides a written report to 45 CES/CEIE Environmental Office of all uncorrected deficiencies. Manages wastes in accordance with Appendix J to this plan at downrange sites.
- Reviews and inspects in accordance with the Commander's Compliance Inspection Plan (CCIP) at all ROS operated facilities.
- Implements and supports this plan. Reviews and revises Appendix J annually and provides revisions to 45 CES/CEIE Environmental Office. Responds to all spills (hazardous materials, oil, fuel, etc.) at ROS downrange facilities. Response will include immediate containment of spill and any other actions necessary to avoid hazards to human health or the environment, as well as subsequent cleanup, containerization, management and disposition of any spilled material. Immediately notifies 45 CES/CEIE Environmental Office of the release.

Facility Operating Organizations

- Each organization generating hazardous waste is responsible to identify, minimize, package, label, mark, prepare the internal manifest and ensure record keeping is complete and up to date in accordance with applicable Federal and State regulations and this plan regarding their wastes. The generator of hazardous waste retains responsibility until ultimate disposition of that waste. It is the generators' responsibility to request and ensure that sampling and transportation are performed in a timely manner.
- Problems complying with this plan or the State and Federal hazardous waste regulations should be addressed through organizational command channels to 45 CES/CEIE Environmental Office as soon as possible. DO NOT DELAY IN IDENTIFYING A PROBLEM.
- Federal and State hazardous waste regulations and AFMAN 32-7002 require personnel managing or handling hazardous waste to be trained no later than 6 months after assignment to hazardous

waste duties and annually thereafter. A new hazardous waste operator must work under the direction of a trained operator until hazardous waste training is received. Personnel must maintain and be able to provide at the time of inspection by AF, EPA or FDEP personnel documentation that they have received the required hazardous waste training as well as a job description as described in 40 CFR 262.17. Training may be obtained from contractor "In-House", commercial or Government sources.

- It is the generator's responsibility to ensure that accumulation time limits are not exceeded at <90-day accumulation site(s). If problems arise or a time extension is required, telephone the Patrick F2F at 321-853-6985 or 321-494-9270 for CCSFS and PSFB before the 75th day.

Public Affairs, 45 SW/PA

- Acts as focal point for inquiries from the news media and concerned citizens regarding hazardous waste or petroleum products incidents or accidents that may occur.

TABLE 1: Emergency Phone Numbers PSFB and CCSFS On-Base Organizations

PSFB Organization	Duty Hours	After Duty Hours
Fire Department, EMERGENCY	911	911
Hazardous Materials Response Team	911	911
Hospital, EMERGENCY	911	911
Law Enforcement, EMERGENCY	911	911
Law Enforcement Desk	321-494-2008	321-494-2008
SLD 45 Command Post	321-494-7001	321-494-7001
45 CES/CEIE Environmental office	321-494-9270	321-298-7022
45 CES/CEX Emergency Management Flight	321-494-4224	321-494-7001
45 CES/CED Explosives Ordnance Disposal (CCSFS)	321-853-8888	321-494 -7001
45 OMRS/SGXB (Bioenvironmental Engineering)	321-494-5435	321-482-3811
45 WS Weather Operations	321-853-8484	321-853-8484
SLD 45 Judge Advocate	321-494-7357	
Fire Dept. Hazardous Material Response Team	321-853-0911	321-853-0911
Security Forces Base Defense Operations Center	321-853-2121	321-853-5211
Cape Support	321-853-5211	321-853-5211
SLD 45 Spaceport Integration Office	321-853-3900	321-853-5211
Patrick Fence to Fence (F2F)	321-853-6988	321-853-5211
Emergency Preparedness	321-853-6861	321-853-5211
NEMCON Industrial Hygiene	321-867-2400	321-867-2400
Post-emergency Spill Cleanup Team	321-853-5211	321-853-5211
NEMCON Environmental Compliance and Public Health	321-867-7138	321-867-2400
CCSFS Explosive Ordnance Disposal	321-853-8888	321-853-5211
SLD 45 Occupational Safety	321-494-7233	321-494 -7001
Naval Ordinance Test Unit Duty Office	321-853-1240	321-853-1240
Harbor Control/Dock master	321-853-1245	321-853-1245

TABLE 2: Emergency Phone Numbers Off-Base Organizations

Federal

Organization	Phone
Center for Disease Control	800-232-4636
CHEMTREC	800-424-9300
CHLOREP, Chlorine Emergency	800-424-9300
Drug Information Center	213-226-7741
EPA Emergency Planning Hotline	800-424-9346
EPA RCRA Superfund Hazardous Waste/Emergency Response	800-424-9346
EPA Region IV Emergency Response	800-282-9378
National Response Center (NRC)	800-424-8802
Poison Control Center	800-222-1222
Toxic Substances Control Act (TSCA) Hotline	202-554-1404
US Department of Transportation (DOT) Hotline	202-366-4488

Merritt Island National Wildlife Refuge	321-861-0667

State

Organization	Phone
Central District Orlando, Department of Environmental Protection	407-897-4100
Headquarters Tallahassee, Department of Environmental Protection	850-245-2010
Florida Fish and Wildlife Commission (Law Enforcement)	352-732-1225

County

Organization	Phone
Sheriff, EMERGENCY	911
Fire Department, EMERGENCY	911
Brevard County Emergency Management	321-637-6670
Brevard County Sheriff	321-264-5201
Florida Highway Patrol	321-690-3900
American Red Cross	321-890-1002

5.0 TRAINING

5.1. Hazardous waste training is required by law. All training requirements and sources are provided in the Environmental Training Matrix on eDASH. Specific local training procedures are provided in section 5.5.

5.2. Hazardous waste training is provided only by qualified authorized personnel. Training records are maintained IAW the Recordkeeping and Reporting section of this plan.

5.3. Hazardous waste program managers and alternates appointed in writing by the Wing Commander to sign manifests, require specific training to include HW Management Compliance Training and Department of Transportation training to sign HW manifests. Installation HW Program Managers should complete the following in-residence courses (or equivalent): Air Force Institute of Technology (AFIT) 521, Hazardous Waste Management; and DLA - DCPSO00510, Transportation of Hazardous Material/Hazardous Waste (Interservice Environmental Education Review Board [ISEERB] approved). After initial course completion, refresher training is required annually for RCRA, and every 3-years for the DoT course. See training matrix for more information.

5.4. Function-Specific Training (Local In-House/On-Line Training Sources): (Group A) Organizational (non-central) Hazardous Waste Storage Area Managers, Satellite Accumulation Area (Initial Accumulation Point) Managers, and their immediate supervisor; and (Group B) all shop personnel, and their immediate supervisors, who generate HW.

Installation Supplement – Training

- AFMAN 32-7002, requires all personnel managing or handling hazardous waste must receive hazardous waste training annually. All personnel who are required by 40 CFR 262.17 and/or the FAC to receive hazardous waste training shall be trained no later than 6 months after assignment to hazardous waste duties. A new hazardous waste operator must work under the direction of a trained operator until hazardous waste training is received. Personnel receiving training under these regulations must maintain and be able to provide the required documentation identified in 40 CFR 262.17(a)(7)(iv) for inspection purposes. Training may be obtained by contractor "In-House", commercial or government sources.
- In-house training is on “The Environmental Awareness Course Hub” (TEACH) and can be accessed on https://usaf.learningbuilder.com/account/login. The course name is “WESS 010 Hazardous Waste Accumulation Seminar (USAF Annual RCRA Refresher)”.
- All <90-day site accumulation generators must receive DOT-required training. Patrick F2F will distribute training slides for generators to review annually to meet training requirements.
- Personnel who manage the permitted hazardous waste storage facilities or who are authorized to sign Uniform Hazardous Waste Manifests must complete DOT training in accordance with 49 CFR 172.704 once every 2 years. Contact the Environmental Office 321-494 -9270 to set up DOT required training. Hazardous Waste Operator training in accordance with OSHA (29 CFR 1910.120) is also required for permitted storage and treatment facility personnel.

6.0 RECORDKEEPING AND REPORTING

Recordkeeping

The installation complies with the following U.S. Federal HW recordkeeping requirements as applicable based on generator status. NOTE: Retention time is defined by regulation as onsite and readily accessible for inspections and/or reference; after retention, the record(s) follow applicable Air Force Records Management rules.

Summary of HW Recordkeeping Requirements

Record*	Citation	Retention Time**	Citation
HW determination documentation	40 CFR 262.11(f)	3 years from the date that the waste was last sent to a TSDF	40 CFR 262.11(f)
HW Biennial/Annual Report	40 CFR 262.41	3 years from the due date of the report	40 CFR 262.40(b)
HW manifest (electronic or paper)	40 CFR 262.20	3 years from the day the waste was accepted by the initial transporter	40 CFR 262.40(a)
Small Qty HWAS inspection logs	40 CFR 262.16(b)(2)(iv)	Although records are not formally required, the best management practice is to record and retain for 3 years to demonstrate compliance	N/A
Large Qty HWAS inspection logs	40 CFR 262.17(a)(1)(v) 40 CFR 264.15(d) 40 CFR 265.15(d)	For interim and permitted operations, 3 years from the date the inspection was conducted. For all other LQGs, the best management practice is to retain for 3 years to demonstrate compliance	40 CFR 265.14(d) 40 CFR 265.15(d)
Preparedness and prevention arrangements with local authorities	40 CFR 262.16(b)(8)(vi)(B)	The federal regulations do not offer a minimum retention time, but the best management practice is to retain the plan while active and for 3 years thereafter to demonstrate compliance	N/A
Consolidation of HW received from very small quantity generators.	40 CFR 262.17(f)	3 years from the date the HW was received from the very small quantity generator	40 CFR 262.17(f)
Exception reports	40 CFR 262.42	3 years from the due date of the report	40 CFR 262.40(b)
Land restricted waste determination	40 CFR 268.7(a)(1)	3 years from date the determination was required to be conducted. If not required, 3 years from the date the waste was last sent to a TSDF	40 CFR 268.7(a)(8)
Land restriction notice and certification	40 CFR 268.7(a)(2)	3 years from the date the waste was last sent to a TSDF	40 CFR 268.7(a)(8)
Notification of intent to export waste	40 CFR 262.83(b)	3 years from the date the HW was accepted by the initial transporter	40 CFR 262.83(i)(1)(i)
Waste export confirmation of receipt and exception reports	40 CFR 262.83(h)	3 years from the date the HW was accepted by the initial transporter	40 CFR 262.83(i)(1)(iii)
Annual report (required of primary exporters of HW)	40 CFR 262.83(g)	3 years from the date the HW was accepted by the initial transporter	40 CFR 262.83(i)(1)(ii)
Employee training records (including appointment letters for key HW personnel)	40 CFR 262.16(b)(9)(iii) 40 CFR 262.17(a)(7)(iv)	For interim and permitted operations- current personnel: until closure of the site; Former personnel: 3 years from date the individual last worked there. For all other LQGs and SQGs,	40 CFR 262.17(a)(7)(iv) 40 CFR 264.16(e) 40 CFR 265.16(e)

Record*	Citation	Retention Time**	Citation
	40 CFR 264.16(d) 40 CFR 265.16(d)	the best management practice is to retain for 3 years to demonstrate compliance	

*Permitted Treatment, Storage, and Disposal Facilities (TSDF) comply with recordkeeping requirements established in their HW permit.

**Retention Time may be extended during the course of any unresolved enforcement action or as requested by the EPA. The AF, through the Air Force Records Information Management System (AFRIMS), requires that HW-related reports, documents, studies, HW manifests, and disposal records (including contracts) are destroyed 50 years from the date of the record. Note that the records required by law or external regulation, should be readily available on-site. Records required by AF Record Retention requirements can be archived.

Reporting

The HW Program Manager, and other designated personnel, generate needed reports from the Enterprise Environmental, Safety, and Occupational Health - Management Information System (EESOH-MIS).

Enforcement actions, spills, and inspections are reported via the Enforcement Actions, Spills, and Inspections Environmental Reporting (EASIER) database.

Installation Supplement – Recordkeeping and Reporting

SLD 45 Environmental Office uses the Hazardous Waste Site Master and EASIER database for all quarterly inspections conducted by Patrick F2F Support Contractor.

Hazardous Waste Shipping Log database is kept for all off-site shipments from CCSFS.

EASIER database is maintained for all CCSFS reported spills.

7.0 PROCEDURES

This section contains procedures for managing HW from identification, accumulation, offsite transportation, and disposal. The HW Program Manager ensures that appropriate procedures are properly communicated and followed by all necessary personnel.

7.1 Waste Inventory

A current waste inventory can be generated within EESOH-MIS using the Ad-Hoc Reporting Tool or by completing the following steps:

- Log into EESOH-MIS, select the “Reporting” option, and select “Hazardous Waste” to generate the Waste Site Waste Stream Summary Report.

The resulting waste inventory report can be placed into Appendix B, Hazardous Waste Streams/Profiles.

Installation Supplement – Waste Inventory

SLD 45 personnel manually record all items brought into the TSDF and <90-day sites per RCRA permit.

7.2 Waste Identification

The HW Program Manager determines the nature of waste based on a detailed qualitative analysis of the regulated waste generating process, associated Safety Data Sheet (SDS) information, and coordination

with generating activity personnel involved in the use of hazardous materials. If uncertainties about a waste stream exist, the HW Program Manager pursues waste stream sampling and analysis IAW the Waste Analysis Plan (WAP) found in Appendix A.

The WAP details the wastes that have been evaluated and analyzed, a description of the testing and analytical methods used, the HW sampling methods used, the location of samples taken for analysis and frequency, sample documentation, sample quality assurance and quality control procedures, and sample request procedures.

Generator knowledge and the results of the WAP are used to minimize waste re-characterizations to those instances where a process change has occurred or the waste stream is highly variable.

Installation Supplement – Waste Identification

Process Waste Questionnaires and Technical Response Packages

- All waste generating organizations at PSFB and CCSFS and mainland annex shall provide a PWQ for each waste stream for appropriate characterization prior to waste generation (Figure 1). The generator should provide as much information on the PWQ as possible about the waste stream, such as waste generating processes, chemical analysis and/SDS for the materials used to generate the waste. Organizations that generate characteristic waste must identify any UHCs that may be present in the waste stream. A PWQ addendum may be issued to the waste generating organization for disclosure of the UHCs. Once the Environmental Coordinator has determined the PWQ to be complete, it must be submitted to the Patrick F2F Contractor at 45CES.ESC.HazWasteSupport@us.af.mil. NOTE: If the PWQ does not contain complete and detailed information about the waste and the waste generation process, it may be returned to the waste generating organization for additional information. This slows down the process of generating a TRP.
- A Process Waste Code and handling information will be provided in writing through a TRP prepared and provided by the Patrick F2F. The TRP provides a waste determination as well as information pertaining to required labels, markings, containers, sampling and disposition instructions. The information given on a TRP is specific and changes to this information by the generator are not authorized. If no TRP has been received for the PWQ within seven working days, contact the Patrick F2F or your environmental coordinator to determine the status of the evaluation.
- Any questions or concerns about a particular waste stream shall be answered by the generator or the generator's Environmental Coordinator. Disagreements between the Patrick F2F and the generator or the generator's Environmental Coordinator on a particular waste stream shall be resolved by the 45 CES/CEIE Environmental Office.
- Only after the TRP has been received by the generator or the generator's Environmental Coordinator can a waste be processed for disposition through the waste support request process.
- For any unknown waste that is discovered or if a generator is unable to predict waste properties prior to generation, the waste containers should be labeled with a "Hazardous Waste Determination in Progress (HWDIP)" label and managed in an accumulation site. The label should be filled out completely to reflect the date on which the accumulation started, contents, a point of contact, phone number and organization responsible for managing the waste. The organization responsible for managing the waste must track on the label and in a log the date the analysis request was submitted, the date the sample was taken, the date the analysis results were received and the date the PWQ was submitted. The entire process should not take longer than 90

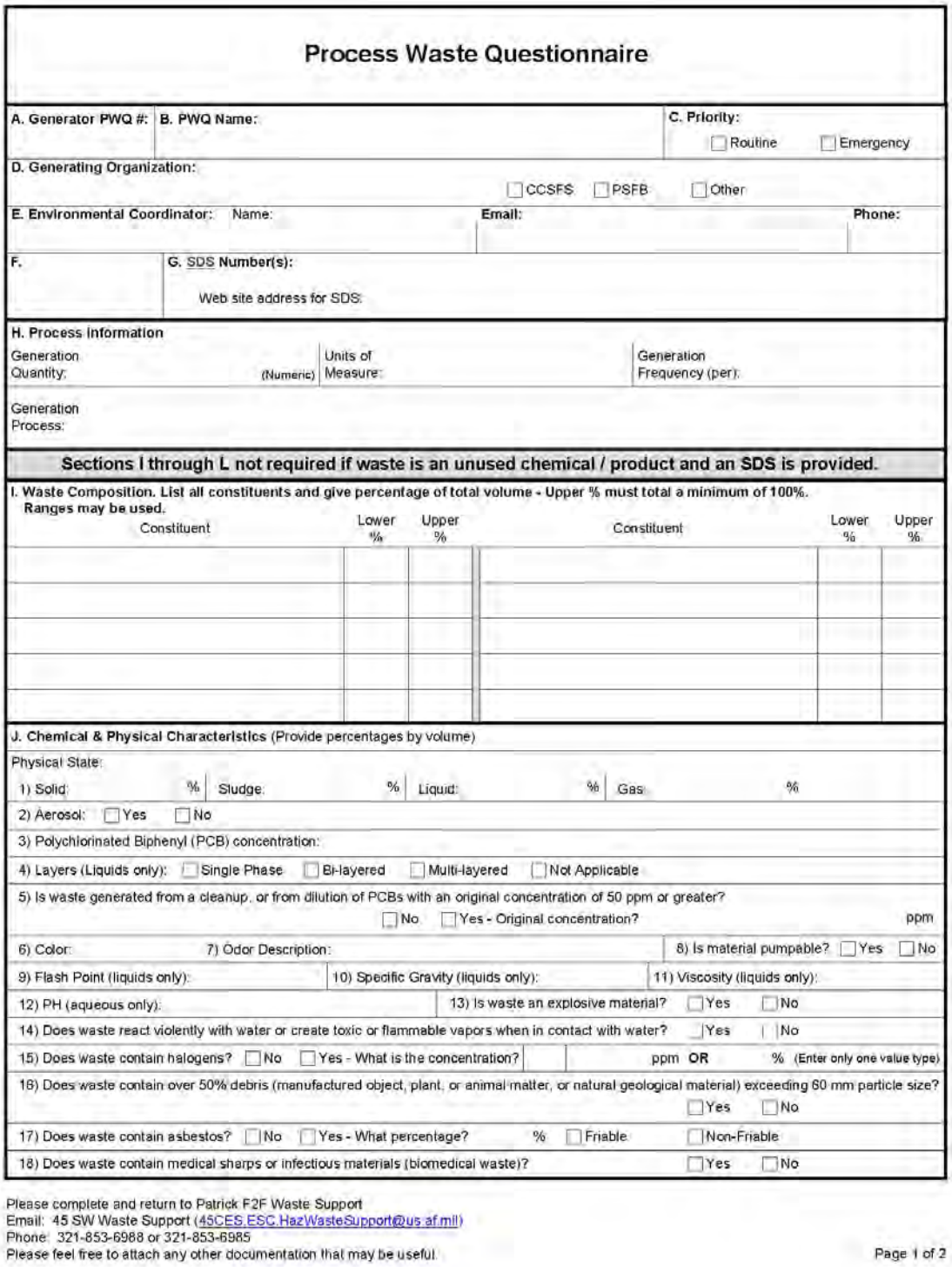
days. For new or unknown waste streams the accumulation start date will be defined as the date upon which the TRP is issued. For existing waste streams that are sampled to identify which TRP is applicable (usually hazardous or non-hazardous), the accumulation start date will be defined as the date of the chemical analysis lab report.

- No wastes or rinsates may be discharged to the sanitary sewer system without prior authorization provided by CLOIS for CCSFS and 45 CES/CEIE for PSFB through the PWQ/TRP system.
- At no time shall wastes be discharged to grade or to waters of the State of Florida without authorization from the State of Florida through the 45 CES/CEIE Environmental Office.

Sampling and Analysis Support

- It is the generator's responsibility to determine whether the generated waste meets the waste description on the original PWQ for that waste stream. If the generator is unsure whether the generated waste meets the PWQ waste description, sampling and analysis shall be conducted for verification. The sampling and analysis section of the TRP provides the recommended analysis parameters.
- Support for sampling and analysis is requested by submitting a Sampling and Analysis Authorization Form (see Figure 2) to Patrick F2F via email to 45CES.ESC.HazWasteSupport@us.af.mil or by calling 321-853-6985 or 853-6988. The Sampling and Analysis Authorization Form requires the requester (generator) to identify necessary information such as: on-site contact, number of samples to be taken, sampling parameters, waste location, what type of container the waste is in, date when analysis should be completed, etc. If you call Patrick F2F to make sampling and analysis arrangements, they will require the same information.
- Patrick F2F Sampling will provide a tracking number for the sampling operation. The generator or Environmental Coordinator shall retain this number for future reference.

FIGURE 1: Process Waste Questionnaire



Process Waste Questionnaire

A. Generator PWQ #:	B. PWQ Name:	C. Priority: ☐ Routine ☐ Emergency

D. Generating Organization: ☐ CCSFS ☐ PSFB ☐ Other

E. Environmental Coordinator: Name:	Email:	Phone:

F.	G. SDS Number(s): Web site address for SDS:

H. Process Information

Generation Quantity: (Numeric)	Units of Measure:	Generation Frequency (per):

Generation Process:

Sections I through L not required if waste is an unused chemical / product and an SDS is provided.

I. Waste Composition. List all constituents and give percentage of total volume - Upper % must total a minimum of 100%. Ranges may be used.

Constituent	Lower %	Upper %	Constituent	Lower %	Upper %

J. Chemical & Physical Characteristics (Provide percentages by volume)

Physical State:

1) Solid: %	Sludge: %	Liquid: %	Gas: %

2) Aerosol: ☐ Yes ☐ No

3) Polychlorinated Biphenyl (PCB) concentration:

4) Layers (Liquids only): ☐ Single Phase ☐ Bi-layered ☐ Multi-layered ☐ Not Applicable

5) Is waste generated from a cleanup, or from dilution of PCBs with an original concentration of 50 ppm or greater? ☐ No ☐ Yes - Original concentration? ppm

6) Color:	7) Odor Description:	8) Is material pumpable? ☐ Yes ☐ No

9) Flash Point (liquids only):	10) Specific Gravity (liquids only):	11) Viscosity (liquids only):

12) PH (aqueous only):	13) Is waste an explosive material? ☐ Yes ☐ No

14) Does waste react violently with water or create toxic or flammable vapors when in contact with water? ☐ Yes ☐ No

15) Does waste contain halogens? ☐ No ☐ Yes - What is the concentration? ppm **OR** % (Enter only one value type)

16) Does waste contain over 50% debris (manufactured object, plant, or animal matter, or natural geological material) exceeding 60 mm particle size? ☐ Yes ☐ No

17) Does waste contain asbestos? ☐ No ☐ Yes - What percentage? % ☐ Friable ☐ Non-Friable

18) Does waste contain medical sharps or infectious materials (biomedical waste)? ☐ Yes ☐ No

Please complete and return to Patrick F2F Waste Support
Email: 45 SW Waste Support (45CES.ESC.HazWasteSupport@us.af.mil)
Phone: 321-853-6988 or 321-853-6985
Please feel free to attach any other documentation that may be useful.

Page 1 of 2

FIGURE 1: Process Waste Questionnaire (Continued)

Process Waste Questionnaire

K. TCLP Toxicity Characteristics - Are there any constituents (below) present in waste? ☐ Yes ☐ No
Provide the actual concentration, or concentration range, (in mg/l) for each constituent below that is present in the waste, based on TCLP analysis and/or process knowledge.

X	EPA Waste Code	Chemical Name	Regulatory Level (mg/l TCLP)	Actual Concentration (mg/l TCLP)	X	EPA Waste Code	Chemical Name	Regulatory Level (mg/l TCLP)	Actual Concentration (mg/l TCLP)
	D004	Arsenic	5.0			D024	m-Cresol	200.0	
	D005	Barium	100.0			D025	p-Cresol	200.0	
	D006	Cadmium	1.0			D026	Cresol	200.0	
	D007	Chromium	5.0			D027	1,4-Dichlorobenzene	7.5	
	D008	Lead	5.0			D028	1,2-Dichloroethane	0.5	
	D009	Mercury *	0.2			D029	1,1-Dichloroethylene	0.7	
	D010	Selenium	1.0			D030	2,4-Dinitrotoluene	0.13	
	D011	Silver	5.0			D031	Heptachlor	0.008	
	D012	Endrin	0.02			D032	Hexachlorobenzene	0.13	
	D013	Lindane	0.4			D033	Hexachlorobutadiene	0.5	
	D014	Methoxychlor	10.0			D034	Hexachloroethane	3.0	
	D015	Toxaphene	0.5			D035	Methyl ethyl ketone	200.0	
	D016	2,4-D	10.0			D036	Nitrobenzene	2.0	
	D017	2,4,5-TP Silvex	1.0			D037	Pentachlorophenol	100.0	
	D018	Benzene	0.5			D038	Pyridine	5.0	
	D019	Carbon Tetrachloride	0.5			D039	Tetrachloroethylene	0.7	
	D020	Chlordane	0.03			D040	Trichlorethylene	0.5	
	D021	Chlorobenzene	100.0			D041	2,4,5-Trichlorophenol	400.0	
	D022	Chloroform	6.0			D042	2,4,6-Trichlorophenol	2.0	
	D023	o-Cresol	200.0			D043	Vinyl Chloride	0.2	
Total amount (not TCLP) of Mercury (if present):									

L. Underlying Hazardous Constituents - Are there any underlying hazardous constituents present in waste? ☐ Yes ☐ No
Provide the actual concentration, or concentration range, (in mg/l) for each constituent that is present in the waste, based on analysis and/or process knowledge.
SEE INSTRUCTIONS FOR UHC LIST.

Constituent Name	Concentration

Please complete and return to Patrick F2F Waste Support
Email: 45 SW Waste Support (45CES.ESC.HazWasteSupport@us.af.mil)
Phone: 321-853-6988 or 321-853-6985
Please feel free to attach any other documentation that may be useful.

Page 2 of 2

FIGURE 1: Process Waste Questionnaire (Continued)

Process Waste Questionnaire Instructions

The generator is responsible for submittal of the necessary information for Patrick F2F to perform the hazardous waste determination required by 40 CFR 262.11. Information may be determined from the generator's process knowledge, or sampling and analysis of the waste. Safety Data Sheets (SDSs), product bulletins, and product labels are valuable sources of generator's process knowledge. Generator's process knowledge should be utilized whenever possible to minimize cost and expedite evaluation. Sampling and analysis should be used when written documentation is incomplete or when the waste generating process changes the characteristics of the raw materials. In the event that a waste is of "unknown" origin and composition, analysis should be conducted for specific gravity, pH, flashpoint, Toxic Characteristic Leaching Procedure (TCLP), and identification of major components. Analytical information, SDSs, and other written documentation used for generator's process knowledge should be provided as attachments. For assistance in completing the form or determining sampling/analysis requirements, contact your Environmental Coordinator or Patrick F2F.

Upon receipt, the Process Waste Questionnaire (PWQ) will be reviewed for completeness. All fields must be completed, unless otherwise instructed. Incomplete submittals will be identified to the generating organization with a Request for More Information (RFMI), resulting in a delay of the waste evaluation.

Specific Instructions

A. A sequential PWQ control number should be assigned by each generating organization.

B. PWQ Name selected by generator to identify waste; i.e. blast media from Hangar R&D, etc.

C. Checkbox indicating this is a "Routine" priority, which requires evaluation within (14) work days or "Emergency" priority that requires evaluation within (24) hours. An emergency priority shall be used when required to avoid a regulatory compliance violation or to avoid a work stoppage. Contact Patrick F2F at 321-423-8391 when an emergency PWQ has been submitted to ensure immediate response.

D. Enter the generating organization/contractor and the government agency which has compliance responsibility for the waste.

E. Enter the name, e-mail, and phone for the generating organization's Environmental coordinator.

F. Leave Blank.

G. Mark "SDS Attached" if provided with PWQ, or supply the website address for the SDS if applicable.

H. Enter the expected generation quantity, unit of measure, and frequency for the waste. Choices for units of measure and generation frequency are provided below.

Choices for Units of Measure:

Ampoules	Buckets	Cups	Gallons	Lamps	Ounces	Quarts	Syringes	Wipes
Bags	Cans	Cylinders	Grams	Liters	Packets	Rags	Tanks	Yards
Batteries	Cartridges	Drums	Jars	Meters	Pallets	Rolls	Tons	
Bottles	Carts	Each	Kilograms	Milligrams	Pints	Spools	Tubes	
Boxes	Cubic Yards	Feet	Kits	Milliliters	Pounds	Square Feet	Vials	

Choices for Generation Frequency:

As needed	Day	Launch	Month	One Time	Project	Quarter	Week	Year

Provide detailed description of the process that generates the waste.

I. Enter the complete waste composition with ranges if applicable. If not listed on the MSDS, the manufacturer may be contacted for this information. Concentration amounts may be prefaced with > or <.

J. Physical and Chemical Characteristics

1. Physical State: Enter the percentage of the waste as solid, sludge, liquid and/or gas.
2. Aerosol: Mark "Yes" if an aerosol and "No" if not an aerosol.
3. Polychlorinated Biphenyl (PCB) Concentration: Enter the concentration of PCBs that are present in the waste. Enter one of the choices below if exact PCB concentration is not known: <3ppb (wastewaters only), <2 ppm, >=2 - <50 ppm, >=50 ppm - <500 ppm, >=500 ppm - <1500 ppm, >=1500 ppm. Enter "N/A" if no PCBs are present in the waste.
4. Layers: If waste is a liquid check whether it is single-phased, bi-layered or multi-layered liquid. If waste is not a liquid check the "Not Applicable" box. "Layering" may be estimated from SDS data on water solubility or from laboratory analysis results.
5. PCB Cleanup/Dilution: Yes or No. If yes, provide original PCB concentration (ppm).
6. Color: Enter the color of the waste.
7. Odor Description: Odor should be determined from the SDSs or other respiratory protection information. DO NOT ATTEMPT TO SNIFF THE WASTE.

Instruction Page 1 of 2

FIGURE 1: Process Waste Questionnaire (Continued)

Process Waste Questionnaire Instructions

8. Is the Material Pumpable?: Yes or No.
9. Flashpoint (liquids only): Enter the exact flashpoint if known or flashpoint range from the choices below:
   <73 Degrees F >=73 - <=140 Degrees F >140 - <200 Degrees F >=200 Degrees F Does Not Flash
10. Specific Gravity (liquids only): Enter specific gravity or specific gravity range from the choices below:
    <1 1-<2 2-3 >3 N/A
11. Viscosity (liquids only): Enter Low, Medium High or N/A (for solids and gases). Aqueous solutions are considered "low" viscosity, oily liquids are considered "medium" viscosity and honey-like liquids are considered "high" viscosity.
12. pH (aqueous only): If wastestream is aqueous enter the pH or a pH range from the choices below. If a solid or non-aqueous solution, enter "N/A" pH must be specified for aqueous waste that contains free liquids.
    <=2 >2-<5 >=5-<=10 >10-<12.5 >=12.5
13. Explosive Material: Yes or No. Explosives may be identified through examination of USDOT shipping descriptions and MSDSs for products used in the waste generating process.
14. Water Reactive: Yes or No.
15. Halogens: Yes or No. If yes, enter halogen concentration in ppm or as the percentage of the waste.
16. 50% Debris: Yes or No.
17. Asbestos: Yes or No. If yes, enter percentage of waste and indicate if the asbestos is friable or non-friable.
18. Medical Waste/Sharps: Yes or No.

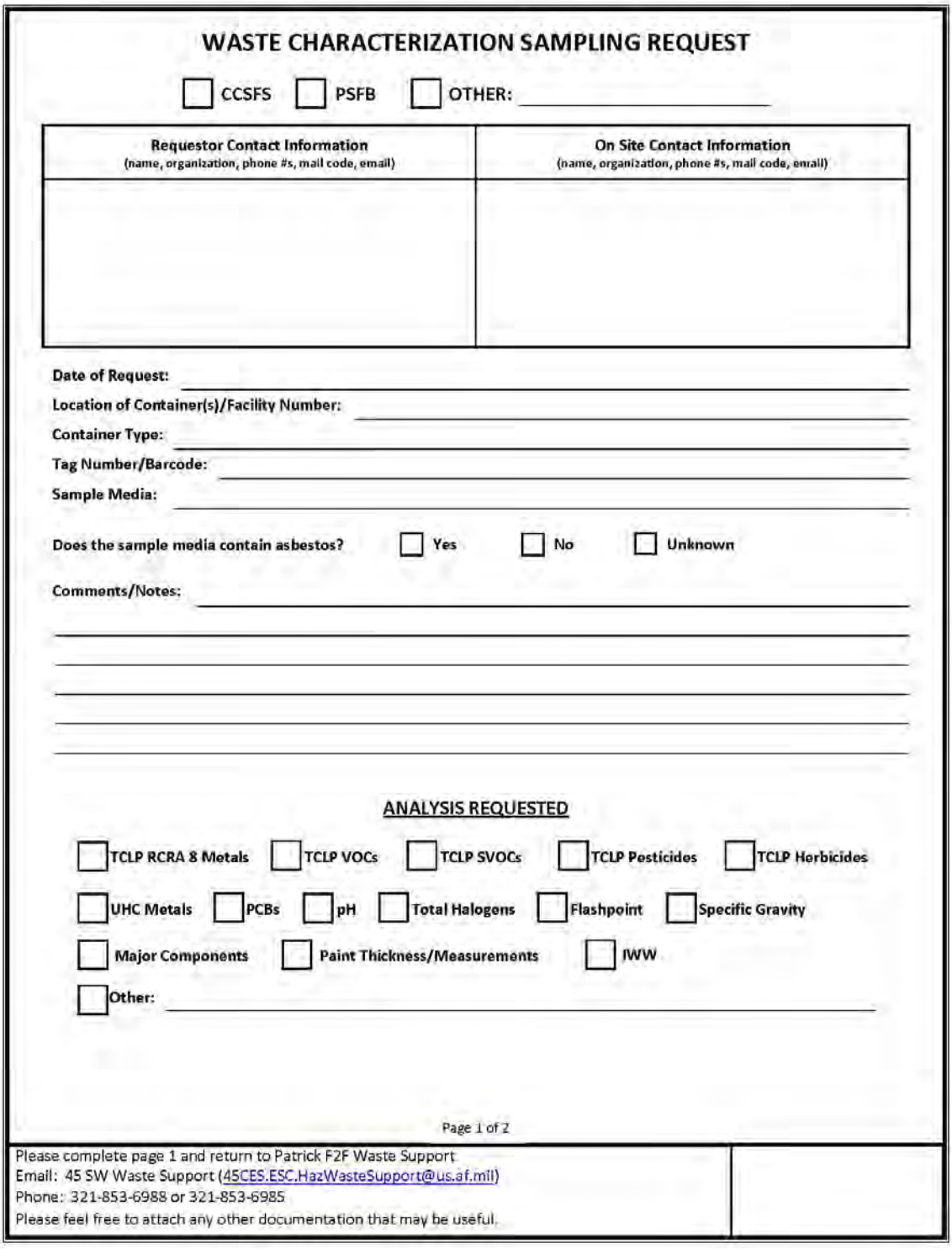
K. TCLP Toxicity Characteristics: Yes or No. If yes, mark constituent(s) and enter concentration or concentration range. The presence of TCLP toxicity characteristic constituents may be determined by any of the following methods.

1. Sampling and analysis by the Toxicity Characteristic Leaching Procedure (TCLP). If analysis will be conducted for any of the metal constituents, except mercury, please request analysis for "TCLP" metals, less mercury. Mercury and pesticides require special analytic procedures and should only be requested for analysis when suspected in the waste, or if the waste is a complete unknown.
2. Disclosure of all waste constituents with supporting SDSs.
3. Generator knowledge of the process. The generator may use knowledge of the generating process to determine the presence and concentrations of TCLP toxicity characteristic constituents in the waste. This may include use of historical data, SDS information, and/or thorough and complete knowledge of the wastestream composition and process. Generator's process knowledge must have supporting documentation and must be retained by the waste generating organization.

L. Underlying Hazardous Constituents (UHCs): Yes or No. If yes, enter constituent name and provide concentration or concentration range if known. List of UHCs is provided in Process Waste Questionnaire Instructions.

Instruction Page 2 of 2

FIGURE 2: Waste Characterization Sampling Request



WASTE CHARACTERIZATION SAMPLING REQUEST

☐ CCSFS ☐ PSFB ☐ OTHER: _____

Requestor Contact Information (name, organization, phone #s, mail code, email)	On Site Contact Information (name, organization, phone #s, mail code, email)

Date of Request: _____

Location of Container(s)/Facility Number: _____

Container Type: _____

Tag Number/Barcode: _____

Sample Media: _____

Does the sample media contain asbestos? ☐ Yes ☐ No ☐ Unknown

Comments/Notes: _____

ANALYSIS REQUESTED

☐ TCLP RCRA 8 Metals ☐ TCLP VOCs ☐ TCLP SVOCs ☐ TCLP Pesticides ☐ TCLP Herbicides

☐ UHC Metals ☐ PCBs ☐ pH ☐ Total Halogens ☐ Flashpoint ☐ Specific Gravity

☐ Major Components ☐ Paint Thickness/Measurements ☐ IWW

☐ Other: _____

Page 1 of 2

Please complete page 1 and return to Patrick F2F Waste Support
Email: 45 SW Waste Support (45CES.ESC.HazWasteSupport@us.af.mil)
Phone: 321-853-6988 or 321-853-6985
Please feel free to attach any other documentation that may be useful.

FIGURE 2: Waste Characterization Sampling Request (Continued)

Toxic Characteristic Leaching Procedure (TCLP) extraction can be performed for the categories of RCRA 8 Metals, Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), Pesticides, and Herbicides. TCLP Categories include the analysis of the following compounds:

TCLP RCRA 8 Metals	TCLP VOCs	TCLP SVOCs	TCLP Pesticides
Arsenic	1,1-Dichloroethene	o-Creosol (2-Methylphenol)	Chlordane
Barium	1,2-Dichloroethane	m-Creosol (3-Methylphenol)	Endrin
Cadmium	Methyl Ethyl Ketone (2-Butanone)	p-Creosol (4-Methylphenol)	Gamma-BHC (Lindane)
Chromium	Benzene	Creosol	Heptachlor
Lead	Carbon Tetrachloride	1,4-Dichlorobenzene	Heptachlor Epoxide
Mercury	Chlorobenzene	2,4-Dinitrotoluene	Methoxychlor
Selenium	Chloroform	Hexachlorobenzene	Toxaphene
Silver	Tetrachloroethene	Hexachlorobutadiene	
	Trichloroethene	Hexachloroethane	**TCLP Herbicides**
IWW (PAFB Only)	Vinyl Chloride	Nitrobenzene	2,4-D
Copper		Pentrachlorophenol	2,4,5-TP (Silvex)
Cyanide		Pyridine	
Molybdenum		2,4,5-Trichlorophenol	
Zinc		2,4,6-Trichlorophenol	
Nickel			

Underlying Hazardous Characteristic (UHC) Metals include: antimony, beryllium, nickel, and thallium. UHC Metals are TCLP extracted unless requested otherwise.

Major Components is typically selected for an **UNKNOWN** waste, where there is **NO** process knowledge available.

Page 2 of 2

Please complete page 1 and return to Patrick F2F Waste Support
Email: 45 SW Waste Support (45CES.ESC.HazWasteSupport@us.af.mil)
Phone: 321-853-6988 or 321-853-6985
Please feel free to attach any other documentation that may be useful.

7.3 Container Management

Container management procedures are as follows:

- Containers storing HW must be in good condition and meet transportation and other applicable requirements. “Good condition” means there should be no severe rusting, no sharp-edged creases or dents, no bulging heads, and no severe structural defects.
- Ensure that the waste material will not react with the container itself.
- Use plastic or plastic-lined steel drums to safely store corrosive wastes.
- Immediately transfer the contents of a leaking container to another container or over pack into a salvage drum.
- Containers with free liquid or drum contents on top must be cleaned or over packed in the case of a leak.
- Containers must remain closed at all times except when adding or removing waste.
- Adequate headspace must be maintained at all times when filling a container to account for content expansion. The required headspace is unique to each waste stream and expected storage conditions. For liquids and volatile chemicals, a general rule is to not fill to more than 85% of container capacity to allow for temperature changes, and this equates to approximately four inches of headspace in a typical 55-gallon drum. The ultimate requirement is performance based, such that drums do not bulge or leak. A good inspection process will enable any recommendations for specific waste streams as appropriate.
- Containers holding HW must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.
- Containers of flammable liquids must be grounded when transferring flammable liquids from one container to the other.

Installation Supplement – Container Management

- Prior to waste generation, each generator will complete a Process Waste Questionnaire (PWQ) and submit it to the Patrick F2F for characterization and waste disposal determination. Patrick F2F will provide each generator with a TRP. The TRP identifies the proper container to be used for collection of each waste.
- It is the responsibility of the generator of a hazardous or controlled waste to ensure that the waste is placed in a US Department of Transportation (DOT) approved shipping containers, marked, labeled and stored in compliance with the requirements of 40 CFR 262.30-32, 49 CFR 172.304, 173, 178 and 179. This requirement applies when accumulation of waste begins.
- Generators should maintain an appropriate number of approved containers to adequately meet their waste generation needs. Both Patrick F2F and 45 CES/CEIE maintain stock of DOT containers that can be issued to a generator in an emergency on a reimbursable basis.
- Refer to Appendix F – Waste Container Management Plan for detailed information on container management.

7.4. Labeling and Marking

Containers used for the accumulation and transportation of HW are properly labeled IAW applicable laws and regulations.

Each container is properly marked and labeled from an IAP to HWAS to disposal/turn-in. The waste-generating activity ensures that the label on each waste container is clearly visible for inspection. During accumulation at an IAP, HW containers are marked with the following:

- The words “Hazardous Waste”
- A description of the contents of the container
- The hazards associated with the waste

Once an IAP accumulates more than 55 gallons of HW (or 1 quart of acute HW), the IAP site manager marks the container with the date on which 55 gallons (or 1 quart of acute HW) is exceeded and removes the excess of 55 gallons (or 1 quart of acute HW) within three days.

HW containers 110 gallons or less that are shipped offsite are marked with the following:

- “Hazardous Waste – Federal Law prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency”
- Generator’s name and address
- Generator’s EPA ID Number
- Manifest tracking

These markings are:

- Durable
- In English
- Printed on or affixed to the surface of a package or on a label, tag, or sign displayed on a background of sharply contrasting color
- Unobscured by labels or other attachments
- Located away from any other markings that might substantially reduce visibility or effectiveness

Universal waste (UW), or a container in which a UW is contained, is labeled and marked clearly with the date the material became a waste and the name of the waste, as described below:

- UW batteries must be labeled with any one of the following phrases: “Universal Waste—Battery(ies),” or “Waste Battery(ies),” or “Used Battery(ies)”
- UW thermostats must be labeled with any of the following phrases: “Universal Waste-Mercury Thermostat(s),” “Waste Mercury Thermostat(s),” or “Used Mercury Thermostat(s)”
- UW pesticides must be labeled with one of the following phrases: “Universal Waste—Pesticide(s)” or “Waste-Pesticide(s)”
- UW lamps must be labeled with one of the following phrases: “Universal Waste—Lamp(s),” or “Waste Lamp(s),” or “Used Lamp(s)”

Installation Supplement – Labeling and Marking

Labeling and marking of all universal waste containers will follow 40 CFR 273.14.

Labeling will include all items in contact with hazardous waste as well as all vacuums, funnels, mop buckets, etc...

An indication of the hazard must be annotated on the container. A DOT label will meet these requirements with the exception of the Class 9 miscellaneous label. In the case of a Class 9 that contains as an example; solder or blast media, annotate the hazard "contains toxic metals" or use the word "toxic".

7.5 Accumulation Area Management

Accumulation area management procedures are as follows:

- IAPs are used to accumulate up to 55 gallons of HW or 1 quart of acute HW
- If HW or acute HW are accumulated in excess of these amounts, the generator marks the container with the date the amount was exceeded and transfers the container to a HWAS or TSDF within 3 days
- HW is accumulated in a HWAS for up to 90 days for a large quantity generator (LQG), or 180 days (270 days if waste has to be shipped over 200 miles) for a small quantity generator (SQG)
- HWASs comply with all applicable federal, state, and local accumulation requirements, including proper waste segregation

Installation Supplement – Accumulation Area Management

Contract Services and Construction Sites

When a construction contract indicates hazardous waste disposal falls upon contractor, the contractor must:

- Comply with all requirements IAW SLD 45 HWMP.
- Contact Patrick F2F prior to establishing an IAP/satellite accumulation point or HWAS/<90 day accumulation site.
- Conduct hazard determinations for all waste streams IAW SLD 45 HWMP and coordination through F2F contract personnel.
- Ensure that all on site personnel engaging in activities involving hazardous waste must complete RCRA hazardous waste and DOT hazardous materials training IAW SLD 45 HWMP.
- Conduct sampling for all waste streams and provide results to 45 CES/CEIE if required by contract specifications.
- Contractors must follow SLD 45 PWQ/TRP instructions and are responsible for providing DOT approved containers.
- In accordance with AFMAN 32-7002, only government employees delegated by SLD 45 Commander shall sign hazardous waste manifests for SLD 45 Installations. Contractors generating hazardous waste and disposed of through contracts must utilize Space Force installation EPA ID numbers on all manifests.
- Coordinate with 45 CES/CEIE prior to selecting a hazardous waste transporter or disposal site for hazardous waste.

Waste Accumulation Areas

Hazardous Waste Accumulation Sites (HWAS)/<90-Day Hazardous Waste Accumulation Sites

- HWAS/< 90-day accumulation sites should be approved by the base fire department prior to construction and/or use. 45 CES/CEIE Environmental office and Patrick F2F must be notified prior to generator establishment of new HWAS/< 90 day accumulation sites.
- EPA mandates that all sites that are required to have a contingency plan must also generate a quick reference guide (QRG) for emergency providers. The QRG must include types of hazardous waste being accumulated, hazards associated with each hazardous waste stream, the maximum amount of each waste that may be present at any one time. See Figure 3 for an example of a quick reference guide.
- EPA mandates all sites have a map of the facility showing where hazardous wastes are accumulated. This facility/floor map must include directions for evacuation routes, fire alarm locations, spill kit location, eye wash location and fire extinguisher location. See Figure 4 for example of a facility/floor map.
- In addition to the QRG and facility map all sites must have a street map of the facility in relation to surrounding facilities and areas to understand how best to get to the facility and also how to evacuate personnel in the event of an emergency. See Figure 5 for an example of the street map. The QRG, facility map and street map are given to the base fire department.
- The Patrick F2F will provide the generator with a tracking barcode that will be entered into EESOH-MIS database, enabling the Air Force/Space Force to track all containers as required.
- The accumulation start date and the words "HAZARDOUS WASTE" must be written on each hazardous waste container at HWAS/<90-day accumulation sites the day the first drop of hazardous waste is placed in the drum.
- An indication of the hazard must be annotated on the container. A DOT label will meet these requirements with the exception of the Class 9 miscellaneous label. In the case of a Class 9 that contains solder or blast media, annotate the hazard “contains toxic metals” or use the word “toxic”.
- There is no limit regarding the volume of waste that can be accumulated at a HWAS/<90-day hazardous waste accumulation site.
- Hazardous waste must be moved from the HWAS/<90-day accumulation site to the on-base RCRA permitted storage facility or shipped off-site to a permitted TSDF within 90 days from the accumulation start date. Notify 45 CES/CEIE Environmental office or Patrick F2F immediately if there are suspected problems with meeting these requirements.
- Funnels are not allowed to remain in drums that are stored in a HWAS/<90-day accumulation site. The funnel can be placed in the bung opening when waste is being added to the drum. Once the waste is added, the funnel must be removed and both bungs screwed completely back into their respective opening. All open top drums in a HWAS/<90-day accumulation sites must have the drum ring or a quick release ring securely in place around the drum.
- Controlling access to the active portion of the site by use of fences or other barriers (i.e., locked doors) is required.
- To further control access to HWAS/<90-day accumulation sites a sign stating:
- "DANGER UNAUTHORIZED PERSONNEL KEEP OUT" should be posted. Sites should have a sign that states "In Case of Emergency Dial 911" posted in clear view. Installation emergency telephone number, if other than 911, must be used.

- Sites must have signs identifying the hazardous waste site manager by name and manager's phone number.
- “No smoking” signs are required where ignitable and reactive wastes are stored.
- Incompatible materials must be segregated and segregated areas should be placarded to identify waste types, i.e., ignitable, reactive, corrosive.
- Portable fire extinguishers or other fire control equipment shall be available at each site. The base fire department will determine the required equipment at the time the site is established, or whenever the type or quantity of waste stored at the site changes.
- A water source at an adequate volume to supply hoses and/or sprinklers is required. Emergency eyewashes and showers are required.
- An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel must be available. (An air horn or bell will suffice.)
- A device, such as a telephone (immediately available in the area of operations) or a hand held two-way radio capable of summoning emergency assistance from Cape Support or the fire department should be present.
- Sufficient aisle space must be maintained between rows of drums to allow unobstructed movement of emergency personnel to any area of facility operations.
- Emergency response equipment (spill kits) should be maintained and readily available. Spill kit content and quantity is dependent upon types and quantity of wastes stored at each facility. A Recommended List of Emergency Response Equipment is available in Table 3. Neutralizers, in sufficient quantity to neutralize acid or caustic spills, are recommended for all facilities handling acids or caustics.
- An impermeable surface with secondary containment that is capable of holding at least 110 percent of largest container's total capacity is recommended for storing liquid waste at sites.
- Ensure ignitables are grounded and bonded to a ground when adding waste to containers or removing waste from containers.
- A copy of the current SLD 45 HWMP with revisions must be maintained and readily available.
- A copy of the current SLD 45 Installation Emergency Management Plan 10-2 (IEMP) must be maintained and readily available.
- PWQs, associated chemical analyses, supporting SDSs and the resultant TRPs must be retained by the generator for three years from the date the waste is last generated.
- Records for all facility personnel who manage hazardous waste accumulation site(s) must meet the requirements of 40 CFR 262.17. Records are to include a job title, job description explaining hazardous waste responsibilities and documentation of initial and refresher training. These records must be maintained and readily available.
- Facility inspection schedule and inspection log detailing specific inspection items, inspection dates and times, the legibly printed name of the person conducting inspections, condition and number of drums in storage and date and nature of repairs or remedial actions must be maintained and readily available. Requirements for inspections and checklists are listed in Appendix D.
- All records must be maintained on installation at the accumulation site, the nearest administrative area, or at that organization's environmental office for a minimum of three years.
- Training records on former employees must be kept for at least three years from the date the employee last worked at the facility.
- A site specific hazardous waste contingency plan must be posted. (See Figure 5 for a sample contingency plan.)

Initial Accumulation Point (IAP)/Hazardous Waste Satellite Accumulation Points

- IAP/Satellite accumulation points should be approved by the base fire department prior to construction and/or use. 45 CES/CEIE Environmental Office and Patrick F2F must be notified prior to generator establishment of new IAP/satellite accumulation Points.
- EPA mandates that all sites have a quick reference guide (QRG) of a contingency plan for emergency providers. The QRG must include types of hazardous waste being accumulated, hazards associated with each hazardous waste stream, the maximum amount of each waste that may be present at any one time. See Figure 3 for an example of a quick reference guide.
- EPA mandates all sites have a map of the facility showing where hazardous wastes are accumulated. This facility/floor map must include directions for evacuation routes, fire alarm locations, spill kit location, eye wash location and fire extinguisher location. See Figure 4 for example of a facility/floor map.
- In addition to the QRG and facility map all sites must have a street map of the facility in relation to surrounding facilities and areas to understand how best to get to the facility and also how to evacuate personnel in the event of an emergency. See Figure 5 for an example of the street map. The QRG, facility map and street map are given to the base fire department.
- Before a new hazardous waste container is started, a barcode number must be issued and documented in the EESOH-MIS. Written notification through E-mail, must be made to Patrick F2F prior to starting the new container. The Patrick F2F will provide the generator with a tracking barcode that will be entered into EESOH-MIS database enabling the Air Force to track all containers as required.
- A satellite accumulation point has an indefinite accumulation time, but a maximum of only 55 gallons per waste stream of hazardous waste, or one quart of liquid or one kilogram of solid acutely hazardous waste (P listed, i.e., P078) can be accumulated. The container must be dated and moved to a <90-day site, the on-base permitted or an off-site permitted TSD facility within 72 hours of the generation of any quantity exceeding 55 gallons or one quart of liquid or one kilogram of solid acutely hazardous waste.
- The satellite accumulation point must be at or near the point of generation and under the control of the operator of the process generating the waste.
- The words "HAZARDOUS WASTE" or other words depicting the contents of the waste container (e.g. “Waste Paint”) must be written on each drum of waste.
- An indication of the hazard must be annotated on the container. A DOT label will meet these requirements with the exception of the Class 9 miscellaneous label. In the case of a Class 9 that contains solder or blast media annotate the hazard, “contains toxic metals” or use the word “toxic”.
- Funnels are allowed to remain in drums that are in a satellite accumulation point. The funnel must be a “screw-in” type with a lid that has a gasket and is lockable. The funnel lid must remain closed at all times except when adding waste to the drum. Use of locks is recommended to ensure contamination of the waste stream does not occur and the waste remains under the control of the accumulation point manager.
- All open top drums in IAP/satellite accumulations points must have the drum ring securely in place around the drum. Use of a quick-release drum ring is recommended during accumulation.

- All containers should be stored off the ground on pallets, or if possible within secondary containment system. Placing locks on the drums or on the secondary containment system is recommended to ensure the waste remains under the control of the accumulation point manager.
- Signs identifying the accumulation point's manager and manager's phone number are required where accumulation points are located outside and are recommended for inside accumulation points where feasible.
- A copy of the current SLD 45 HWMP and the current SLD 45 IEMP 10-2, must be maintained and readily available.
- Documentation of annual hazardous waste training is required by AFMAN 32-7002.
- PWQs, associated chemical analyses, supporting SDSs and the resultant TRPs must be retained by the generator for three years from the date the waste was last generated.
- Records for all facility personnel who manage hazardous waste accumulation site(s) must meet the requirements of 40 CFR 262.17. Records are to include a job title, position description explaining hazardous waste responsibilities and documentation of initial and refresher training. These records must be maintained and readily available.

Non-Hazardous Waste Accumulation Areas

- All containers should be stored off the ground on pallets, or if possible within secondary containment system. Placing locks on the drums or on the secondary containment system is recommended.
- All waste accumulation containers should be labeled to clearly identify the contents of the containers.
- Although RCRA record keeping is not required for non-hazardous waste accumulation sites, it is recommended that a current copy of this plan SLD 45 HWMP and the current SLD 45 IEMP 10-2, be maintained and readily available.

All hazardous waste accumulations areas are tracked/updated by the Patrick F2F in the Hazardous Waste Site Master database.

Any shop that has a waste accumulation area must label vacuums, floor scrubbers and mop buckets with their shop location and dedicated use or process.

Permitted Waste Storage and Treatment Facilities

Permitted Hazardous Waste Storage Facilities

- The FDEP is authorized by the EPA to issue permits for hazardous waste treatment, storage and disposal facilities. The permits and permit applications are legally binding. This plan is a part of the Air Force permits for PSFB and CCSFS. TSDF permits list the specific hazardous waste streams that are allowed to be stored within the facility, therefore, it is essential that new waste streams be forecast as early as possible to ensure arrangements for treatment, storage and/or disposal are made for waste streams that cannot be stored in the on-base TSDF.
- The permitted storage facilities can store hazardous wastes for one year (See 40 CFR 268.50(b)). The date the hazardous waste enters a permitted storage facility must be written on the waste container and the waste must be shipped off site within one year of that storage date (see 40 CFR 268.50(a)(2)(i) and (b)).

- The permitted hazardous waste storage facilities at CCSFS and PSFB are operated in accordance with the current FDEP Permits by the Patrick F2F and 45 CES/CEIE Environmental Office.
- Physical requirements for the permitted storage facilities are listed in the respective permit and permit application. Note: at PSFB Facility 947 is for storage only and container lids are torqued correctly or properly sealed for transportation and not opened once in Facility 947.
- Permitted facility standards are listed in the permit and permit application and in 40 CFR 264.
- In addition, the permitted storage facilities must have signs that are legible from a distance of at least 25 feet at each entrance that read:

DANGER
HAZARDOUS WASTE STORAGE
UNAUTHORIZED PERSONNEL KEEP OUT
Telephone XXX-XXXX for Access
Maximum Storage Capacity XXX Drums

- Permitted facilities must have a copy of the current FDEP hazardous waste permit and the site specific hazardous waste contingency plan and this plan.
- Operating records as defined in the facility permit and 40 CFR 264.73 must be kept until closure of the facility per 49 CFR 264.74.
- A log must be maintained for each permitted facility. This log must include the location and quantity of waste currently in storage, a description and the quantity of each hazardous waste received and the method(s) and date(s) of its treatment, storage or disposal which include the following:
    - Description by common name and EPA hazardous waste number(s) that apply to the waste.
    - Physical form of the waste, i.e., liquid, solid, sludge, or contained gas.
    - The estimated weight, or volume and density (i.e., P = pounds).
    - Each facility must have signs identifying the facility manager by name and manager's phone number.
- “No smoking” signs are required where ignitable and reactive wastes are stored.
- Incompatible materials must be segregated and segregated areas must be placarded to identify waste types, i.e., ignitable, reactive, corrosive.
- Portable fire extinguishers or other fire control equipment shall be available at each facility. The base fire department will determine the required equipment at the time the site is established, or whenever the type or quantity of waste stored at the site changes.
- A water source at an adequate volume to supply hoses and/or sprinklers and emergency showers/eyewashes is required.
- Emergency response equipment (spill kits) should be maintained and readily available. Spill kit content and quantity is dependent upon types and quantity of wastes stored at each facility.
- An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel must be available. (An air horn or bell will suffice.)
- A device, such as a telephone (immediately available in the area of operations) or a hand held two-way radio capable of summoning emergency assistance should be present.
- Sufficient aisle space must be maintained between rows of drums to allow unobstructed movement of emergency personnel to any area of facility operations.

- Facility inspection schedule and inspection log detailing specific inspection items, inspection dates and times, person conducting inspections, condition and number of drums in storage and date and nature of repairs or remedial actions must be kept. Requirements for inspections and checklists are listed in Appendix D.
- A copy of any reports of spills, fires, or explosions relating to the respective permitted storage facility operations must be maintained during the operating life of the facility.
- Training records on former employees must be kept for at least three years from the date the employee last worked at the facility.

Permitted Hazardous Waste Thermal Treatment Facility

- The Explosive Ordnance Disposal (EOD) facility located at facility 15305 CCSFS is permitted to treat solid reactive ordnance hazardous wastes (waste code D003 only) as defined in the FDEP permit application.
- The treatment limit is 100 pounds net explosive weight (NEW) per event. Items which are not identified in the permit or which exceed 100 pounds NEW will be treated only after FDEP issues a onetime emergency permit. This permit application must be submitted to FDEP by 45 CES/CEIE Environmental Office prior to any movement or treatment of the waste. The treatment must then be accomplished in accordance with the Emergency Permit issued by FDEP. Any after action report required by the permit must be submitted to 45 CES/CEIE Environmental Office for submittal to FDEP within the timelines established by the emergency permit.
- Physical requirements for the permitted EOD thermal treatment facility are listed in the permit and permit application.
- Permitted facility standards are listed in the permit and permit application and in 40 CFR 264. In addition, the permitted treatment facility must have signs that are legible from a distance of at least 25 feet at all approachable entrances that read:

DANGER
UNAUTHORIZED PERSONNEL KEEP OUT

- Permitted facilities must have a copy of the current FDEP hazardous waste permit and the site specific hazardous waste contingency plan and this plan.
- Operating records as defined in the facility permit must be kept until closure of the facility.
- A log must be maintained for each permitted facility. This log must include the following:
    - Description and quantity of each hazardous waste received and treated and dates of its treatment.
    - Weather conditions to include humidity, weather forecast, wind speed and wind direction at each treatment event.
    - The method by handling code of treatment (i.e., T18=open burn/open detonation).
- The treatment activities at this facility may only be accomplished by EOD personnel or civilian contractors specifically trained in accordance with EOD procedures and under the following conditions:
    - Daylight hours,
    - Wind speeds less than or equal to 15 mph,
    - No electrical storms within 3 miles of the open burn unit,
    - No forecast of a major storm,
    - No inversion forecast,

    - Maximum of 100 pounds NEW treated per event.
- A sign identifying the area manager by name and manager's phone number must be posted at the satellite accumulation point.
- “No smoking” signs are required
- Fire protection to assure confinement and control of any fire resulting from the operation is required.
- A device, such as a telephone (immediately available in the area of operations) or a hand held two-way radio capable of summoning emergency assistance should be present.
- Emergency response actions are exempt from all permit requirements

FIGURE 3: Quick Reference Guide

QUICK REFERENCE GUIDE

FACILITY 55118 – UNIVERSAL WASTE DROP-OFF FACILITY

Cape Canaveral Air Force Station, FL

Facility Contacts:

911 (Manned 24/7)

Primary Emergency Coordinator: Duane Hill Mobile Number (24/7): 321-408-0509

Secondary Emergency Coordinator: Rebecca Fafard Mobile Number (24/7): 321-408-0279

NOTE: Facility 55118 is manned Tuesday/Thursdays from 1300-1400 hours

Hazardous Waste Information:

Name of Waste (Process Waste Code)	Waste Codes/Hazard	Location Accumulated	Maximum Amounts Present	Response Notes	Special Notes to Hospital/Treatment personnel	Emergency Equipment
Aerosol Cans (HG0001)	D001 (ignitability, flashpoint < 140F)	SE Corner	One, 55 gallon drum	Contents under pressure. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back.	None	Spill kit, broom, dustpan, Shop Vacuum.
Bulb crusher filters (HL3700)	D009 (mercury)	NW Wall on shelf	One, 5 gallon bucket	Ventilation and personal protective equipment such as respirators may be needed.	Possible inhalation of mercury vapor.	Spill kit, broom, dustpan, Shop Vacuum.
Crushed Mercury Lamps (HD0031)	D008 (Lead) D009 (Mercury)	NW section of building	Up to 55 Gallons(Satellite Site)	Ear, eye and hand protection (Cut proof gloves) required.	Possible inhalation of mercury vapor.	Spill kit, broom, dustpan, Shop Vacuum.

FIGURE 4: Facility Floor Map Example Facility 55118

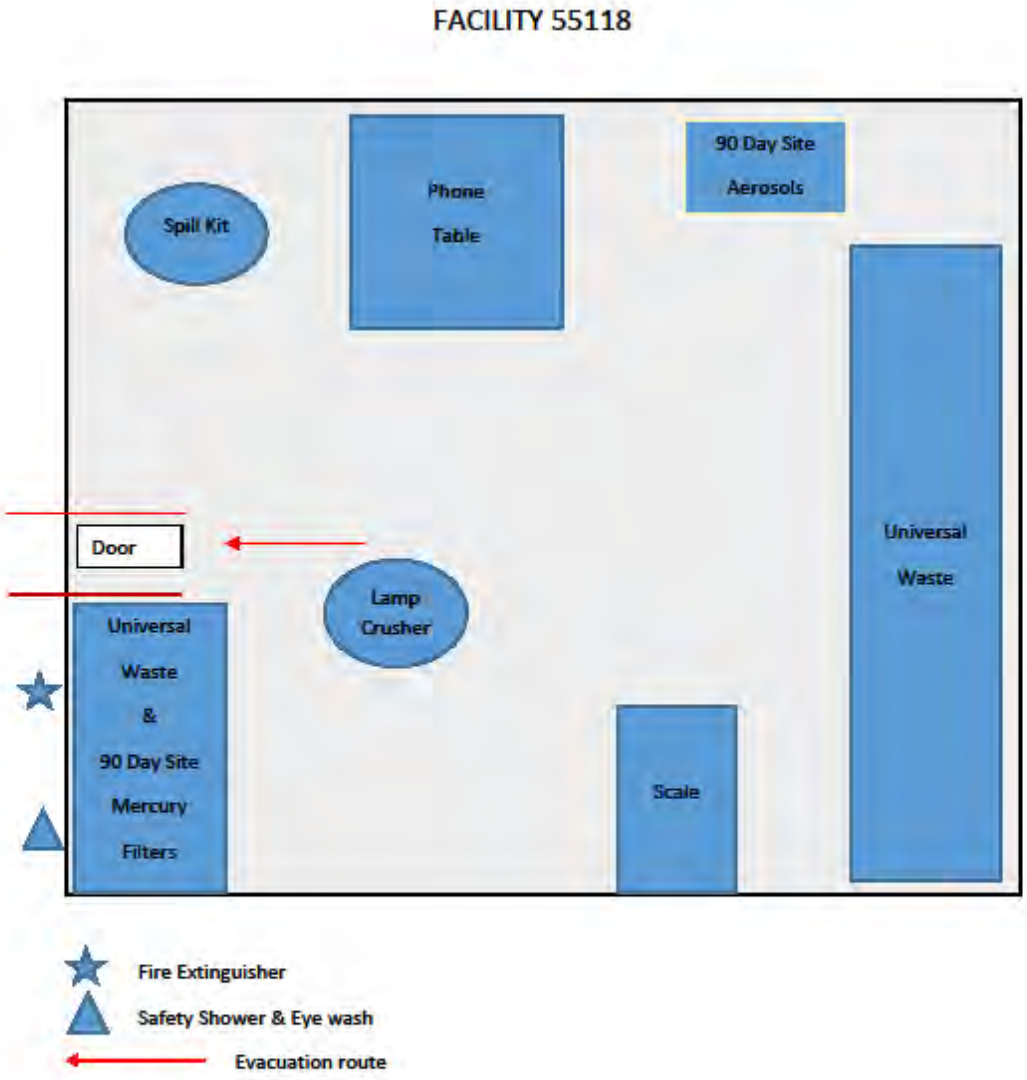
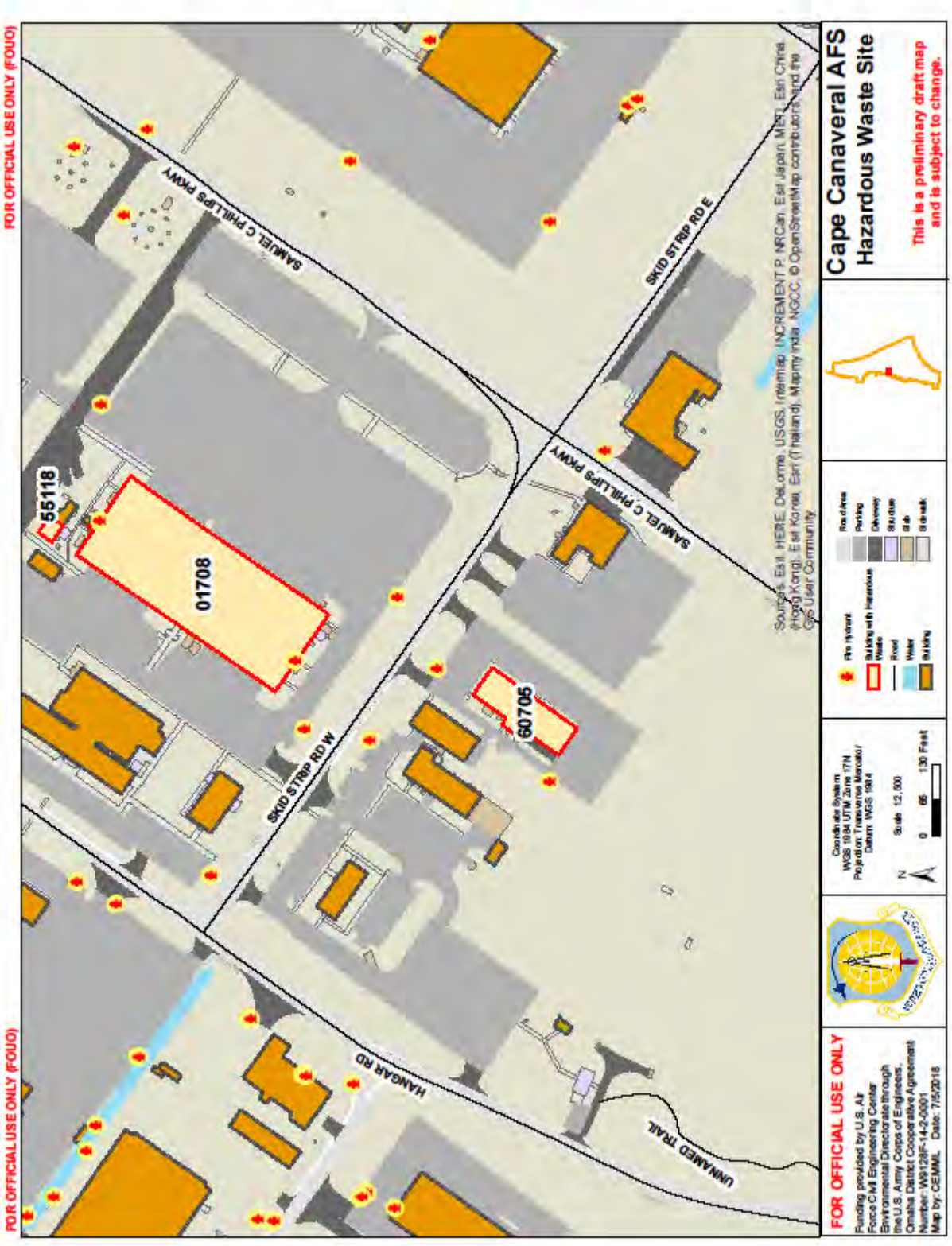


FIGURE 5: Street Map FOUO



7.6 Transportation

The HW Program Manager has overall responsibility for the transportation of HW from an IAP to an HWAS, and from an HWAS to the disposal facility. The HW Program Manager ensures:

- All transportation over public highways is conducted IAW applicable Department of Transportation (DOT) requirements
- Containers are DOT approved
- Transporters have the appropriate training
- Uniform HW manifests are prepared for offsite transportation (electronically or paper)
- All necessary documentation has been completed and records are maintained IAW all applicable federal, state, and local requirements and the AF Records Disposition Schedule

Installation Supplement – Transportation

Waste Pick-Up Support

- The generator must complete the PWQ/TRP process for a waste stream prior to requesting waste pickup support.
- The Waste Support Request Form (See Figure 6) must be used to request waste pick-up support for CCSFS and PSFB and should be submitted to the Patrick F2F by email at 45CES.ESC.HazWasteSupport@us.af.mil.
- If the waste is located at a <90-day accumulation site, it is recommended that pickup support be requested by the 75th day of accumulation. If pick up has not been accomplished by the 85th day, generator should contact Patrick F2F at 321-853-6985 or 853-6988. If generator has been unable to reach Patrick F2F to confirm pick up, they may contact CES/CEIE Environmental Office at 321-494-9270 to ensure pick up prior to the 90th day of accumulation.
- Pick up support for waste located at a satellite accumulation site should be requested once either 55 gallons of hazardous or 1 quart of liquid or 1 kilogram of solid acute hazardous waste. The generator should not generate any additional waste until pick up has occurred. In situations where additional waste must be generated prior to pick up, generator must immediately request an emergency or urgent pick up from Patrick F2F and the waste must be moved from the IAP/SAA within 72 hours. The date must be placed on the container once additional waste is generated. The waste generator should contact Patrick F2F waste operations by phone to confirm receipt of an emergency or urgent waste support request. Any problems that a generator or Environmental Coordinator encounters with receiving, sampling, analysis or waste pickup support should be relayed to the Patrick F2F or directly to the 45 CES/CEIE Environmental Office. At the time of waste pickup, the generator or Environmental Coordinator shall provide an Internal Controlled Waste Manifest (see Figure 7: Controlled Waste Manifest and corresponding instructions) with each waste to be picked up by Patrick F2F. The internal manifest corresponds directly with the PWQ/TRP and should be filled out accurately prior to the scheduled pick of waste.

FIGURE 6: Waste Support Request Form

Waste Support Request

☐ PAFB ☐ CCAFS

Submit Email Request To:
45CES.ESC.HazWasteSupport@us.af.mil

1. Type of Support (Check One) ( ) Drum Pickup ( ) Waste Pump out ( ) Other Support

2. Pickup Priority (Check One) ( ) Emergency (24 hr) ( ) Urgent (72 hr.) ( )Routine(< 10 days)

3. Waste Location (Facility Number) _____

4. Customer Name / Phone _____

5. Technical Contact On-Site / Phone _____

6. Requestor Email: _____ Request Date: _____

(7) Waste Process Code	(8) Container Type	(9) Container Volume	(10) Number of Containers	(11) Accumulation Start Date	(12) Tag/Drum Number(s)
	Select Type				
	Select Type				
	Select Type				
	Select Type				
	Select Type				
	Select Type				

Comments

FIGURE 6: Waste Support Request Form (Continued)

WASTE SUPPORT REQUEST INSTRUCTIONS

1. TYPE OF SUPPORT- Other support includes labpack pickup, waste transfers, spill cleanup, lamp box deliveries, and other miscellaneous tasks.
2. PICKUP PRIORITY- Enter priority of support, as described below:
   Emergency- Required within 24 hours to mitigate compliance deadlines or work stoppages, such as hazardous waste approaching 90-day accumulation time limit.
   Urgent- Hazardous waste must be moved within three days in order to maintain satellites accumulation sites.
   Routine- Waste will be picked up during routine scheduled runs, within ten days.
3. WASTE LOCATION- Enter the facility where the waste is located, or the closest fixed location.
4. CUSTOMER NAME / PHONE- Enter the name and phone number of your environmental support person.
5. TECHNICAL CONTACT ON-SITE / PHONE- Enter the name and phone number of the person that will be present during waste removal. Phone number can include cell phones.
6. REQUESTOR Email - Enter the requestor's email here.
7. WASTE PROCESS CODE- Enter per Technical Response Package (TRP) issued (i.e. PAF- HG0001- 313)
8. CONTAINER TYPE- Enter the container type, as described below:

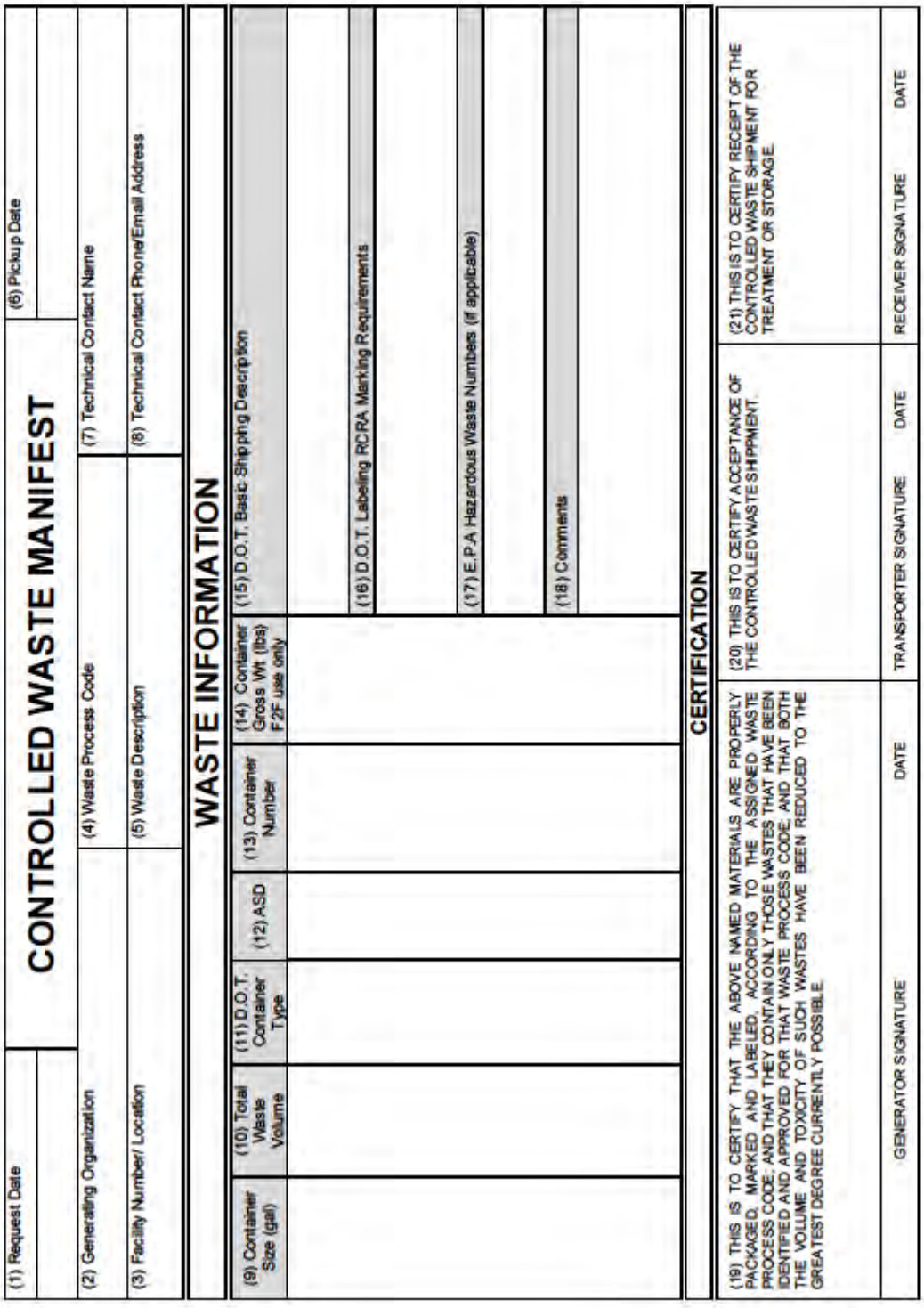
   UN1A1- STEEL DRUM- BUNG TYPE
   UN1A2- STEEL DRUM -OPEN TOP LID
   UN1H1 - POLY DRUM -BUNG TYPE
   UN1H2- POLY DRUM- OPEN TOP LID
   UN6HA1 -STEEL DRUM LINED IN POLY -BUNG TYPE
   UN6HA2- STEEL DRUM LINED IN POLY- OPEN TOP LID
   BOX - CORRUGATED CARDBOARD BOX
   CYL- CYLINDER

'NOTE- CONTAINER TYPE MUST FOLLOW PACKAGING GUIDELINES FOUND IN TECHNICAL RESPONSE PACKAGE (TRP) FOR SPECIFIC WASTE STREAMS.

9. CONTAINER VOLUME- Enter the volume of the container in gallons.
10. NUMBER OF CONTAINERS- Enter the number of containers.
11. ACCUMULATION START DATE- Enter as described below:

    HAZARDOUS WASTE
    (90-day site)- The date when the first drop of waste is placed into drum.
    (Satellite site)- The date the drum is removed from site.
    POLYCHLORINATED BIPHENYL (PCB)- Enter the Out-Of-Service date.
    NON REGULATED WASTES- Does not require accumulation start date.

FIGURE 7: Internal Controlled Waste Manifest



CONTROLLED WASTE MANIFEST

(1) Request Date		(6) Pickup Date

(2) Generating Organization	(4) Waste Process Code	(7) Technical Contact Name
(3) Facility Number/ Location	(5) Waste Description	(8) Technical Contact Phone/Email Address

WASTE INFORMATION

(9) Container Size (gal)	(10) Total Waste Volume	(11) D.O.T. Container Type	(12) ASD	(13) Container Number	(14) Container Gross Wt (lbs) F2F use only	(15) D.O.T. Basic Shipping Description

(16) D.O.T. Labeling RCRA Marking Requirements

(17) E.P.A Hazardous Waste Numbers (if applicable)

(18) Comments

CERTIFICATION

(19) THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY PACKAGED, MARKED AND LABELED, ACCORDING TO THE ASSIGNED WASTE PROCESS CODE, AND THAT THEY CONTAIN ONLY THOSE WASTES THAT HAVE BEEN IDENTIFIED AND APPROVED FOR THAT WASTE PROCESS CODE, AND THAT BOTH THE VOLUME AND TOXICITY OF SUCH WASTES HAVE BEEN REDUCED TO THE GREATEST DEGREE CURRENTLY POSSIBLE.

GENERATOR SIGNATURE	DATE

(20) THIS IS TO CERTIFY ACCEPTANCE OF THE CONTROLLED WASTE SHIPPMENT.

TRANSPORTER SIGNATURE	DATE

(21) THIS IS TO CERTIFY RECEIPT OF THE CONTROLLED WASTE SHIPMENT FOR TREATMENT OR STORAGE.

RECEIVER SIGNATURE	DATE

FIGURE 7: Internal Controlled Waste Manifest (Continued)

MANIFEST PREPARATION INSTRUCTIONS

1. Enter the date that the Waste Support Request, was submitted for the waste pickup.
2. Enter the government or contractor name, which generated the waste.
3. Enter the waste location by facility number.
4. Enter the Waste Process Code assigned by Patrick F2F Haz Waste Group on the PWQ/TRP, for the specific process at the specific facility.
5. Include a description of the waste to be picked up (e.g., paint solvents)
6. Enter the date the waste must be picked up, corresponding to the Pickup Priority requested on the Waste Support Request
7. Enter the name of the technical contact for the generating organization.
8. Enter the telephone number and the mail code of the technical contact for the generating organization.
9. Enter the size of each container to be picked up or pumped out as bulk transfer (by line item).
10. Enter the total volume of waste from all containers or from the bulk transfer gallons.
11. Enter the D.O.T. specification number for each container or other descriptive information for each container (by line item).
12. Enter the Accumulation Start date (ASD) for hazardous waste, universal waste, or petroleum contact water.
13. Enter the container number on the bar code tag for each container. If containers are not pre-tagged, they will be tagged at pickup by Patrick F2F Haz Waste Group.
14. This field is for Patrick F2F TSDF personnel use only.
15. Enter D.O.T. basic description from the PWQ/TRP.
16. Enter the D.O.T. labeling and RCRA marking requirements from the Hazardous Waste Profile Sheet.
17. Enter the E.P.A. Hazardous Waste Number(s), if applicable, from the PWQ/TRP.
18. The generator may use this Comment field to clarify manifest entries, if necessary. This field may also be used by Patrick F2F Haz Waste Group to note any discrepancies or special handling instructions.
19. To be signed and dated by the technical contact who can certify the contents of the waste as they are identified on the manifest.
20. To be signed and dated by the transporter who picked up the waste or wastes identified on the manifest.
21. To be signed by receiving facility representative upon receipt of the manifested waste at the treatment or storage facility.

7.7 Turn In/Disposal

The turn in procedures contained in DoD 4160.12-M. DLA Disposition Services are followed. In the event an alternate route for disposal is needed, a waiver will be obtained with proper justification and approval.

Containers are inspected prior to turn-in to ensure that container management procedures have been followed and that containers are properly labeled and in good condition. If the container is not in good condition, contents are transferred to a container that is in good condition.

Installation Supplement – Turn In/Disposal

SLD 45 generators submit a Waste Support Request referencing PWQ/TRP for waste pick-up.

In house Controlled Waste manifests are used to ensure delivery from tenant organizations to TSDF.

7.8 Inspection

Inspection processes fulfill the "Check" function of the EMS "Plan, Do, Check, Act" cycle. HWASs are inspected at least weekly to ensure proper accumulation and container management. Resource Conservation and Recovery Act (RCRA) Part B permitted storage facilities are inspected according to the inspection schedule established in the permit. All other inspections occur IAW AFI 90-201, *The Air Force Inspection System*, and the Commander's Self Inspection Program. Inspection records are maintained IAW the Recordkeeping and Reporting section of this plan.

Installation Supplement – Inspection

Hazardous Waste Permitted Facilities and HWAS/<90-Day Accumulation Sites

- The Hazardous Waste Inspection Plan (Appendix D) is a part of the hazardous waste permits for PSFB and CCSFS and compliance is required.
- The inspection checklist in Appendix D is the only approved Hazardous Waste Site Inspection checklist for permitted facilities and is the recommended Waste Site Inspection Checklist for HWAS/<90-day accumulation sites. Inspections must be conducted and recorded weekly by trained hazardous waste personnel.
- On a quarterly basis, Patrick F2F reviews and inspects all hazardous waste accumulation sites on CCSFS, PSFB and mainland annexes including tenants and contractors, to ascertain compliance with State, Federal and AF hazardous waste regulations and this plan. Provides written notification of inspection deficiencies to the 45 CES/CEIE Environmental Office of accumulation sites to ensure deficiencies are corrected in a timely manner; re-inspects sites to verify deficiencies have been corrected.

Hazardous Waste IAP/Satellite Accumulation Sites and Non-Hazardous Waste Accumulation Sites

Although documented inspections are not required for hazardous waste IAP/satellite accumulation sites and non-hazardous waste accumulation sites, it is recommended that routine visual inspection of containers be conducted at all waste accumulation areas to prevent spills and to ensure compliance with all applicable regulations.

All accumulation sites will label vacuums, floor scrubbers and mop buckets with their shop location and dedicated use or process. These containers may be considered accumulation points and a PWQ needs to be submitted to characterize possible wastes in these containers

7.9 Waste Minimization/HW Recycling

HW manifests include certification that a waste minimization program is in place. Below are key activities and processes that are performed as part of waste minimization and pollution prevention efforts:

- Hazardous material process authorization and hazardous materials management processes – Each process involving use of hazardous materials and generation of waste streams is evaluated and authorized. Process authorization is performed through EESOH-MIS. The HW Program Manager, Hazardous Materials Management Program (HMMP) Team, and the generating activity make a final determination whether or not the results of the process authorization effort are sufficient to reduce waste toxicity and volume
- Procurement and use of minimal quantities – When a material with environmental risk must be used, minimal quantities are procured to minimize surplus quantities and shelf life exceedances
- Recycling – When the use of hazardous materials is unavoidable, excess or waste material is evaluated for reuse or recycling
- Environmental action planning – Environmental action plans (EAPs) are developed and maintained as part of the overall EMS. EAPs are management plans that translate environmental objectives and targets into actionable plans. Waste minimization efforts are considered during development of EAPs
- Recycle or reclaim RCRA Subtitle C HW as appropriate, maximize RCRA authorized exclusions, variances, or exemptions to reduce the amount of HW and other regulated waste generated, avoid disposal costs, and improve solid waste diversion rates
- Specific installation procedures are outlined below

Installation Supplement – Waste Minimization

Preferred options for waste minimization, in order of preference, include cessation of waste generation (such as by product substitution), reclamation or recycling.

- Each generator is responsible for identifying wastes and changes to waste generating processes via the PWQ-TRP process.
- Treatment of a characteristic hazardous waste in the generator accumulation container within the <90-day accumulation time to render a waste non-hazardous is allowed in accordance with 40 CFR 268. For example, corrosives may be neutralized to where they are no longer corrosive. All proposed treatments must be evaluated via the PWQ-TRP process prior to implementation.
- SLD 45 organizations and contractors can request funding for waste minimization equipment through 45 CES/CEIE Environmental Office.

See Appendix E for more detailed information on Waste Minimization.

7.10 Preparedness and Prevention

Preparedness and prevention practices are described in emergency prevention and response plans available through the references section of this plan and are maintained IAW the EMS on eDASH: Emergency Preparedness and Response, and shall include as warranted the Installation Spill Prevention, Control, and Countermeasure (SPCC) Plan (or equivalent) or a specific HW Contingency Plan.

Installation Supplement – Preparedness and Prevention

A site specific hazard waste contingency plan must be posted at all <90-day sites. See Figure 8 for a sample contingency plan. Refer to Appendix I for more information on contingency plans.

FIGURE 8: Sample Contingency Plan

SPACE FORCE CONTINGENCY PLAN/EMERGENCY PROCEDURES
ADAPTED FROM: 40 CFR 265.52 (CODE OF FEDERAL REGULATIONS)

Department: PATRICK F2F **Building #** 55118
90 Day Hazardous Waste Site, CCSFS

Primary Site Contact	Duane Hill Patrick F2F Contractor Patrick SFB, FL 32925	**Alternate Site Contact**	Rebecca Fafard Patrick F2F Contractor Patrick SFB, FL 32925
Work Phone #	(321) 476-2310	**Work Phone #**	(321) 853-6988
Cell Phone #	(321) 408-0503	**Cell Phone #**	(321) 408-0279
After Hours #	**(321) 853-5211 (Manned 24 hrs)**	**After Hours #**	**(321) 853-5211 (Manned 24 hrs)**

TYPES OF WASTE STORED
(Includes the following waste streams but not limited to)

Waste Code	Description	EPA Waste #	DOT UNNA#/Class
HG0001 – Aerosol Cans HL3700 – Mercury Filters	•Ignitables •Toxics •Universal Waste	D001 D005 D007 D008 D009 D035 D039	Class 2 (Flammable Gases) Class 4 (Dangerous When Wet) Class 9 (Toxics)

Emergency Procedure	Emergency Equipment at Facility		
	Description	**Location**	**Capabilities**
• **Small Spills or Leaks** Utilize on-site spill equipment to contain the release (i.e., absorbents, PPE, drums, etc.). Open personnel access doors to ventilate the facility. **Call 911**	1. Spill kits 2. Drums	1. Next to the desk on West wall inside the building. 2. On or in front of shelves on Northwest corner of building.	Clean up of small liquid spills
• **Large Spills or Leaks** The facility has sufficient secondary containment built-in. Open personnel access doors to ventilate the facility. Wait for emergency crews to arrive. For exterior releases, dike ahead of spill utilizing on-site spill equipment to contain the release. Wait for emergency crews to arrive. **Call 911**	1. Spill kits 2. Drums	1. Next to the desk on West wall inside the building. 2. On or in front of shelves on Northwest corner of building.	Containment of large liquid spills
• **Fire, Explosion, or Medical Emergency** **Call 911**	1. Fire extinguisher (chemical) 2. Safety Shower and Eyewash	1. Outside wall, Northwest side of building. 2. Outside wall, Northwest side of building.	1. Class A, B, and C fires 2. Decontamination of personnel

EVACUATION PLAN: In case of emergency, proceed to the nearest unblocked exit and move to a safe position upwind away from the facility. When at a safe position, dial 911 and wait for emergency response crews to arrive. Provide them with as much information as possible about the emergency.

Revised 3/30/22

Spill Policy

- All spills and unplanned or non-permitted releases of hazardous materials or of any wastes will be immediately reported to the installation fire emergency services. This includes spills and releases from commercial space operations and storage of commercial materials and wastes located on SLD 45 properties, as well as spills and releases from any DOD or non-DOD organizations located on SLD 45 properties. All spills will be handled in accordance with the current SLD 45 IEMP 10-2.
- All regulatory notifications concerning reportable quantities will be made by 45 CES/CEIE Environmental Office excluding commercial space entities operating under an executed real property agreement with the AF. Range Safety makes immediate notifications during launch aborts directly to Brevard County Emergency Planning. No one else is authorized to contact regulatory agencies concerning reportable quantity spills.

Spill Notification

- Report all spills or releases of hazardous material or waste on the installation by dialing 911 from a base phone or by dialing 321-853-0911 if using a cell phone on CCSFS and 321-494-7642 if using a cell phone on PSFB. To report a spill or release from JDMTA or Malabar, call Cape Support by dialing 321-853-5211. On Ascension AAF call Fire/Security at 2222.
- The following information as applicable should be provided when calling in a spill or release:
    - Name and phone number of individual reporting spill,
    - Physical location of the incident,
    - For response purposes, is the incident an emergency or non-emergency situation,
    - Number of injured personnel and nature of injuries,
    - Substance spilled,
    - Source of discharge,
    - Approximate quantity of discharge,
    - Rate material is currently discharging,
    - Extent which spill has traveled and waters that might be affected,
    - Cause of incident,
    - Date and time of spill discovery.

Spill Response and Cleanup

If possible without endangering yourself or the safety of others, stop the source of the spill/release to prevent discharge of the material to surface waters, storm drains, sewer drains or soils. **ALWAYS REMEMBER - SAFETY FIRST!!!!!!!!!**

- Small spills of materials or wastes may be cleaned up by personnel in the shop who routinely use or are trained in the use of such products and have the capability and equipment to clean up their materials. These releases should still be reported through the appropriate channels.
- The organization responsible for the spill will be responsible for the management and disposal of all waste generated from the incident.
- Large spills of materials or waste shall be cleaned up through coordination with the CLOIS contractor or successor.
- Recommended List of Emergency Response Equipment can be found in List 1.

LIST 1: Recommended List of Emergency Response Equipment

Item Description
Absorbent
Absorbent Material, Oil and Water Apron, Disposable
Apron, Disposable
Apron, Rubber
Bags, w/ties, 2 mil polyethylene
Bleach, household, sodium hypochlorite
Broom, I8' push, synthetic fibers
Boots, Rubber
Brush, Shop
Bungs, Small (Drum, Plug)
Bungs, Large (Drum, Plug)
Bung Wench, spark-proof
Container, Shipping
Coveralls, 100% cotton (small)
Coveralls, 100% cotton (medium)
Coveralls, 100% cotton (large)
Coveralls, one-piece plastic (24)
Detergent, Liquid
Drum, 85-gal steel, removable head, disposal, UN1A2
Drum, 85-gal steel, removable head, spill recovery, UN1A2
Drum, 55-gal steel, closed head, poly-ethylene liner, UN6HA1
Drum, 55-gal steel, removable head, UN1A2
Drum, 30-gal steel, removable head, UN1A2
Drum, 5-gal steel, closed head, UN1A2
Drum, UN6HA1
Drum, UN1A1
Drum, UN1A2
Drum, Shipping and Storage
Drum, Overpack (85 gal), UN1A2
Drum lifting tool
Face Shield
Funnel, metal, uncovered, 1-qt
Funnel, Plastic, with lid, 1-qt
Gloves
Gloves, small
Goggles, Plastic
Labels, Blank, Hazardous Waste
Marker, Permanent, Sharpie
Neoprene Gloves (small)
Neoprene Gloves (medium)
Neoprene Gloves (large)
Pallets, hardwood, 48” x 48”

Pan, Dust
Paper, pH (10 rolls/box)
Pesticide Cartridges
Plug, Drum
Pump, drum, manual
Respirators
Rope, Nylon, 1/26
Sheeting, Plastic, Black
Shovel, handles square-point "D"
Sodium Bicarbonate (baking soda), (100 lb. bag)
Spigot, Drum, Self-closing
Spigot, Drum, level
Texwipes, 12" x 12"
Towel, paper, 11 1/2"
Tubing, polyethylene, 1/2"

NOTES:
1. Spill kit contents and condition will be included in weekly inspections
2. Initial kit ordering and kit replenishment is the responsibility of the organization operating the facility.
3. Content and quantity of spill kit items are dependent upon waste types and quantities. Contact the installation Environmental Planning Office, Fire Department, Safety or Bioenvironmental Engineering for further information.

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7.11 Waste Specific Procedures

Waste-specific procedures are included in the installation supplement below or maintained as separate operational controls outside of this plan. As applicable, this may include unique processes or procedures to deal with a specific waste not already addressed elsewhere in the HWMP, such as acutely hazardous wastes, pharmaceutical hazardous waste, used oil, etc..

Installation Supplement – Waste Specific Procedures

Waste Management Policy

- It is the responsibility of the generator of a hazardous waste to ensure that the waste is placed in a US DOT container, marked, labeled and stored in compliance with the requirements of 40 CFR 262.30-32, 49 CFR 173.24, 49 CFR 172.304, 49 CFR 172 Subpart E. This requirement applies when accumulation of waste begins. The generator must also comply with the SLD 45 Waste Container and Containment Management Plan, which is located in Appendix F of this document.
- It is the responsibility of the generator to submit a PWQ, identifying all wastes generated. This will be accomplished prior to generation of the waste whenever possible. The TRP issued by Patrick F2F from the information provided on the PWQ, will identify the regulatory requirements for packaging, labeling and marking each waste container. The generator must follow the specific requirements provided on the TRP for each waste stream.
- Generators must ensure drums are in good condition prior to shipment to on-site or off-site permitted facilities. Containers with apparent structural defects such as bulging or severe rusting

will not be picked up from the generator. The generator is responsible for having waste transferred to a container in good condition or overpacked prior to shipment.

Above Ground Storage Tanks for Petroleum Storage

- Above ground storage tanks (AST's) shall be managed in accordance with 40 CFR 112.7 and SPCC Plan as applicable.
- AST's greater than 550 gallons holding petroleum products must comply with FAC 62-762.

Policy Regarding Waste Aerosols and Paint Containers

- Aerosol Cans
    - General Requirements
        - On CCSFS all waste aerosol containers; empty, partially empty, or damaged will be handled as hazardous waste. If generation is occurring at a slow rate, less than five per week, the containers can be stored in the shop's flammable storage locker prior to being taken to the Turn-In Facility at Facility 55118. For information regarding drop-off of containers contact Patrick F2F at 321-853-6985 or 853-6988. If generation rates are higher, a hazardous waste satellite accumulation area (SAA) should be established. Generator must contact Patrick F2F to establish a hazardous waste accumulation site. If a generator wishes to manage aerosol cans as a universal waste, they must first contact Patrick F2F for guidance.
        - At PSFB empty, partially empty or damaged aerosol containers should be returned to HazMart (provided that the original containers were obtained through HazMart) for disposal. If the aerosols were obtained by other means, contact Patrick F2F at 321-853-6985 or 853-6988 for establishment of a hazardous waste satellite accumulation area and for assistance with disposal.
        - Waste aerosol can accumulation containers will be labeled with the words "Waste Aerosol Cans Only" and must be kept closed unless adding to or removing waste from the container.
        - Waste aerosol cans may be accumulated in step-cans that meet the requirements described above.
        - Waste aerosol cans generated in the field can be brought back to the shop and managed in an SAA. Note: IF waste aerosol cans are the ONLY hazardous waste stream generated by the shop, waste aerosol cans will be managed on a designated and marked shelf inside a flammable storage locker. (Note: This policy only applies to waste aerosol cans.)
    - <90 Day Site Accumulation Requirements
        - Accumulate aerosol cans in accordance with all <90 day area storage requirements.
        - Request pick up support by 75th day of accumulation.
    - Satellite Accumulation Area Requirements
        - Accumulate aerosol cans in accordance with all SAA requirements.
        - Accumulation containers will be labeled with the words "Waste Aerosol Cans Only".
        - Request pickup once container is full, however keep in mind SAA's must not generate more than 55 gallons of this waste stream at a time.

- Flammable Storage Locker Accumulation Requirements
  - Only applicable in areas where the accumulation rate is extremely low and aerosol cans are the only waste stream generated.
  - Waste aerosol cans will be stored on a separated shelf in the locker.
  - The shelf within the flammable storage locker used to collect waste aerosols will be labeled with the words "Waste Aerosol Cans Only".
  - Generators will contact Patrick F2F at 321-853-6985 or 853-6988 for the appropriate turn in location and will be responsible for transportation to this site.

- Empty Paint Containers

  - Containers (i.e., 1 and 5-gallon containers) must be free from all liquids prior to disposing of these containers into a dumpster.
  - Prior to placement in a dumpster, all empty paint containers should be wiped clean/dry with towels/rags. These towels/rags should then be placed into the appropriate waste container along with the other towels/rags that have been generated from painting operations.
  - Containers that have been wiped clean can then be placed into an on-base dumpster. Containers being disposed of in dumpsters must have the lid removed prior to placement in the dumpster to satisfy Brevard County landfill requirements.
  - Do not leave can open for paint to dry, as this would violate air quality rules.

- Universal Waste Policy

  - The Universal Waste Rule is intended to promote recycling as well as the proper disposal of wastes by easing certain regulatory requirements imposed by the RCRA.
  - The Federal Universal Waste Rule can be found in 40 CFR 273 – "Standards for Universal Waste Management".
  - The Florida Rule can be found in FAC 62-737 – "The Management of Spent Mercury-Containing Lamps and Devices Destined for Recycling".

- Turn In Facilities for Universal Waste

  - Cape Canaveral Space Force Station:
    - The Patrick F2F operates the Universal Waste Collection Site at Facility 55118 every Tuesday and Thursday between the hours of 1300 and 1400.
  - Patrick Space Force Base:
    - The HazMart Bldg 984 will accept mercury-containing lamps, nickel cadmium, nickel metal hydride, and lithium batteries on Tuesdays and Thursdays between the hours of 0800 and 1000. Call 321-494-9663 for an appointment. The Materials Recycling Facility (MRF), Bldg 631 accepts lead acid batteries. For all other batteries, contact the Patrick F2F at 321-853-6985.

- Universal Waste Turn-in Procedures

    - This information is intended to meet the requirements of 40 CFR 273.16 to familiarize the generator with the specific requirements associated with the "universal waste" being handled or managed during the course of daily operations.
    - The "Universal Waste Rule" relaxes many of the requirements for handling and managing these wastes. Some examples of universal wastes are listed below:
        - Fluorescent Light Bulbs
        - High Intensity Discharge (HID) Lamps
        - Mercury Vapor Lamps
        - High Pressure Sodium Lamps
        - Nickel Cadmium Batteries
        - Mercury Batteries
        - Mercury Thermostats and Switches
        - Lithium Batteries
        - Low Pressure Sodium Vapor Lamps

- Proper Handling of Universal Waste

    - Once generated, universal waste should be containerized, labeled and dated. The container should be transported to the turn-in facility as soon as possible.
    - Waste that has not been containerized and labeled will not be accepted at the Turn-in Facilities.
    - For specific instructions on containers and labeling see the Technical Response Package (TRP) for the particular universal waste generated.
    - Bulbs should be turned in the original containers whenever possible. If the original containers are unavailable, empty boxes can be picked up at the Turn-in Facilities during their normal hours of operation.
    - Boxes of bulbs should be transported full to help prevent breakage. Packing materials should be used when transporting partially filled boxes. Every attempt should be made to keep universal waste intact. Broken bulbs and leaking batteries often revert back to Hazardous Waste and can be costly to dispose of and dangerous to handle.

- Emergency or Release of Universal Waste

    - If there is a release of universal waste and it is within the generator's capability, knowledge and training to clean it up, then do so immediately. Package up all spill cleanup debris and label appropriately. A hazardous waste determination must be performed on all cleanup debris.
    - Notification of all releases should be made in accordance with the current SLD 45 IEMP 10-2.

- Decontamination, Decommissioned, Unused Equipment

    - Many types of shop equipment/machinery contain or are contaminated with hazardous components/commodities such as fluids, filters, etc. When this equipment is

decommissioned many of these components become regulated and may be classified as Hazardous Waste.

- This section addresses equipment that is being taken out of service, to be turned in for disposal of, sold, or transferred to another area where it will be reutilized.
  - Prior to turn-in, SLD 45 requirements must be met, including the removal of all hazardous components (i.e., batteries, fluids, filters and contaminates). Contact Patrick F2F at 321-853-6985 for additional information.
  - Prior to proper disposal of any solid waste including equipment and equipment components, all possible hazardous constituents must be removed, characterized and managed in accordance with this management plan.
  - Prior to the sale or recycling of any government owned hazardous commodities or equipment which contains hazardous commodities/components contact 45 CES/CEIE Environmental Office at 494-9270.
  - When equipment is transferred or relocated, fluids and filters do not need to be removed provided that the fluids/filters are viable and in good condition and the equipment will be placed back into service within 90 days. Contaminants and waste including such things as millings, grindings, cuttings, dust and spent fluids must be removed from waste bins or reservoirs as well as all equipment surfaces prior to relocation. Once removed from the equipment waste must be characterized, managed and disposed of in accordance with this management plan. NOTE: Wastes, including the types described in this section, cannot be moved from the point of generation unless they are going to be managed in a <90 day accumulation site or permitted hazardous waste storage facility.
- Equipment that does not receive regular use (at least once every 90 days) but is required should be maintained in good working condition and maintenance records kept along with an explanation of its requirement. Equipment that is allowed to sit unused or in disrepair is considered abandoned and any hazardous commodities or components become fully regulated as waste.

- Mixed Waste

  Mixed waste is defined as waste that contains both hazardous waste and radioactive waste and must comply with the Atomic Energy Act, State and AF disposal requirements. Mixed waste must follow AFMAN 40-201 and must be coordinated with the Installation Radiation Safety Officer prior to disposal through Air Force Radioactive Recycling and Disposal (AFRRAD), 88th Wing. Facilities that store mixed waste are subject to the same RCRA hazardous waste regulations for all hazardous wastes generated.

- AFFF Waste

  Aqueous Film Forming Foam (AFFF) is a firefighting foam that contains perfluorochemicals (PFCs) and has been linked with contamination to drinking water. All AFFF has been containerized and shipped off as a waste. AFFF is discontinued and has been replaced with a more environmentally safe foam.

8.0 REFERENCES

Standard References *(Applicable to all AF Installations)*

- Advanced Distributed Learning Service (ADLS)
- AFI 32-7001, *Environmental Management*
- AFMAN 32-7002, *Environmental Compliance and Pollution Prevention*
- AFI 90-201, *The Air Force Inspection System*
- AFLOA HW Legal and Other Requirements – The Air Force Legal Operations Agency (AFLOA) legal registry lists and provides access to federal (e.g., CFR, U.S. Code), DoD, AF, and other legal requirements
- ARCNet – Training resource for Air Force Reserve Command
- DoD 4160.21 (all volumes), Defense Materiel Disposition
- EASIER Database
- eDASH HW Environmental Action Plans (EAPs)
- eDASH HW Home Page
- eDASH HW Training Matrix
- EESOH-MIS Application Login
- EESOH-MIS Support Portal
- The Environmental Awareness Course Hub (TEACH)
- HW Playbook

Installation References

- Air Force Instruction:

  AFMAN 32-7002 Environmental Compliance & Pollution Prevention
  AFI 32-2001 Fire Prevention Program
  AFMAN 40-201 Radioactive Materials (RAM) Management

- Comprehensive Environmental Response, Compensation & Liability Act (CERCLA):

  The Superfund Law, 42 USC 9601-75, found at 40 CFR 300. The EPA has jurisdiction. Enacted December 11, 1980 and amended thereafter, CERCLA provides for the identification and the cleanup of the hazardous materials that have been released over the land and into the air, waterways and groundwater. It covers areas affected by newly released materials and older leaking or abandoned dump sites. The EPA has authority to collect the cleanup costs from those who contributed to or generated the release of the waste material.

- DOD Manual:

  4160.21-M, Chapter XI, Precious Metal Recovery Program

- DOD Regulation:
  AFJMAN 23-210 Storage and Materials Handling

- Florida Administrative Code (FAC):

62-710 Used Oil Management
62-730 Hazardous Waste Regulations
62-740 Petroleum Contact Water
62-761 and 62-762 Storage Tank Systems

- Hazard Communication Standard (HCS):

  OSHA requires chemical manufacturers and importers to assess the hazards associated with the materials in their work place (29 Code of Federal Regulations (CFR) 1910-1200) and provide the safety data sheet upon request. It requires training for all personnel who use or handle hazardous materials.

- Hazardous Materials Transportation Act (HMTA), Administrated by the Department of Transportation (DOT) found in 49 CFR

- Hazardous and Solid Waste Amendments (HSWA) of 1984:

  On November 8, 1984, the President signed into law the Hazardous and Solid Waste Amendments of 1984 (HSWA), which enacts a new program for banning wastes from land disposal and an expanded program for the regulation of solid waste management facilities.

- Occupational Safety and Health Act (OSHA), 29 CFR Part 1910.120 Personnel Training Requirements

- Resource Conservation and Recovery Act (RCRA), 42 USC 6901 et seq:

  Found at 40 CFR 260-271. EPA has jurisdiction. Enacted November 21, 1976 and amended since. RCRA's major emphasis is the control of hazardous waste treatment, storage and disposal.

- Title 40 of the Code of Federal Regulations:

Part 260	Hazardous Waste Management System: General
Part 261	Identification and Listing of Hazardous Wastes
Part 262	Standards Applicable to Generators of Hazardous Waste
Part 263	Standards Applicable to Transporters of Hazardous Waste
Part 264	Standards for Owners and Operators of Hazardous Waste, Treatment, Storage and Disposal Facilities
Part 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities
Part 266	Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities Part 268 Land Disposal Restrictions

- SLD 45 Management Plans:

  SLD 45 Lead Management Plan
  SLD 45 Integrated Solid Waste Management Plan

SLD 45 Asbestos Management Plan
SLD 45 Installation Emergency Management Plan 10-2

- Spill Prevention Control and Countermeasures (SPCC)
- Plan Toxic Substances Control Act (TSCA), 15 USC 2601 et seq.:
  Found in 40 CFR 700-799. EPA has jurisdiction. Effective January 1, 1977. Controls the exposure to and use of raw industrial chemicals and polychlorinated biphenyl.

9.0 ACRONYMS

Standard Acronyms *(Applicable to all AF Installations)*

- eDASH Acronym Library
- HW Playbook – Acronym Section
- U.S. EPA Terms & Acronyms

Installation Acronyms

- AAAF Ascension Auxiliary Air Field
- AF Air Force
- AFI Air Force Instruction
- AFMAN Air Force Manual
- AST Above Ground Storage Tank
- CCSFS Cape Canaveral Space Force Station
- CE Conditional Exemption
- CES Civil Engineer Squadron
- CFR Code of Federal Regulations
- CCIP Commander's Compliance Inspection Plan
- CLOIS Cape Launch Operations and Infrastructure Support
- CONUS Continental United States
- DDESB Department of Defense Explosives Safety Board
- DLA Defense Logistics Agency
- DOD Department of Defense
- DOT Department of Transportation
- EOD Explosive Ordnance Disposal
- EPA Environmental Protection Agency
- EPCRA Emergency Planning and Community Right-to-Know Act
- ERG Emergency Response Guidebook
- F2F Patrick Fence to Fence Contractor
- ESOHC Environmental, Safety and Occupational Health Council
- EESOH-MIS Enterprise Environmental Safety and Occupational Health Management Information System
- FAC Florida Administrative Code
- FDEP Florida Department of Environmental Protection
- FEMS Fire Emergency Services
- HMTA Hazardous Materials Transportation Act
- HSWA Hazardous and Solid Waste Amendments of 1984

- ID Identification
- IEMP Installation Emergency Management Plan
- JDMTA Jonathan Dickinson Missile Tracking Annex
- KSC Kennedy Space Center
- LQG Large Quantity Generator
- MOGAS Motor Gasoline
- MRF Materials Recycling Facility
- MTA Malabar Transmitter Annex
- NASA National Aeronautics and Space Administration
- NEW Net Explosive Weight
- OCONUS Outside Continental United States
- OSHA Occupational Safety and Health Administration
- PSFB Patrick Space Force Base
- PCB Polychlorinated Biphenyl
- PCW Petroleum Contact Water
- POL Petroleum, Oil and Lubricant
- POP Performance Oriented Packaging
- PWQ Process Waste Questionnaire
- QRG Quick Reference Guide
- RCRA Resource Conservation and Recovery Act of 1976
- ROS Range Operations Support Contractor
- RQ Reportable Quantity
- SDS Safety Data Sheet
- SF Space Force
- SPCC Spill Prevention Control and Countermeasures
- TCLP Toxicity Characteristic Leaching Procedure
- TRP Technical Response Package
- TSCA Toxic Substances Control Act
- TSD Treatment, Storage and Disposal
- TTU Thermal Treatment Unit
- UHC Underlying Hazardous Constituents
- UN United Nations
- US United States
- USSF United State Space Force

10.0 DEFINITIONS

Standard Definitions *(Applicable to all AF Installations)*

- HW Playbook – Definitions Section

Installation Definitions

- **Acid** - An inorganic or organic compound that reacts with metals to yield hydrogen; reacts with a base to form a salt and water; dissociates in water to yield hydrogen or hydronium ions; has a pH of less than 7.0; and neutralizes bases or alkaline media. All acids contain hydrogen. They are

corrosive to human tissue and are to be handled with care. Examples are sulfuric and hydrochloric acids.

- **Accumulation Site** - A specific place where generating activities store hazardous waste without a permit for either <90 days or as a satellite accumulation. There are specific requirements for both <90 day and satellite accumulation sites. Personnel managing these sites must have hazardous waste training.
- **Aqueous** - Made from, with or by water.
- **Asbestos** - A naturally forming mineral which has been found to be toxic by inhalation and can cause cancer. Asbestos is found in old insulation, brake lining, gaskets, floor tile and fireproof fabrics. Prior to work being accomplished in any building on PSFB or CCSFS, 45 CES/CEIE Environmental Office should be contacted to locate any asbestos that may be present. Removal and disposal of asbestos is strictly regulated.
- **Base** - Substances that (usually) liberate hydroxide ions when dissolved in water and weaken a strong acid. Bases react with acids to form salts and water. Bases have a pH greater than 7.0 and may be corrosive to human tissue. They are also called alkali and caustic. Examples are lye and sodium hydroxide.
- **Biodegradable** - An organic material's capacity for decomposition as a result of attack by microorganisms. Sewage treatment routines are based on this property.
- **Chlorofluorocarbon (CFC)** - Associated with damage to the earth's ozone layer.
- **Compatible Material** - Having no undesirable reaction or physical effect with or upon another material.
- **Contaminated Product** - Product containing foreign substances that renders it unfit for its intended use.
- **Controlled Waste** - Non-hazardous wastes regulated for disposal by other Federal or state of Florida laws/regulations, or non-hazardous wastes that, if released to the environment, could create an unacceptable exposure or environmental conditions requiring a cleanup action under Federal or state of Florida laws/regulations. Controlled waste does not include general municipal solid waste.
- **Corrosive** - A chemical that can cause visible destruction of or irreversible alterations in living tissue by chemical action at the site of contact; a liquid that causes a severe corrosion rate in steel. A waste that exhibits a "characteristic of corrosivity" (40 CFR 261.22), as defined by RCRA, must be regulated as a hazardous waste.
- **Department of Transportation (DOT**) - Regulates transportation of materials to protect the public as well as fire, law and other emergency response personnel. DOT classifications specify appropriate labels, placards and warnings. DOT regulations are in Title 49 of the Code of Federal Regulations.
- **Environmental Protection Agency (EPA)** - A federal agency with environmental protection regulatory and enforcement authority.
- **EPA Hazardous Waste Number** - The number assigned by EPA to each hazardous waste listed in 40 CFR 261 Subpart D (e.g., F001, P068, U133) and to each characteristic waste identified in 40 CFR 261 Subpart C (D001, D002, D003, D004-D043).
- **EPA ID Number** - The number assigned by EPA to each generator, transporter and treatment, storage, or disposal facility.
- **Explosive** - A material that produces a sudden, almost instantaneous release of pressure, gas and heat when subjected to abrupt shock, pressure, or high temperature.
- **Flammable** - Capable of being easily set on fire and continuing to burn, especially violently.

- **Flash Point (FP)** - The lowest temperature at which a flammable liquid gives off sufficient vapor to form an ignitable mixture with air near its surface or within a vessel.
- **Generating Activity** - Any unit (host, tenant, contractor) which generates contaminated, used, petroleum products, or hazardous waste products. If a contractor is required to remove his own hazardous materials products off base by this contract or other legal and binding commitment, contract conditions prevail.
- **Generator** - Any person, by site, whose act or process produces hazardous waste identified or listed in 40 CFR 261 Subparts C & D, or whose act causes a hazardous waste to become subject to regulation.
- **Grounding** - A safety practice to conduct any electrical charge to the ground, preventing sparks that could ignite a flammable material.
- **Halogenated Hydrocarbons** - Halogenated hydrocarbons are petroleum base compounds which contain one or more halogens. These halogens include fluorine, chlorine, bromine and iodine. When halogenated compounds are burned, corrosive and toxic products are formed. A few examples of halogenated hydrocarbons are:
    - PCB - polychlorinated biphenyl transformer insulating oils.
    - CB- bromochloromethane fire extinguisher materials.
    - Freon - refrigerants and solvents.
    - Trichloroethane - vapor degreasing solvent.
    - Trichloro-trifluoroethane - degreasing solvent.
    - Chloroform, carbon tetrachloride, etc.
- **HazMart** - Acts as the single point of control for hazardous materials at PSFB. Designated by the SLD 45 as a central issuing and tracking point for all hazardous materials.
- **Impervious** - Describes a material that does not allow another substance to penetrate or pass through it.
- **Incompatible** - Describes materials that could cause dangerous reactions and/or the release of energy from direct contact with one another.
- **Hazardous Waste** - A waste will be considered hazardous if it is a listed waste set forth in 40 CFR 261 or it exhibits any of the following four characteristics:
    - **Corrosivity**: A waste that is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5 or it corrodes steel at a rate greater than 6.35 mm per year at a test temperature of 55˚C (130˚F).
    - **Ignitability**: A waste that is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume and having a flash point less than 60˚C (140˚F). It is not a liquid and is capable of causing fire through friction, absorption of moisture or spontaneous chemical changes and burns so persistently that it creates a hazard. It is an ignitable compressed gas as defined in 49 CFR 173.115. It is an oxidizer as defined in 49 CFR 173.127.
    - **Reactivity**: A waste that is normally unstable and readily undergoes violent change without detonating; it reacts violently with water; it forms potentially explosive mixtures with water; when mixed with water it generates toxic gases, vapors or fumes in quantities sufficient to present a danger to human health or environment; cyanide or sulfide bearing waste, when exposed to pH conditions between 2 and 12.5 can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or environment; readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure; forbidden explosive as defined in 49 CFR 173.50 & 53.

    - **Toxic Characteristic**: If using the Toxic Characteristic Leaching Procedure (TCLP) test method, the extract from a representative sample of waste contains any of the contaminants used in Table 1 of 40 CFR 261.24 at the concentration equal to or greater than the respective value given in that table.
- **Neutralize** - Procedure to render chemically harmless, for example, to return the pH to the neutral level of 7 by adding a base or acid to a compound, as appropriate.
- **On-site** - The same or geographically contiguous property.
- **Organic Materials** - Compounds composed of carbon, hydrogen and other elements with chain or ring structures.
- **Oxidizer** - A propellant, such as oxygen, nitric acid, fluorine, nitrogen tetroxide and others, which support combustion when in combination with a fuel.
- **Person** - An individual trust, firm, joint stock company, federal agency, corporation (including a government corporation), partnership, association, state, municipality, commission, political subdivision of a state, or any interstate body.
- **pH** - A logarithmic scale from 0 to 14 that indicates the acidity or alkalinity of an aqueous solution. Substances in an aqueous solution ionize to various extents giving different concentrations of hydrogen and hydroxide ions. The strongest acids have an excess of hydrogen ions and a pH of 1 to 3. The strongest bases have an excess of hydroxide ions and a pH of 11 to 13.
- **Poison Material** - A DOT term for a material, other than a gas, which is known to be so toxic to humans as to afford a hazard to health during transportation.
- **Recycled Product** - A product which has served its intended purpose or which has become contaminated but which through processing or refining can be reclaimed for the original intended use or other similar uses.
- **Representative Sample** - A sample of a drum, tank, or container which can be expected to exhibit the average properties of the waste contained in the drum, tank, or container.
- **Reportable Quantity (RQ)** - The amount of a material that when spilled must be reported to the National Response Center or the amount of material that is reportable under Emergency Planning and Community Right-to-Know Act (EPCRA).
- **Safety Data Sheet (SDS)** - OSHA has established guidelines for the descriptive data that should be concisely provided on a data sheet to serve as the basis for written hazard-communication programs. The thrust of the law is to have those who make, distribute and use hazardous materials be responsible for effective hazard communication.
- **Solvent** - A material that can dissolve (reduce to molecular form) other materials to form a uniform mixture. Water can be a solvent.
- **Synthetic Oils** - Oils not derived from the distillation of petroleum crude oils. Synthetic oils consist of alcohols, phosphate esters, silicate ester, silanes, polyglycols, polyphenyl ethers and other chemicals.
- **Trade Name** - A name given to a product by the manufacturer or supplier. It is usually not the chemical name, and same or similar products can be marketed under different trade names by different companies.
- **Vapor** - The gaseous state of a material suspended in air.
- **Volatile organic compounds (VOC)** - Non-methane hydrocarbon used in coatings, paints, solvents, oxidizers and fuels which are very reactive and evaporate rapidly and contribute to formation of ozone.

- **Volatility** - The measure of a material's tendency to vaporize or evaporate at ambient routine conditions.
- **Waste Product** - Products which are no longer suitable for any use because of excessive contamination or degradation.
- **Waste Stream** - Generation of a specific waste from an act or process.
-

11.0 INSTALLATION-SPECIFIC CONTENT

Incorporate installation-specific content.

APPENDICES

Appendix A – Waste Analysis Plan

Insert Waste Analysis Plan.

Appendix B– Hazardous Waste Streams/Profiles

Insert HW Streams/Profiles.

Appendix C– Hazardous Waste Training Plan

Insert HW Training Plan.

Appendix D– Inspection Forms

Insert Inspection Forms.

Space Launch Delta 45
Patrick SFB FL 32925-3239

SLD 45 HAZARDOUS WASTE MANAGEMENT PLAN

APPENDIX A

WASTE ANAYLSIS PLAN

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Waste Analysis Plan (WAP)

1. General

Owners, operators and support personnel are required, per Occupational Safety and Health Administration (OSHA) 29 CFR 1910, to understand the hazardous properties of the materials they handle. Personnel who manage and/or handle hazardous waste are required to be trained as to the hazards of the waste generated by their operations. Knowledge of the specific characteristics and properties of each waste handled is required for proper storage, treatment, transportation and disposal as required by Chapter 62-730, Florida Administrative Code (FAC) and also stated in Title 40 CFR 264.13, of Federal Hazardous Waste Regulations.

2. Requirements

The generator must provide process knowledge and/or a detailed chemical and physical analysis of representative samples of the wastes. At a minimum, the analysis must contain all the information which must be known to treat, store or dispose of the waste in accordance with the conditions of 40 CFR, Part 264.13, Chapter 62-730 FAC and the conditions of the hazardous waste permit issued by the State of Florida, Department of Environmental Protection (FDEP). PSFB/CCSFS uses the process waste questionnaire/technical response package (PWQTRP) process described in the Hazardous Waste Management Plan to ensure compliance with this requirement.

The analysis may include data developed as part of the interim status determinations, initial temporary operating permit application to FDEP, existing documented data from prior hazardous waste generation, analysis histories, or from data on hazardous wastes generated from similar processes. The analysis must be repeated as necessary to ensure that it is representative and up to date.

The rationale for selecting waste analysis parameters follows those outlined in 40 CFR 262.11. Knowledge of the process generating the waste is an essential part of making the appropriate parameter selection.

3. Waste Sampling and Analysis Process

PSFB/CCSFS uses the PWQTRP process or Enterprise Environmental, Safety and Occupational Health Management Information System (EESOH-MIS) process, to determine the required sampling/analyses and recommended sampling/analysis parameters to ensure future compliance.

Once sampling/analysis has been specified, the Contractor is dispatched to the generator's location to take sample(s) by FDEP protocol and deliver sample(s) for analysis by methods identified in this WAP. The drums are bar coded after drawing samples and the bar code drum number annotated on the analysis sheet. Chain of Custody is maintained per FDEP requirements.

Laboratory analyses of hazardous wastes are currently completed by the Support Contractor using ENCO Laboratories, Florida Department of Health Certification # E83182. Analyses may be conducted by other authorized laboratories certified under National Environmental Laboratory Accreditation Program (NELAP). Laboratory analysis is used to determine proper waste management. A subsequent analysis is only required for Quality Control purposes with methods as specified in EPA SW-846, Test Methods for Evaluating Solid Wastes or if required in the PWQTRP.

4. Analytical Parameters, Test Methods and Sampling Methods

PSFB/CCSFS relies on data developed by generators and mandated by the PWQTRP/EESOH-MIS pursuant to 40 CFR 261 to obtain the necessary chemical and physical analysis. Additional sampling/analysis is conducted by the contractor only when wastes are generated from spill cleanup activities. Laboratory analysis requirements are defined in the PWQTRP/EESOH-MIS. Analysis is completed before waste pickup at the generator's location.

a. **Parameters and Rationale for Selection.** Analytic parameters are selected for specific waste streams on a case-by-case basis, depending upon the goal of the analysis. Table 1 Analytical Parameters and Rationale for their Selection, provides the general concept for why certain analytical parameters are utilized and the reason for a particular analytical test. Additional parameters may be specified in response to unanticipated analytic requirements.

b. **Test Methods.** Table 2 Analytical Test Methods shows the test methods which will be used to determine the values for the analytical parameters. All test methods are available either in SW-846, "Test Methods for Evaluating Solid Waste," "Standard Methods for the Examination of Water and Wastewater" or by American Society for Testing and Materials (ASTM) methods, all latest editions.

c. **Sampling Methods.** Table 3 Sampling Methods lists the physical state of wastes to be stored at the facility and the methods used to sample each. All sampling methods are available in SW-846, "Test Methods for Evaluating Solid Waste, latest edition.

Supplemental analytical information gained in response to new regulatory requirements is conducted on a one-time basis for the affected waste streams, if required.

The requirements of 40 CFR 264.13(b)(6) are limited to the additional analysis requirements of 40 CFR 268.7. Analytical information for determining Land Disposal Requirements (LDR) requirements is supplied by generators.

Table 1: Analytical Parameters and Rationale for their Selection

Analytic Parameter	Rationale for Selection
Free liquids	Determine applicability of characteristic properties
Specific gravity	Comparison with expected value of major constituents, determine liquid layering
Flash point (liquids only)	Determine ignitability
pH/corrosion rate of steel > 6.5mm/year	Determine corrosivity
Metals	Determine toxicity characteristics, LDR requirements
Volatile and semi-volatile organic compounds	Determine toxicity characteristics
Total organic carbon	Determine LDR treatability group
Total suspended solids	Determine LDR treatability group

Table 2: Analytical Test Methods

Parameter	Test Method	Reference
Free liquids	Paint filter test	SW-846[1] Method 9095B or latest revision
Specific gravity	Hydrometer	ASTM D891[2], Method A
Flash Point	Pensky-Martens Closed-cup tester , or, Setaflash closed-cup method	SW-846[1], Method 1010A or SW-846 Method 1020B
pH/corrosion rate of steel > 6.5 mm per year at 130 F	Corrosion resistance tables, free liquid as determined by Paint Filter Test or TCLP Pressure Filtration Technique	SW-846[1], Method 9040C
Metals	TCLP followed by analysis of extraction fluid by atomic absorption or inductively coupled plasma or atomic emission spectroscopy	SW-846[1], Method 1311, then 6010D
Volatile and semi-volatile organics	TCLP followed by analysis of extraction fluid by gas chromatography, gas chromatography/mass spectroscopy methods	SW-846[1] Method 1311 then 8015C, 8141B, 8260D, or 8270E
Total organic carbon	Carbonaceous Analyzer	SW-846[1], Method 9060A
Total suspended solids	Total Suspended Solids	Standard Methods[3], Method SM2540D
[1] SW-846, "Test Methods for the Evaluation of Solid Waste", USEPA, Rev. 7, August 2015 or latest revision		

Parameter	Test Method	Reference
[2] ASTM D891 - 09 Standard Test Methods for Specific Gravity, Apparent, of Liquid Industrial Chemicals [3] Standard Methods for the Examination of Water and Wastewater, 20th Edition, 2005		

Table 3: Sampling Methods

Waste Type	Description of Sampling Method	Reference
Liquid waste in containers	Sampling with composite liquid waste sampler (COLIWASA)	SW-846, Section 9[1]
Solids	Thief, trier, or auger	SW-846, Section 9[1]
[1] SW-846, "Test Methods for the Evaluation of Solid Waste", USEPA, Rev. 6, February 2007 last revision		

NOTE: All hazardous waste requiring sampling must be sampled in accordance with DEP-SOP-001/01 FS 5000 Waste Sampling and must have records of the chain of custody.

5. Frequency of Analysis

If the processes generating the waste changes or the ingredients in the virgin products change, a new analysis and hazard determination must be made. Analysis will be conducted on each drum suspected to be out of conformance with the agreed upon specification. Supplemental analytical information gained in response to new regulatory requirements will normally be conducted on a one-time basis for the affected waste streams, but may be performed more frequently if the determined value borders a regulatory threshold. All sampling is conducted at the generator's location.

6. Methods Used to meet Additional Waste Analyses Requirements

PSFB/CCSFS will comply with all LDR regulations set forth in 40 CFR 268 for all hazardous waste shipped off site for final disposal at a permitted treatment, storage or disposal facility. The requirements of 40 CFR 264.13(b)(6) are limited to the additional analysis requirements of 40 CFR 268.7. Analytical information for determining LDR requirements is supplied by generators, as discussed above. All necessary information must be provided by generators prior to acceptance at Facilities 44200 and 44205. The contractor will supply a land disposal certification with each Uniform Hazardous Waste Manifest. The certification supplied will meet all the requirements set forth in 40 CFR 268.7. Copies of the signed manifest and LDR certificate shall be sent to 45 CES/CEIE for PSFB/CCSFS generated manifests. All manifests and certificates shall be retained, for inspection purposes, indefinitely.

7. Procedure for Reactive Wastes at EOD Range

a. Prior to thermal treatment, chemical analysis is not required because no test methods are available. Generator knowledge is used to make this hazardous waste determination.

b. After the open detonation area is policed for casings, all D003 materials are consumed in the detonation event.

c. After thermal treatment (burn box):

(1) Remove ash and residuals from the thermal treatment site.

(2) Drum ash and residuals properly after each burn.

(3) One waste analysis is required for each ash/residual waste removed from the burn box.

(4) Analyze ash and residuals in accordance with 40 CFR 262.11.

(5) Should analyses show the materials to be hazardous waste, dispose of as hazardous waste. If waste is nonregulated, it will be disposed of in a Subtitle D landfill.

Space Launch Delta 45
Patrick SFB FL 32925-3239

SLD 45 HAZARDOUS WASTE MANAGEMENT PLAN

APPENDIX B

HAZARDOUS WASTE STREAMS/PROFILES

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For copies of hazardous waste streams and profiles, call Patrick F2F at 321-853-6985.

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Space Launch Delta 45
Patrick SFB FL 32925-3239

SLD 45 HAZARDOUS WASTE MANAGEMENT PLAN

APPENDIX C

TRAINING PLAN

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TABLE OF CONTENTS

CONTENTS PAGE

1. POLICY C-5
2. REFERENCES C-5
3. RECORDS C-6
4. TRAINING PROGRAM C-6

LIST OF FIGURES

CONTENTS PAGE

FIGURE 1: EXAMPLE OF A HAZARDOUS WASTE JOB DESCRIPTION C-8

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1. POLICY

a. For hazardous waste generators and personnel working in hazardous waste treatment, storage and disposal (TSD) facilities and hazardous waste accumulation sites, Hazardous Waste Training is required by the Environmental Protection Agency (EPA), the Occupation Safety and Health Administration (OSHA), the Florida Department of Environmental Protection (FDEP), and AFMAN 32-7002. Hazardous waste training should inform personnel how to perform their duties in a manner that ensures the installation is in compliance with the EPA and State requirements for hazardous waste management.

b. All employees who manage or handle hazardous waste as defined by Resource Conservation and Recovery Act (RCRA) must receive hazardous waste training within 6 months of the date they are assigned to hazardous waste duties, per 40 CFR 262.17 for hazardous waste accumulation sites and 40 CFR 264.16 for TSD facilities.

c. New employees will not be allowed to work in hazardous waste operations without supervision of a trained employee until such time as their training is complete.

d. Personnel who manage or handle hazardous waste will complete the appropriate level of refresher training annually.

e. Training programs will be reviewed annually.

f. Refresher training courses are available through the 45 Civil Engineer Squadron/Civil, Environmental and Infrastructure Engineering (CES/CEIE) Environmental.

2. REFERENCES

a. 40 CFR 262.17(a)(7), Personnel Training, Hazardous Waste Management.

b. SLD 45 Installation Emergency Management Plan 10-2.

c. 49 CFR 172.704, Training Requirements, Department of Transportation.

d. Spill Prevention Control and Countermeasure (SPCC) Plans for CCSFS and PSFB (respectively).

e. AFMAN 32-7002, Environmental Compliance and Pollution Prevention.

f. 40 CFR 264.16, Personnel Training

3. RECORDS

a. Personnel training records and job descriptions must be maintained at or near the hazardous waste accumulation areas. It is the generating organization's responsibility to keep all records and job descriptions up-to-date and valid.

b. The following must be included in the Job Description: Job title, hazardous waste duties, and employee name (see Figure 1 for an example job description). This job description must also include a description of all required introductory and annual refresher training required for this position. The date of last training and the date the next training must be completed may also be included. For military personnel, a document similar to the civilian position description described above must be prepared and included in the training file.

c. A training certificate should be provided for each person successfully completing the required hazardous waste training (other forms of documentation may be used, but must indicate successful completion of the course). A copy of this certificate must be maintained as described in paragraph a.

4. TRAINING PROGRAM

a. Methodology: A combination of classroom instruction, seminars, and on the job training may be used. Personnel may attend courses offered by the Air Force, by commercial sources, or through contractor "In-House" training in order to meet the requirements of 40 CFR 262.17(a)(7) and 40 CFR 264.16. Training must be directed by a person trained in hazardous waste management procedures.

b. Training subjects

1) Training for Personnel Safety and Health

(a) Identification and labeling of hazardous materials and waste

(b) Compatibility of hazardous materials and waste

(c) Use of emergency equipment (e.g., shower, eyewash)

2) Review of Spill Prevention and Response plans

3) The Inspection Plan

(a) Elements of Weekly Inspection

(b) Documentation

1 The Inspection Log

2 Follow-up

4) Facility Support Procedures

(c) Patrick F2F Contractor

(d) Installation Environmental Compliance

(e) Safety

(f) Fire Department

5) Records and Reports

(a) Manifests

(b) Training Records

(c) Inspection Logs

6) Packaging of Hazardous Wastes

FIGURE 1: EXAMPLE OF A HAZARDOUS WASTE JOB DESCRIPTION

Name: _____

Title: Hazardous Waste Accumulation Site Manager, Hazardous Waste Accumulation Facility Number:

Job Description:

_____(name)_____ is the _____(job title)_____ of _____(shop name)_____ employed by ___(company name)_____.
He has been assigned the additional duty of Hazardous Waste Accumulation Site Manager, and has been trained to meet the requirements of 40 CFR 262.17.

The Accumulation Site Manager's responsibilities include labeling and managing the waste in the facility, conducting required inspections, and maintaining the appropriate operating logs and records.

The Accumulation Site Manager will ensure that the Assistant Accumulation Site Manager has knowledge of the current status of operation at the accumulation point. In addition, he or she will provide and document on-the-job training for any personnel in their assigned section who handle hazardous wastes.

This position requires initial RCRA Hazardous Waste training within 6 months of assignment, with annual refresher training thereafter in hazardous waste management.

Date(s) of Training: _____

Supervisor's Signature: _____

Space Launch Delta 45
Patrick SFB, FL 32925-3239

SLD 45 HAZARDOUS WASTE MANAGEMENT PLAN

APPENDIX D

INSPECTION PLAN

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TABLE OF CONTENTS

CONTENTS	PAGE
1. PURPOSE	D-5
2. REFERENCES	D-5
3. POLICY	D-5
4. RECORDS	D-6

LIST OF FIGURES

CONTENTS	PAGE
FIGURE 1: Hazardous Waste Weekly Inspection Checklist	D-7

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1. PURPOSE

a. An Inspection Plan is required by the Environmental Protection Agency and Florida Department of Environmental Protection for all permitted storage and treatment facilities. This inspection plan requirement is also extended to <90-day accumulation facilities by this Management Plan.

b. This Inspection Plan provides a recommended written inspection checklist for the operator to use when inspecting their facility. (See Figure 1)

c. The Inspection Plan includes the inspection of waste in storage, safety and emergency equipment.

2. REFERENCES

a. 40 CFR 264.15, 265.15 – General Inspection Requirements.

b. 40 CFR 264.73, 265.73 – Operating Records.

c. 40 CFR 264.174, 265.174 – Inspections.

d. 40 CFR 262.17(a)(1)(v) – Conditions for Large Quantity Generators

3. POLICY

a. All Resource Conservation and Recovery Act (RCRA) storage and treatment facilities and <90-day accumulation facilities must be inspected on a weekly basis. Inspections are to be recorded by using the 90 Day Hazardous Waste Facility Weekly Inspection Checklist (Figure 1).

b. Inspection forms must be kept for a minimum of three years and be readily available.

c. Facility inspections must include loading and unloading areas.

d. Operators managing RCRA storage and treatment facilities and <90-day accumulation facilities will inspect and record inspection data as prescribed in this inspection plan.

e. Deficiencies detected from inspections or operations will be brought to the attention of the supervisor for corrective action and recorded in the inspection log. Once deficiencies are noted in the inspection log, all actions taken to correct the deficiencies will also be documented in the inspection log (i.e., Job Order Number), as will the date deficiencies were corrected.

f. Inspections are to be done on a weekly basis or when changes are made such as waste added or removed from inventory and annotated on the < 90 day Inspection form for tracking purposes per FDEP.

4. RECORDS

a. All RCRA storage and treatment facilities and <90 day accumulation facilities will have a copy of this Inspection Plan (SLD 45 Hazardous Waste Management Plan, Appendix D) readily available.

b. The operator must record the periodic prescribed inspections on an inspection log (Figure 1). At a minimum, inspections will be performed and recorded weekly.

c. Inspections must include the date and time of the inspection, the legibly printed name of the inspector, the inspector's initials, the number of containers, the condition of the containers, notation of the observations made and the initiation date and completion date of any repairs or other remedial actions.

d. Inspection records are kept for a minimum of 3 years.

FIGURE 1: Hazardous Waste Weekly Inspection Checklist

90 DAY HAZARDOUS WASTE FACILITY WEEKLY INSPECTION CHECKLIST

FACILITY: _____

Date:					
Time:					
Print Name:					
Signature:					

CHECKLIST ITEMS					
1.	Check all containers for leaks, corrosion, bulging, etc	____	____	____	____
2.	Make sure unsealed containers of ignitables are grounded	____	____	____	____
3.	Make sure containers are stored on pallets with walking space around the pallets (unless in a building with a secondary containment system).	____	____	____	____
4.	Make sure containers are labeled and have a start date	____	____	____	____
5.	Ensure that container inventory correlates with inventory log	____	____	____	____
6.	Make sure showers and eyewashes work	____	____	____	____
7.	Empty sump of rainwater. Close and lock valves	____	____	____	____
8.	Make sure facility is clean and gate is locked	____	____	____	____
9.	Check condition of loading/unloading area, curbing dike, fence, and signs	____	____	____	____
10.	Make sure vegetation is trimmed. look for dead vegetation	____	____	____	____
11.	Check condition of spill control supplies	____	____	____	____
12.	Is fire extinguisher full and sealed?	____	____	____	____
13.	Check operation of phone, lights, water supply and personal protective equipment	____	____	____	____
14.	Make sure storage areas are placarded by hazard class and containers are in designated area	____	____	____	____
15.	Make sure Contingency Plan, Management Plans and emergency phone numbers are available	____	____	____	____
16.	Number of HAZARDOUS WASTE containers in storage.	____	____	____	____
17.	Number of days in storage of oldest HAZARDOUS WASTE/UNIVERSAL WASTE container.	____	____	____	____
18.	**Notify Patrick F2F at 45CES.ESC.HazWasteSupport@us.af.mil when HW container reaches 75 days of accumulation. When Universal Waste reaches 6 months/182 days, submit waste for shipment. For emergency container pick-up call 321-423-8391.**	/	/	/	/
19.	Number of Universal Waste/Nonregulated Waste/HWDIP containers in storage.	____	____	____	____
20.	**Verify container contents match label and TRP.**	/ /	/ /	/ /	/ /
		____	____	____	____

REMARKS: (Dates corrective actions were taken, problems or other observations).

NOTE: Inspections must be conducted at least every 7 days and records must be maintained for a minimum of 3 years.

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Space Launch Delta 45
Patrick SFB FL 32925-3239

SLD 45 HAZARDOUS WASTE MANAGEMENT PLAN

APPENDIX E

WASTE MINIMIZATION PLAN

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TABLE OF CONTENTS

PAGE

1. POLICY 5
2. DEVELOPING AND IMPLEMENTING A WASTE REDUCTION PROGRAM.....6
3. HAZARDOUS MATERIAL CONTROL 12
4. BATTERIES.....14
5. PRECIOUS METALS RECOVERY PROGRAM.....18
6. PROPELLANT WASTES.....19
7. WASTE PETROLEUM PRODUCTS.....20
8. FLUORESCENT, HIGH INTENSITY DISCHARGE (HID), AND LOW PRESSURE SODIUM (LPS) LAMPS.....24

LIST OF TABLES

PAGE

TABLE 1: Facility Assessment Background Information.....9
TABLE 2: Example Waste Reduction Techniques 10

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1. POLICY

a. The 1984 amendments to the Resource Conservation and Recovery Act (RCRA) include the goal to reduce reliance on offsite disposal of hazardous waste. It is AF policy to "prevent future pollution by reducing generation of hazardous wastes to as near zero as feasible" (ref. USAF letter, 17 Apr 91). Each organization generating hazardous waste bears the responsibility for identifying and minimizing the volume and toxicity of waste in accordance with RCRA and other applicable regulations.

b. This plan applies to all waste generators on Cape Canaveral Space Force Station (CCSFS), Patrick Space Force Base (PSFB) and all mainland and downrange-owned, leased or operated sites. Organizations utilizing contracted services are responsible for ensuring that their contractors minimize the generation of wastes in accordance with RCRA, the CCSFS RCRA permit, the PSFB RCRA permit and this plan

c. Preferred options for waste minimization, in order of preference, include cessation of waste generation (such as by product substitution), reclamation, or recycling.

d. Each generator is responsible for identifying wastes and changes to waste generating processes via the process waste questionnaire/technical response package (PWQTRP) process (see SLD 45 MANAGEMENT PLAN Section 7.2).

e. Treatment of a characteristic hazardous waste in the generator accumulation container within the <90-day accumulation time to render a waste non-hazardous is allowed in accordance with 40 CFR 268. For example, corrosives may be neutralized to where they are no longer corrosive. All proposed treatments must be evaluated via the PWQTRP process prior to implementation.

f. SLD 45 organizations and contractors can request funding for waste minimization equipment through 45 Civil Engineer Squadron/Civil, Environmental and Infrastructure Engineering (CES/CEIE).

2. DEVELOPING AND IMPLEMENTING A WASTE REDUCTION PROGRAM

a. The development and implementation of a waste reduction program is the responsibility of each organization generating wastes as part of the SLD 45 Pollution Prevention Program in which tenant organizations participate. Tenants familiar with their waste generating processes have the ability to suggest or implement a non-hazardous option if viable. An effective reduction program must be based on accurate and current information regarding waste stream generation, and economical and technically effective waste reduction techniques. This can be accomplished by establishing procedures to collect information, evaluate options, and identify cost-effective reduction techniques. Once identified, the techniques can then be implemented and become an established part of the management and operation of the organization.

b. Facility Assessment

1) A facility assessment or audit is necessary to provide a basis to collect the technical and economic information necessary to select appropriate waste reduction techniques.

2) An assessment team includes management and personnel from facilities, engineering, environmental engineering, safety and health, purchasing, materials and inventory control, finance, and product quality control. The team should be selected and led by a technically competent person with sufficient authority to do the job.

3) The next step is to conduct the facility assessment. All available background information must be collected. This includes information on the production process, facility layout, waste stream generation and waste management costs (see Table 1, Facility Assessment Background Information).

4) After reviewing the background information and identifying additional data requirements, a survey can be conducted for the following purposes: to verify background data and fill gaps; to observe and collect data on actual operation and management practices; and to identify additional waste streams. If detailed or specific data on waste stream quantity and composition are not available or cannot be calculated, then a sampling program should be included as part of the survey. For each waste stream the following information should be available:

a) Point of origin

b) Subsequent handling/treatment/disposal

c) Physical and chemical characteristics

d) Quantity

e) Rate of generation (i.e., lbs/unit of product)

f) Variations in generation rate

g) Potential for contamination or upset

h) Cost to manage/dispose

c. Evaluation and Selection of Waste Reduction Techniques

1) Procedures used to identify, evaluate and select applicable waste reduction techniques will depend on the complexity of the process and the quantity and variety of waste generated. Successful approaches range from simple group discussions to complex computer modeling techniques. However, all approaches will contain the same basic steps: list waste streams; identify potential waste reduction techniques for each waste stream; evaluate the technical and economic aspects of each technique; and select the most cost-effective waste reduction techniques for each waste stream (see Table 2, Examples Waste Reduction Techniques).

2) Once the waste reduction techniques for each waste stream have been identified, the technical feasibility of each should be evaluated. Engineering evaluation should take into account such factors as applicability, waste reduction potential, operation and maintenance requirements, safety and health, ease of implementation, reliability, and any special design considerations.

3) In addition to the technical evaluations, an economic analysis of each waste reduction technique should be done. Cost factors to consider include implementation costs (capital, installation, operating and maintenance) as well as cost savings due to lower production costs and waste management/disposal costs. Based on this information, a return on investment analysis can then be done to estimate the payback period. The current waste management cost is a very important factor that is often overlooked. These costs include not only the cost of shipping a waste off-site, but also include the on-site expense of labor and time required to handle, manage, track, store, treat, and manifest the waste. Other considerations are harder to quantify but are very important and include, worker health and safety, community relations, long-term liability and legal costs associated with regulatory compliance.

4) The completed technical and economic analyses will identify the best waste minimization options for each waste stream. Techniques may be short term such as inventory control or longer term such as process modifications. This selection methodology is rather subjective and is usually based on the experience of several people who are in the decision-making process. In many cases, there are only one or two alternatives that are both technically feasible and cost-effective. In some cases, several techniques may be effectively used together to reduce the waste.

For example, one technique may be segregation of a waste stream, which enables recovery and reuse on-site.

5) Once the waste reduction techniques are identified, an implementation plan should be developed for each waste stream. This should include information on the implementation schedule, equipment needs, conceptual design, implementation requirements, management requirements, and cost estimates.

d. Waste Minimization Program Implementation and Monitoring

1) The waste stream reduction plans along with any general facility recommendations will form the basis of the waste minimization program. To ensure continued program effectiveness, procedures must be established for monitoring and evaluating the techniques once in place. The program should address review and updating procedures, as well as how the program will be integrated into the management structure. In addition, the program should be dynamic in nature to allow for production change and development of new waste reduction techniques.

2) The implementation of a waste reduction program can be done in a phased manner. Waste streams where the investment will have a rapid payback period can be addressed first. Simple and low-cost techniques can also be implemented quickly. In many cases, this simply involves improvements in inventory control, operation, and maintenance. One important factor is to keep the employees informed and involved of all steps in the development and implementation of a program.

3) A record-keeping system should be established to track the effectiveness of each segment of the program. Waste generation and reduction data should be calculated in terms of product prediction rates (e.g., pounds of waste per pound of product, pounds of waste per area of product, etc.). This will allow accurate comparison of waste generation and reduction data over time. The program should undergo regular review and updating.

TABLE 1: Facility Assessment Background Information

Production Process Information

- Process flow diagrams and plant layout
- Sewer layout diagrams
- Purchasing records
- Safety Data Sheets
- Operating Manuals
- Plant operating schedule
- Production records

Waste Stream Information

- Waste manifests
- Process Waste Questionnaire Technical Response Packages
- Waste analyses monitoring reports
- Information on any regulatory violations
- Location of all solid and hazardous waste collection/storage points
- Diagram of air, wastewater and/or hazardous waste treatment units
- Operating manuals for treatment units

Economic Information

- Water and sewer costs
- Solid and hazardous waste management costs
- Cost of operating on-site treatment units
- Waste management contracts and billings

General Information

- Current waste minimization practices
- Copies of previous environmental audits
- Vendor information

TABLE 2: Example Waste Reduction Techniques

Inventory Management

- Inventory and trace all input/process chemicals
- Audit amount purchased versus amount used
- Purchase fewer toxic and more nontoxic chemicals
- Review new products for hazardous waste generation

Modification of Production Process

- Change process material to non-hazardous inputs
- Modify production line/processes
- Improve efficiency of equipment operation
- Set up regular preventive maintenance
- Specify good housekeeping and material-handling procedures
- Implement employee training and feedback
- Carry out an environmental/waste audit

Volume Reduction

- Separate hazardous and non-hazardous wastes
- Segregate wastes by type for recovery/reuse
- Apply physical or chemical treatment
- Concentrate or compact waste

Recovery and Reuse

- Directly reuse within the production process
- Recover and recycle on-site
- Recover and recycle off-site for resale

3. HAZARDOUS MATERIAL CONTROL

a. Hazardous Material Selection

1) Make sure that the appropriate chemicals for the job are ordered.

2) Do not order or receive more than is needed.

3) Substitute a non-hazardous chemical whenever possible.

4) Read the Safety Data Sheet and Warning Labels.

5) Know all of the hazards of each chemical before purchase.

6) Know the proper storage, use and disposal of a chemical before ordering.

7) SLD 45 Hazardous Material Management Process shall ensure procedures are established to regulate selection and use of all hazardous materials using the Enterprise Environmental, Safety, and Occupational Health Management Information System (EESOH-MIS) database.

8) 45 CONS shall require contractors to use non-hazardous materials instead of hazardous materials as much as possible.

9) Defense Logistics Agency (DLA) should be used as a source of materials. Items can be obtained without cost. Use of these materials can save the government dollars in materials acquisition as well as prevent costly disposal of usable materials.

b. Hazardous Materials Storage

1) Hazardous materials must be stored in accordance with all fire, safety and environmental regulations and policies. Contact base Fire, Safety, Bioenvironmental and Environmental offices for approval before receipt and storage of hazardous materials.

2) Acids, caustics, oxidizers, organics/flammables and reactives are incompatible and may react to form heat, pressure, fire, explosion and/or toxic gases; they must all be stored in separate areas with separate containment systems. Combustible items such as paper, wood or the boxes used to ship these materials must be removed from the hazardous material storage areas.

3) Containers must be clearly marked to identify contents.

4) Supply organizations should have written shelf-life extension programs.

c. Hazardous Materials Use

1) Hazard Communication Standard Training in accordance with OSHA (29 CFR Part 1910.1200) is required for all personnel handling hazardous materials.

2) Know proper storage, use and disposal of chemical before you start.

3) Hazardous Materials Disposition

a) Unwanted government-owned materials which have not been opened, used, are in their original container with original labels and are in good condition will be turned in to DLA as a hazardous material for reutilization or sale. Materials turned in to DLA.

b) Must be accompanied with a Form DD 1348-1 and a Safety Data Sheet.

c) Partially used or hazardous materials in poor containers shall be disposed of in accordance with all federal, state and local regulations and this plan. The generator of the material/waste shall be responsible for all proper disposition actions.

4. BATTERIES

a. General Information

1) Disposal of most batteries is regulated by RCRA as universal waste under 40 CFR 273. Lead-acid batteries can also be collected for reclamation under 40 CFR 266.80 (Subpart G). Batteries should be stored and used in a safe manner to prevent leaking/spilling of electrolytes or other hazardous constituents or possible explosion.

2) Most batteries with the exception of lead acid batteries may be turned in to the HazMart Building 984 every Tuesday and Thursday between the hours of 0800 and 1000. Call 494-9663 for an appointment.

3) Material Recycling Facility (MRF) will accept used lead-acid batteries. Used lead-acid batteries may be turned-in with the electrolyte remaining inside the batteries as long as the batteries are not leaking and the battery caps are in place. Contact MRF at 494-6848 for turn-in procedures.

4) Disposal for all other used batteries should follow the specific PWQTRP for the type of battery being generated by organizations working on SLD 45 installations.

b. Types of Batteries

There are several different kinds of batteries in use today throughout DOD. Their construction and/or chemistry differ from one type of battery to another. For example, a battery may consist of a single cell (a typical flashlight battery) in the most general sense, or several cells (a 6-cell automobile battery). An individual cell will consist of a metal that tends to release or give up electrons (the anode), another metal that tends to attract or accept electrons (the cathode), and an electrolyte, which acts as the cells medium for the condition or flow of current. If the electrolyte is a liquid (e.g., sulfuric acid), the battery is categorized as a “wet cell.” If the electrolyte is a paste or semisolid, which does not behave like a fluid (as in most carbon-zinc batteries), it is considered to be a “dry cell.”

1) Lead-Acid Batteries

a) Perhaps the most commonly known battery is the lead-acid storage battery used in automobiles and other motorized vehicles. It is both rechargeable and of the 'wet' variety (usually six-celled). Inside each cell are plates made of spongy lead (anode) and lead dioxide (cathode), immersed in a sulfuric acid electrolyte. Although one would seldom handle the inner parts of the battery itself, personnel should remember that lead and lead dioxide are toxic when ingested or inhaled as dust or fume. The primary danger with the battery, however, rests with the sulfuric acid electrolyte, often referred to as “battery acid.” Not only is the chemical highly

corrosive, but it is also a strong irritant to the skin and reacts exothermically with water. Therefore, batteries should be handled using the personal protective equipment.

b) The sealed automotive battery is a special type of lead battery. Some of these batteries are either hermetically sealed or so constructed that to obtain access to the electrolyte would require breaking the case. Since it has its electrolyte securely encased, cell leakage or spillage is very unlikely to occur. Other purportedly "sealed" batteries, however, can be opened by simply unscrewing the covering and cell caps. Therefore, all sealed batteries should be handled using the personal protective equipment.

2) Nickel-Cadmium (NICAD) Batteries

a) NICAD batteries are known to function throughout a wide range of temperatures, possess minimum weight, and are powerful enough to assure the non-assisted starting of engines. Therefore, they may be used in airplanes or helicopters as a standby source of electrical energy. Usually, they are rechargeable and can be rebuilt into serviceable batteries, thus making them generally worth several times the value of the nickel component contained in the plates. There are also small, pocket-sized NICAD batteries in use.

b) As the use of the NICAD battery varies, so does the physical state of its electrolyte, potassium hydroxide, which may be in either "wet cell" or "dry cell" form. In either case, potassium hydroxide is a strong base that will corrode many materials and attack the skin. Furthermore, the cadmium cathode itself can be highly toxic, especially if inhaled as dust or fumes. Therefore, all batteries should be handled using the personal protective equipment.

3) Magnesium-Carbon Batteries

c) Often used in field radios, the magnesium-carbon battery is non-rechargeable and usually a dry cell. Its chemical components include primarily magnesium perchlorate (which is a fire and explosion risk in contact with organic materials), and magnesium perchlorate carbon black according to Sax's Dangerous Properties of Industrial Materials.

d) If hermetically sealed, these batteries should be safe to handle. A certain type of this magnesium battery (BA 4386, NSN 6135-00-926-8322) has been classified as ignitable. In a fire, the battery could rupture and spread corrosive contents over a wide area. In the event of battery rupture, all released material should be collected in a plastic bag for disposal (Magnesium-carbon battery Safety Data Sheet).

4) Carbon-Zinc (Leclanche) Batteries

a) This type of battery often consists of one dry cell. It is used in such everyday devices as flashlights, portable radio sets, etc. Most likely the composition of these batteries entails an electrolyte paste of ammonium chloride, zinc chloride, and manganese dioxide.

b) When corroded, these batteries may be hazardous to personnel. As a solid, zinc is a skin irritant. Ammonium chloride is also a skin irritant. Therefore, leaking batteries should be handled using personal protective equipment.

5) Silver-Bearing Batteries

a) Some batteries contain silver. These include the silver oxide cell battery as well as the alkaline zinc battery. Further, they may be either primary or secondary, usually with a potassium hydroxide electrolyte. The silver oxide in the battery is a strong oxidizer. It constitutes a fire and explosion risk, particularly if it should come in contact with ammonia or organic materials.

b) One of the designated precious metals, silver has considerable potential for recovery and should be processed in accordance with the US EPA precious metal recovery requirements found in 40 CFR 261.6(a)(2)(iii)(FAC 62-730.030(1))

6) Mercury Batteries

a) This is a dry-cell battery found in various portable electronic equipment. Its component parts typically consist of a zinc anode and a mercuric oxide cathode (which may be mixed with graphite). A common electrolyte is potassium hydroxide saturated with zinc oxide. With carefully purified and balanced amounts of the two oxides, the cell makes effective use of its active materials.

b) The dangers of the mercury battery are still being documented. For example, cases of defective mercury batteries bulging or venting have been reported by the DOD. These batteries are
BA-1567/U and BA1100/U, purchased under contract numbers DAAB07-77-D-6328, DAAB07-77-D-6125, and DAAB07-76-D-6352. Most of these batteries are commonly used in night-vision sight equipment. Waste mercury batteries are handled as universal waste.

7) Lithium-Sulfur Dioxide Batteries ($LiSO_2$)

a) The lithium primary battery is a relatively recent development. It is used in DOD as a power source for portable electronic equipment, missiles, mines, sonobuoys, and torpedoes. Its advantages over other primary cell systems include high current density, consistently high voltage, light weight, and an ability to operate at low temperatures.

b) The high reactivity of lithium metal, however, creates a potential hazard. Depending on the proportion of lithium to sulfur dioxide, the battery's chemistry is considered either “balanced” or “unbalanced”. In the unbalanced variety, lithium metal can react with the electrolyte in the presence of sulfur dioxide to produce lithium cyanide, heat, and methane gas, which may cause rupturing; therefore, this battery has been documented to be a potential safety hazard. For this reason, handling and disposal of these batteries are of particular concern.

c) Lithium batteries should be stored at temperatures less than 130° F in a dry area with adequate ventilation and sprinkler systems, and the batteries should be stored separately from flammable and combustible liquids.

There is a new type of Li-SO_2 (lithium) battery that has a built-in Complete Discharge Device (CDD), which is a manual switch located on the battery. After final use of these batteries, remove the attention label (as indicated below) covering the switch, push the switch (in order to discharge the batteries and make them non-reactive) and store batteries in a well ventilated area for five days (batteries will become very hot and should not be discarded or placed in a confined area until the end of the five days). Upon completion of the five days discharge cycle, these batteries can be recycled. Batteries with built-in CDD switches can be identified by a removable label over the manual switch which reads:

"ATTENTION: Before Disposal Remove this Label and Push Switch"

5. PRECIOUS METALS RECOVERY PROGRAM

a. The following regulations pertain to precious metals recovery.

1) Title 40 Code of Federal Regulations (CFR) 261.6(a)(2)(iii)
2) Title 40 CCFR 266.70 (Subpart F)
3) DOD Manual 4160.21, Vol 2

b. Precious metals recovery in the Department of Defense is handled through the DLA.

6. PROPELLANT WASTES

a. Some propellants such as hydrazine, monomethyl hydrazine (MMH) and nitrogen tetroxide may be identified as “listed” hazardous wastes if and when they are discarded or intended to be discarded. Solid propellants and aerozine 50 are not a listed hazardous waste; however, if they exhibit a characteristic of hazardous waste such as ignitability, corrosivity or reactivity and they are intended for disposal, they are regulated as a hazardous waste.

b. AF owned solid propellants intended for disposal should be disposed of through 45 CES/CED, Explosive Ordnance Disposal Flight. Contact EOD at 853-8888. Commercial contractors are required to arrange permitted disposal off-site for non-AF owned solid propellants.

c. Since all spill cleanup materials/residues, including water, from the cleanup of a listed hazardous waste is regulated as a hazardous waste, it is recommended that the volume of cleanup material be kept to the minimum based on safety requirements. This includes wash down of propellant areas where listed propellants may have dripped on the ground. The use of catch devices to catch drips or the cleanup of drips prior to wash down is recommended.

d. The first three rinses of containers (defined as portable devices) which contained acutely toxic listed hazardous wastes such as MMH or nitrogen tetroxide are by definition in 40 CFR 261 as a listed hazardous waste.

Propellant Fuel Vapor Scrubber Solutions. This is not a listed hazardous waste; however, it may be a hazardous waste if it exhibits any of the characteristics of hazardous waste found in 40 CFR 261, Subpart C.

7. WASTE PETROLEUM PRODUCTS

a. Air Force Policy

1) Support the Department of Defense (DOD) objective to efficiently operate fuel conservation and recovery programs that further reduce waste, prevent pollution, and conserve natural resources.

2) Comply with all applicable federal, state, local, or host nation laws on environmental protection and the complementary policies contained in AFMAN32-7002.

3) Efficiently collect, use, and reuse government-owned petroleum products to the fullest extent permitted by sound considerations of economy, property management, fuel quality control, and environmental protection.

b. Applicable regulations included (but are not limited to):

1) Title 40, Code of Federal Regulations, Parts 260-280.

2) Florida Administrative Codes 62-710, 62-730, and 62-740.

3) SLD 45 Hazardous Material Response Plan.

4) Air Force Instructions 32-7042 and 23-502.

c. Disposition of fuels.

1) Residual fuel removed from aircraft is not necessarily contaminated and should be recovered and returned to storage tanks if quality can be determined. If test results indicate product is unsuitable for use in aircraft ground equipment or fire training blending, reuse/recycling or disposal shall be in accordance with the appropriate Technical Response Package (TRP).

2) All fuels drained from motor vehicles, heavy equipment, power generators, etc., shall be recovered and returned to the same source from which taken or returned to base stocks. Ground fuels unfit for use in ground equipment grades shall be blended/reused/recycled or disposed of in accordance with the TRP.

d. Disposition of Oils

1) Used oil may include:

Spent crankcase oil	Compressor oils
Transmission fluid	Turbine oils
Brake fluid	Bearing oils
Gearbox oils	Hydraulic oil
Synthetic oils	

2) Used oils should be segregated from oils which are subject to PCB contamination such as electrical and transformer oils. Used oils should be segregated from hazardous waste solvents, antifreeze and other materials unless specifically authorized in the TRP.

3) Contamination of used oil by water can be avoided by use of drum covers, by not overfilling drums and by keeping drums closed and in secure areas. The generator is responsible for removal and proper disposal of excess water.

4) Containers that previously contained halogenated materials/wastes or incompatible materials must not be used for the collection of recoverable petroleum products.

5) Recoverable petroleum products that are collected in tanks will be sampled from the tank prior to disposal. Tanks should not be pumped out until the sampling results have been received.

6) Used oil disposal practices which are not environmentally acceptable, e.g., use of oil for weed control, insect control, road dust control, open pit burning and dumping are prohibited.

7) Used oils will be reprocessed or burned for energy recovery in accordance with (IAW) 40 CFR 279.

8) Used oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste under the rebuttable presumption provided under 40 CFR 279.10(b)(1)(ii). The presumption may only be rebutted by documenting that halogens are present from a non-hazardous waste source. Halogenated oils, which are not hazardous waste, may be managed as off-specification used oils per TRP instructions.

9) Used petroleum products meeting regulatory specifications, set forth in 40 CFR 279 subpart C may be sold through DLA or recycled through other channels.

10) Oil filters must be hot drained of liquids prior to collection or crushing for recycling. Contact 45 CEIE Environmental Office at 494-9259 for information on

recycling. Oil filters are NOT to be disposed of in normal refuse. Recycling of used oil filters is mandatory.

11) Oily rags and spill cleanup material from small oil spills (less than 1 quart) will be managed as petroleum contaminated solids, unless the oil is polychlorinated biphenyls (PCB) containing oil, used oil which contains metals (lead, cadmium, or chromium), or oil which is determined to be hazardous waste because of its halogen content; in these cases the oily rags or spill cleanup material must be collected and managed as PCB or hazardous waste. Analysis of the oil (if used) or an SDS for unused oil should be used to determine which method of disposal to use for oily rags and spill cleanup material.

e. Petroleum Contact Water (PCW)

1) PCW means water containing product, examples which meet this definition include:

a) Condensate from Petroleum ASTs,

b) Water bottoms or drawdown water removed from petroleum storage tank systems,

c) Product or water in contact with product that displays a visible sheen and is contained in the spill or secondary containment systems associated with petroleum tank storage,

d) Petroleum tank filler sump and dispenser sump water,

e) Recovered product or water in contact with product which does not contain hazardous constituents other than petroleum and is from first response actions to petroleum spill or from petroleum contaminated site clean ups conducted under Florida Administrative Code (FAC) Chapter 62-770,

f) Above ground petroleum tank seal leakage water, and

g) Pumpable liquids from petroleum tank cleaning operations.

2) Examples of materials which do not meet the definition of PCW are:

a) Vehicle or equipment wash water,

b) Bilge water,

c) Separated solids from petroleum tank cleaning operations, and

d) Groundwater contaminated with hazardous constituents other than PCW,

e) Wastewaters regulated or permitted under other applicable Department rules or standards (i.e. FAC 62-620 and 62-660)

(f) Water that displays a visible sheen contained in secondary containment areas associated with a diesel fuel system.

3) The producer (generator) of PCW must determine whether to recover the product from PCW or dispose of it as waste. If product is not recovered from the PCW it is a solid waste and a hazard determination must be made in order to properly manage and dispose of the waste. Use the PWQTRP process for guidance on management and disposal.

4) Generators of PCW must comply with the requirements of FAC Chapter 62-740.100, these and additional requirements are annotated in the comment section on the TRP:

Container or tank must be clearly labeled with the words “Petroleum Contact Water”.

a) Container or tank must be dated when accumulation of PCW first begins,

b) Weekly container or tank inspections must be performed, documented, and a record of these inspections must be maintained onsite for three years,

c) PCW may not be stored onsite for more than 180 days, therefore a request for waste support pickup must be made prior to the 90th day of accumulation to allow sufficient time to schedule for treatment or off-site disposal.

8. FLUORESCENT, HIGH INTENSITY DISCHARGE (HID), AND LOW PRESSURE SODIUM (LPS) LAMPS

a. In 1995, the Environmental Protection Agency (EPA) issued the Universal Waste Rule allowing hazardous waste lamps to be regulated under 40 CFR 273. Universal waste are wastes that due to their hazardous constituents might otherwise be subject to EPA's Hazardous Waste Rule. The Universal Waste Rule is intended to promote both recycling and the proper disposal of waste by easing certain regulatory requirements imposed by RCRA. Under the Universal Waste Rule, spent fluorescent, HID, and LPS lamps all can be managed as universal waste.

b. Spent Fluorescent, HID, and LPS lamps on CCSFS and PSFB are recycled as universal waste. For this reason, when lamps are spent, they must be packaged and stored in a manner that minimizes breakage. Broken lamps are to be placed in plastic bags for turn-in and proper management. Lamps shall not be purposely crushed or broken.

c. The disposal of spent fluorescent and HID lamps will be handled by the Patrick F2F (853-6985/321-853-6988) on CCSFS and through the HAZMART on PSFB (494-9663). LPS lamps at both CCSFS and PSFB are handled through Patrick F2F.

Space Launch Delta 45
Patrick SFB FL 32925-3239

SLD 45 HAZARDOUS WASTE MANAGEMENT PLAN

APPENDIX F

WASTE CONTAINER MANAGEMENT PLAN

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TABLE OF CONTENTS

1. CONTAINER MANAGEMENT POLICY 5
2. MANAGEMENT OF WASTE CONTAINERS 5
3. LABELING OF CONTAINERS 7
4. MANAGEMENT OF CONTAINMENT AREAS 8
5. MANAGEMENT OF TANKS USED FOR THE ACCUMULATION OF WASTE 8
6. MANAGEMENT/DISPOSAL OF EMPTY CONTAINERS 9

LIST OF TABLES

TABLE 1: Types of Containers 10

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1. CONTAINER MANAGEMENT POLICY

a. Compliance with this Hazardous Waste Container Management Plan is mandatory.

b. It is the responsibility of the generator of a hazardous or controlled waste to ensure that the waste is placed in a US Department of Transportation (DOT) approved shipping containers, marked, labeled, and stored in compliance with the requirements of 40 CFR 262.30-32, 49 CFR 172.304, 173, 178, and 179. This requirement applies when accumulation of waste begins.

c. Containers will be properly stored and fire and safety precautions will be taken in accordance with AFI 23-101, DOD 4140.01 and AFMAN 91-203.

d. Generators should maintain an appropriate number of approved containers to adequately meet their waste generation needs. Both Patrick F2F and 45 CES/CEIE maintain stock of DOT containers that can be issued to a generator in an emergency on a reimbursable basis.

e. Hazardous and controlled waste cannot be transported on public roads unless that material is properly classed, described, packaged, marked, labeled, manifested, and the container is in good condition for shipment in accordance with the DOT Hazardous Materials regulations. All required information can be found on the Technical Response Package (TRP) associated with the waste stream.

f. Generators will ensure drums are in good condition prior to shipment to on-site or off-site permitted facilities. Containers with apparent structural defects such as bulging or severe rusting will not be picked up from the generator. The generator is responsible for having waste transferred to a container in good condition or overpacked prior to shipment. If waste is placed in an overpack, the generator will ensure proper labeling of the overpack.

2. MANAGEMENT OF WASTE CONTAINERS

a. Prior to waste generation, each generator will complete a Process Waste Questionnaire (PWQ) and submit it to the Patrick F2F for characterization and waste disposal determination. Patrick F2F will provide each generator with a TRP. The TRP identifies the proper container to be used for collection of each waste. A list of common DOT drum types can be found in Table 1.

b. Use of separate containers or drums for each TRP waste stream being accumulated is mandatory. Each container or drum must be clearly marked so that the contents can be easily identified. Containers or drums used to store non-hazardous or controlled waste (e.g. used oil) should be stored in a separate area from containers or drums used to store hazardous waste (e.g. solvents, paint) in order to avoid contaminating the non-hazardous or controlled waste with

hazardous waste. If separate storage areas are not feasible, drum locks can be used to restrict access.

c. Per Florida Administrative Code (FAC) Chapter 62-710, if utilized for the storage of used oil, tanks or containers not double walled must be stored on an oil-impermeable surface and must have secondary containment capable of holding 110% of the volume of the largest tank or container.

d. A container holding hazardous waste must always be closed during storage except when adding or removing waste.

e. Container bungs will be kept tightly closed. Bung plugs should be closed at least finger tight. Containers with open or loose bung plugs will be considered to be open. Funnels are not allowed to remain in drums containing hazardous waste that are in permitted facilities and <90-day hazardous waste storage areas. The funnel can be placed in the bung opening when waste is being added to the drum. Once the waste is added, the funnel must be removed and the bung screwed back into the opening. Containers must not be filled to the top. Three to five inches of air space should remain inside each container. This will prevent leakage and bulging, which can occur due to pressure build up. Drums containing hazardous waste should be kept away from heat sources and out of direct sunlight.

f. Open top drums in all accumulation or storage areas must have the drum ring securely in place around the drum at all times except when waste is being added to the drum. Quick release lids may be used to facilitate easy lid removal while accumulating the waste. There are maximum weight allowances for open top drums, see each waste stream's TRP comments section for specific fill recommendations.

g. Containers must not be modified.

h. Containers holding hazardous waste must not be opened, handled or stored in a manner which may rupture the containers or cause them to leak. A container that has been sampled for characterization prior to disposal will be sealed with sealant around the lid or bungs and must not be re-opened.

i. The use of covers on drums stored outside is recommended for protection from radiant heat to eliminate accumulation of water and to prevent corrosion on drum tops.

j. Drums of liquid waste stored outside must be kept in secondary containment systems/units. Containers of solid waste stored outside should be placed on pallets or other devices so they do not sit directly on the ground, as moisture can accumulate leading to corrosion and a loss of drum integrity.

k. Proper electrical grounding and bonding are required when flammable liquids are added to or removed from a container (AFI 91-203). Electrical grounding and bonding may be removed from sealed, full containers of flammable liquids while in storage waiting for disposal.

l. Containers in which the hazardous materials were shipped may be retained for use as waste containers if they meet DOT packaging requirements for the waste intended to be placed in the container. Incompatible wastes and/or materials must not be placed in the same container (see Appendix V to 40 CFR 265 for examples). Containers may be painted for corrosion control and to cover extraneous markings. However, prior to any painting ensure that UN markings will be preserved.

3. LABELING OF CONTAINERS

a. All containers, including containers holding material and empty containers, must be marked as to their contents. Empty containers should be marked with the words "Empty last known contents _____", in order to ensure incompatible waste is not placed into the container.

b. The words "HAZARDOUS WASTE" and the accumulation start date must be marked on <90-day hazardous waste accumulation containers when the first drop of hazardous waste goes into the container.

c. At satellite accumulation areas, the words "HAZARDOUS WASTE" or other words describing the contents of the container (e.g. "Waste Paint", "Waste Alcohol") must be written on the container when waste is first placed in the container.

d. For both SAAs and <90-day hazardous waste accumulation containers, the generator should also provide an indication of the hazards of the contents. Some examples would include hazard communication consistent with the Department of Transportation requirements found in 49 CFR part 172 subpart E or subpart F; an appropriate OSHA Hazard Communication Standard pictogram; or a chemical hazard label consistent with the National Fire Protection Association code Number 704.

e. In accordance with FAC Chapter 62-710, containers holding used oil must be labeled "USED OIL" and containers holding used oil filters must be labeled "USED OIL FILTERS". This includes oil drip pans.

f. Containers of petroleum contact water (PCW) must be labeled "PETROLEUM CONTACT WATER" per FAC Chapter 62-740.

g. The TRP identifies a Process Waste Code for each waste stream. It is recommended that the Process Waste Code be written on each container (or container label) for hazardous and non-hazardous wastes to facilitate identification.

h. All vacuums, mop buckets and floor cleaners are considered containers by EPA and need to have "dedicated use" and "area use" stenciled on container.

i. All containers that touch oil must be labeled appropriately.

j. Labels should be placed on the top third of the drum.

4. MANAGEMENT OF CONTAINMENT AREAS

a. Containment areas where hazardous waste containers are accumulated or stored should be routinely inspected in accordance with Appendix D of this document.

b. Containers holding wastes or material that may not be compatible must be separated in storage to ensure that a release from both containers cannot co-mingle.

c. Accumulation storage areas that are diked or curbed and have drainage troughs or sumps must be properly maintained and cleaned. Troughs or sumps must have all debris removed, and any damage or failure of the curb or diking system must be corrected.

d. Rainwater drain valves must be kept closed and locked when not in use. Rainwater should be removed whenever it accumulates; however, before draining, it must be verified, either visually or analytically that the water is not contaminated. Visual verification will include looking at each container for potential leaks, reviewing records of the area to see if there were any recent spills and looking for any discoloration or sheen in or on the standing water. Water that does not pass the visual verification should be sampled and analyzed for any potential hazardous constituents prior to being discharged.

5. MANAGEMENT OF TANKS USED FOR THE ACCUMULATION OF WASTE

a. Tanks used for the accumulation of used or waste petroleum products.

(1) Above ground storage tanks (ASTs) shall be managed in accordance with 40 CFR 112.7 and SPCC Plan as applicable.

(2) ASTs greater than 550 gallons holding petroleum products must comply with FAC Chapter 62-762.

b. Tanks holding used oil for recycling must be labeled “USED OIL”.

c. Per FAC Chapter 62-710, if tanks or containers are not double walled, they must be stored on an oil-impermeable surface and must have secondary containment capable of holding 110% of the volume of the largest tank or container.

6. MANAGEMENT/DISPOSAL OF EMPTY CONTAINERS

a. To dispose of empty drums, contact Patrick F2F at 853-6985 or 321-853-6988. All containers must meet the definition of RCRA empty (40 CFR 261.7) prior to coordinating disposal through Patrick F2F. Contact Patrick F2F for specific instructions on meeting RCRA empty requirements for your container(s).

b. "Empty" containers that previously contained hazardous materials or non-acutely hazardous wastes and are still in good condition may be reused for the same or a compatible material or waste. Empty containers should be marked with the words “Empty last known contents_____“, in order to ensure incompatible waste is not placed into the container.

TABLE 1: Types of Containers

POP SPECIFICATION	ITEM DESCRIPTION	USE
UN6HA1	Steel, 18 gauge, 55-gal., removable cover with bolt ring, cover with bung and vent opening, drum has polyethylene insert 1/16" thick, with bung and vent	Caustics and acids plastic liner
UN1A2	Steel, 18 gauge, 55-gal., removable cover with lock ring, enamel outside surface treatment	Open top for solids
UN1A1	Steel, 18 gauge, 55-gal., with bung and vent, enamel outside surface treatment	Solvent, oils, fuels
UN1A2	Steel, 85 gal.	Overpack for damaged or leaking containers with waste
UN1A1	Type 304, stainless steel, 55-gal., 2" and ¾" openings	Stainless steel for nitric acid, hydrazine, 25% NaOH
UN1A2	Stainless steel removable cover with lock ring	Stainless steel for nitric acid, hydrazine, 25% NaOH
UN1H1	Plastic/reusable, 55-gal.	Material container may be used for some material when it becomes a waste
UN1H2	Plastic, 30-gal., removable cover with lock ring	Solvent rags

NOTES: Performance Oriented Packaging (POP)

DOT requires that the POP classification be stamped or printed on each container. This number may be found on the bottom or side of the drum.

SLD 45 HAZARDOUS WASTE MANAGEMENT PLAN

APPENDIX G

LIST OF FIGURES/TABLES/DIAGRAMS

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1. Emergency Phone Numbers, Table 1 & 2 15
2. Process Waste Questionnaire, Figure 1 22
3. Waste Characterization Sampling Request, Figure 2 26
4. Quick Reference Guide Example, Figure 3 38
5. Facility Floor Map Example, Figure 4 39
6. Facility Street Map Example, Figure 5 40
7. Waste Support Request Form, Figure 6 42
8. Controlled Waste Manifest, Figure 7 44
9. Contingency Plan Example, Figure 8 49
10. Recommended List of Emergency Response Equipment, List 1 51
11. Example of Hazardous Waste Job Description, Figure 1 C-8
12. Recommended Hazardous Waste Weekly Inspection Checklist, Figure 1 D-7
13. Facility Assessment Background Information, Table 1 E-9
14. Example Waste Reduction Techniques, Table 2 E-10
15. Types of Containers, Table 1 F-10

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Space Launch Delta 45
Patrick SFB FL 32925-3239

SLD 45 HAZARDOUS WASTE MANAGEMENT PLAN

APPENDIX H

HAZARDOUS WASTE LOCATIONS

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Hazardous Waste Locations

1. Due to the large size, complexity and ever-changing operations of the SLD 45, the locations and operators of the hazardous waste accumulation sites frequently change.

2. Up-to-date lists of hazardous waste sites are available at the Environmental office at PSFB. Call 321-494-9270 for site information.

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Space Launch Delta 45
Patrick SFB FL 32925-3239

SLD 45 HAZARDOUS WASTE MANAGEMENT PLAN

APPENDIX I

CONTINGENCY PLANS FOR PSFB, CCSFS AND EOD

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CONTINGENCY PLANS FOR PSFB, CCSFS AND EOD

1. The SLD 45 Installation Emergency Management Plans (IEMP 10-2) for PSFB and CCSFS identify the procedures for responding to a major incident, including those involving hazardous materials or waste.

2. All units on SLD 45 installations have access to the plan.

3. OPR for IEMP is Readiness and Emergency Management Flight (CEX), 45th Civil Engineer Squadron.

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Space Launch Delta 45
Patrick SFB FL 32925-3239

SLD 45 HAZARDOUS WASTE MANAGEMENT PLAN

APPENDIX J

HAZARDOUS WASTE MANAGEMENT PLAN

FOR

ASCENSION AUXILIARY AIR FIELD

Provided by the Range Operating Support Services Contract

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CDRL #B013

Environmental Programs and Plans: Hazardous Waste Management Plan for Ascension Auxiliary Airfield

United States Space Force – ROS Base Operating Support Services Contract

Contract #FA2521-15-C-0063

Date: 8/11/2023

Environmental Programs and Plans: Hazardous Waste Management Plan for Ascension AAF

Prepared for:

45th Civil Engineer Squadron (CES)
Space Launch Delta 45 (SLD 45)
Patrick Space Force Base, Florida 32925

Prepared by:

Nelson Engineering Co.
A SALASO'BRIEN COMPANY

In Support of:

Wolf Creek
FEDERAL SERVICES

August 11, 2023

Table of Contents

1 Record of Plan Amendments ii
2 INTRODUCTION 1
3 POLICY 1
4 RESPONSIBILITES 2
4.1 Base Commander 2
4.2 Station Manager 2
4.3 Range Operations Support Primary Contractor (Wolf Creek) 3
4.4 45 CES/CEIE Environmental Planning 3
4.5 Range Operations Support Subcontractor (Nelson Engineering Co.) 3
4.6 45 OG Operations Group 4
4.7 45 ADOS/SGGB, Bioenvironmental Engineering 4
4.8 Defense Logistics Agency (DLA) Disposition Services 4
4.9 Base Operations Support (BOS) Contractor 4
5 HAZARDOUS WASTE STORAGE AREA (HWSA) REQUIREMENTS 5
6 HAZARDOUS WASTE STORAGE AREA MAINTENANCE REQUIREMENTS 5
7 HAZARDOUS WASTE ACCUMULATION POINT (HWAP) REQUIREMENTS 6
8 CONTINGENCY PLANS 6
9 TRAINING 7
10 CHARACTERIZATION FOR WASTE DISPOSAL 7
11 ENVIRONMENTAL ENGINEERING'S ON-ISLAND DISPOSITION PROCEDURES 8
12 DLA DISPOSITION SERVICES WASTE TURN-IN PROCEDURES 8
13 DEPARTMENT OF DEFENSE AND ENVIRONMENTAL PROTECTION AGENCY REPORTING REQUIREMENTS 9
14 CLOSURE 10
15 Appendix A: Waste Analysis Plan 12
16 Appendix B: Ascension AAF POL Storage Tanks 16
17 Appendix C: DD Form 1348-1a Issue/Release/Receipt Document Example 18
18 Appendix D: Ascension AAF Facilities Handling Petroleum Products or Hazardous Materials 19
19 Appendix E: Instructions for DLA Form 2511 21
20 Appendix F: Hazardous Waste Weekly Inspection List 24
Appendix G: Ascension AAF Hazardous Waste Storage Site 25

Nelson Engineering Co.
A SALASOBRIEN COMPANY

1 RECORD OF PLAN AMENDMENTS

Change No.	Description of Change	Date of Change
1	Updated map in Appendix G.	November 2018
2	Added DoD and EPA Reporting Requirements (Section 12).	November 2018
3	Added additional Hazardous Waste Storage Area Requirements (Section 4).	November 2018
4	Annual review, no changes.	April 2019
5	Annual review, updated remarks in Appendix B: Ascension AAF POL Storage Tanks (Facility 12360)	March 2020
6	Annual review. Updated 45th Space Wing to Space Launch Delta (SLD) 45. Updated document POC contact information. Updated AFI 32-7061 to AFI 32-1015, Integrated Installation Planning. Updated AFI 91-203 to AFMAN 91-203.	August 2021
7	Annual review. No major changes.	September 2022
8	Annual review. Minor formatting changes.	August 2023

2 INTRODUCTION

The purpose of this plan is to supplement Space Launch Delta (SLD) 45 Hazardous Waste Management Plan to implement environmental controls for the generation, storage, reuse, and disposal of petroleum products, hazardous materials, and hazardous wastes at Ascension Auxiliary Airfield (Ascension AAF). The plan addresses policy, responsibilities, storage site requirements and maintenance, emergency procedures, contingency plans, security, training, and closure. Waste from Ascension AAF is considered retrograde waste. Per Florida Department of Environmental Regulations letter dated 29 April 1986 referencing 40 CFR 264.12, hazardous waste from United States installations and jurisdictions cannot be considered waste from a foreign source. Suggestions for improving the plan or correcting errors should be directed to Steven Henderson at james.henderson.41.ctr@spaceforce.mil.

3 POLICY

- Policies stated in SLD 45 Hazardous Waste Management Plan apply to this Plan.
- All handling of petroleum products, hazardous materials and hazardous waste generated downrange must comply with host government and Space Force environmental regulations and policies. In cases where the host Government has an environmental policy that is more stringent than the requirements found in this plan, the host government's environmental policy prevails.
- Actions that affect the environment of the host nation must also comply with Air Force Instruction 32-1015, Integrated Installation Planning.
- Hazardous wastes generated at Ascension AAF must be identified by an installation specific Environmental Protection Agency (EPA) Identification Number (ID). Ascension AAF EPA ID number is FL4570028452.
- Hazardous wastes shipped from Ascension AAF to the United States must be transported within the United States by transporters who are registered with the EPA and have transporter EPA ID numbers. Defense Logistics Agency (DLA) contractors are the normal means of transportation within the U.S. and have transporter EPA ID numbers.
- Waste/excess materials from Ascension AAF may be processed and dispositioned by the DLA Disposition Services. Wastes that require off-site disposal should not be transported to SLD 45 mainland sites until the DLA contracted transport/disposal contractor is in place and prepared to meet the shipment from downrange. Wastes from Ascension AAF may not be stored on SLD 45 mainland sites without prior approval from 45 SW CES/CEIE.
- Site specific Spill Prevention Control and Countermeasure Plans are available for Ascension AAF. This plan is provided under CDRL B013 Environmental Plans and Programs.
- Polychlorinated Biphenyl (PCB) items are disposed of only through DLA. Disposal procedures are described in the SLD 45 19-14 Management Plan, PCB Control Items, Annex M.
- Asbestos removal and disposal shall be accomplished in accordance with the SLD 45 Asbestos Management Plan 32-1052 and Host Nation Regulations. Any removal and disposal must be coordinated with 45 CES/CEIE prior to removal. Final disposal of properly packaged asbestos waste is turned over to the DLA Disposition Services Jacksonville for CONUS disposal.

- Space Force environmental policy includes the goal of reducing hazardous waste generation. Preferred options include (1) cessation of waste generation; (2) reuse; or (3) treatment to render the waste non-hazardous. Recovery of petroleum waste products for combustion in powerhouses is preferred over off-site disposal.
- All used oil that is not recycled or reclaimed on-island is stored and turned in to a CONUS recycler. Shipment of the used oil is coordinated by the 45 CES/CEIE.
- Storage of petroleum products greater than 110 gallons and hazardous waste containing free liquids should be on a curbed impervious surface, which contains at least ten percent of the total volume in storage or the volume of the largest container, whichever is greater. Containers of hazardous waste with no free liquids need not have containment provided the area is sloped or is otherwise designed and operated to drain and remove liquids resulting from precipitation, or the containers are elevated or otherwise protected from contact with accumulated liquid. The Base Commander or Range Operations Support (ROS) contractor; must identify equipment or facility requirements to the Range Facilities, 45 CES Environmental Office.
- Any chemical producing an acutely hazardous waste is reported to 45 CES/CEIE before its use.
- Space Force employee Personal Protective Equipment requirements are determined by supervisory coordination with the Bioenvironmental Engineering Office, 45th ADOS/SGGB, in accordance with AFOSH Standard 91-501, Personal Protective Equipment. Fire suppression systems as determined by the installation Fire Department are used. Eyewash and showers as identified in Air Force Manual (AFMAN) 91-203 should also be available. Managers and supervisors of the accumulation and storage areas are responsible for availability, maintenance, and use of all protective equipment.

4 RESPONSIBILITES

The following personnel will perform duties listed in addition to those specified in SLD 45 Hazardous Waste Management Plan.

4.1 Base Commander

The senior Space Force representative assigned to Ascension AAF, or his designee, provides staff surveillance and monitors contractor and user activities covered by this plan to ensure the best interests of the Space Force.

4.2 Station Manager

- Ensures that this plan is implemented and correctly followed. The Station Manager's office approves any additional support items needed by this plan.
- Notifies all occupants on Ascension AAF annually of their responsibilities covered by this plan. This notification can be an administrative bulletin distributed to all occupants, posted on bulletin boards, or distributed electronically.
- Designates personnel to manage the hazardous material/waste and petroleum products at each generating site.
- Ensures that personnel receive the proper training to implement this plan.
- Provides recommendations for revisions to this plan on an as-needed basis.

4.3 Range Operations Support Primary Contractor (Wolf Creek)

- Monitors each area that has petroleum products and hazardous materials/waste and ensures that these areas/activities are in compliance with this plan.
- Ensures personnel receive training on the procedures for handling, storing, and disposing of all wastes and shall document such training.
- Ensures proper collection, segregation, labelling, and disposal of wastes.
- Maintains a current status of all areas on Ascension AAF that generate, handle, and store hazardous wastes or petroleum products. A list of all areas including estimated quantity and type of waste stored is maintained and available at all times on the Ascension shared drive.
- Prepares and maintains files of DLA Form 2511, Hazardous Waste Profile Sheet, for each waste stream annually. These forms are available on the Ascension shared drive.
- Prepares and maintains files of DD Form 1348-1a, Issue/Release/Receipt Document, for each waste stream. These forms are available on the Ascension shared drive.
- Inspects the hazardous waste storage area (HWSA) weekly and documents the inspection on inspection checklist (Appendix F) for spills/leaks which could contaminate the environment in or around Ascension AAF.
- Implements waste minimization programs.

4.4 45 CES/CEIE Environmental Planning

In addition to the responsibilities stated in SLD 45 Hazardous Waste Management Plan, Space Force Environmental Planning is responsible for:

- The Ascension AAF environmental program including contractor compliance with this plan.
- Ensuring that this plan is revised and updated on an as-needed basis.
- Reviewing this plan to ensure compliance with the host government's environmental policies is incorporated.
- Reviewing waste documentation.
- Providing funding for Ascension AAF waste shipments.

4.5 Range Operations Support Subcontractor (Nelson Engineering Co.)

- Oversee the Hazardous Waste Management Programs for Ascension AAF.
- Collect and consolidate technical data and prepare, revise and update hazardous waste management procedures.
- Review facility adequacy.
- Coordinate with other agencies/contractors to ensure proper identification, storage and disposition of hazardous wastes.
- Provide a report to 45 CES Environmental Office identifying uncorrected deficiencies noted in inspections of hazardous waste sites.
- Perform environmental audit of the Ascension AAF annually reviewing facility adequacy, spill control measures, waste minimization efforts, recycling, reuse programs, disposal procedures, and other environmental practices.

- Reviews plans for construction or modification of hazardous waste treatment, storage, or disposal facilities.
- Maintains the installation hazardous waste stream inventory.
- Review and forward waste documentation to 45 CES/CEIE.
- Develop DLA Form 2511, DD 1348-1a and supporting documentation (i.e. analysis, user knowledge statement) to DLA for retrograde shipment CONUS.
- Provide annual waste forecast to 45 CES/CEIE for budgeting purposes via CDRL B016.
- Ensure record keeping is complete and up-to-date.
- Ensure personal protective equipment is used as needed for safety.
- Identify facility and equipment requirements to 45 CES/CEIE.

4.6 45 OG Operations Group

This organization is responsible for overseeing downrange activities including contractor compliance with this plan.

4.7 45 ADOS/SGGB, Bioenvironmental Engineering

- When requested, provides guidance for collecting and interpreting analytical results.
- When requested, provides laboratory analysis, Safety Data Sheets (SDS) and other chemical hazard information.
- Identifies special Personal Protective Equipment (PPE) requirements for Space Force personnel.

4.8 Defense Logistics Agency (DLA) Disposition Services

- Determines civilian market demands for excess and recoverable products, monitors current prices paid for such products in private industry, and reports to the Environmental Coordinator.
- Advises on any collection or segregation methods that might increase saleability.
- Markets excess and/or reusable materials in accordance with DLA procedures as well as federal, state, and local regulations.
- Obtains contracts for offsite disposal of hazardous waste, non-hazardous waste, cylinders, PCB, asbestos, universal waste, and controlled items in accordance with Final Governing Standards (FGS), federal, and state regulations.
- Obtains offsite disposal contracts, IAW applicable regulations for hazardous and non-hazardous wastes for Ascension AAF upon request.
- Provides technical assistance for the turn-in disposition of retrograde materials and wastes.

4.9 Base Operations Support (BOS) Contractor

- Each organization generating hazardous waste bears the responsibility for identifying, minimizing, packaging, labelling, preparing the turn-in documents, and administering, SLD 45 Hazardous Waste Management Plan and other applicable regulations regarding their wastes.
- The generator is responsible for sample request and turn-in documents.

5 HAZARDOUS WASTE STORAGE AREA (HWSA) REQUIREMENTS

- Containers shall be located on impervious surfaces.
- Storage of petroleum products greater than 110 gallons and hazardous waste containing free liquids should be on a curbed impervious surface, which will contain at least ten percent of the total volume in storage or the volume of the largest container, whichever is greater. Containers of hazardous waste with no free liquids need not have containment provided the area is sloped or is otherwise designed and operated to drain and remove liquids resulting from precipitation, or the containers are elevated or otherwise protected from contact with accumulated liquid.
- Signs must be posted identifying the site, name and telephone number of the person responsible for the site.
- "No Smoking" signs must be posted at facilities containing flammable, combustible or reactive materials.
- A portable fire extinguisher must be present. The installation Fire Department will provide and inspect required equipment.
- All waste containers must be marked with contents, Department of Transportation (DOT) hazard class labels, hazardous waste stickers, and Globally Harmonized System (GHS) pictograms/labels.
- Containers containing incompatible wastes must be segregated in separate containment areas.
- Waste must be stored in DOT containers in good structural condition.
- Aisle space between rows of drums shall be maintained at all times.
- Proper electrical grounding must be used whenever filling or emptying ignitable containers.
- If PCBs are stored in the facility, the facility must be marked as containing PCBs. An emergency contact phone number must be included on the marking.
- The inventory of the material stored at Ascension AAF HWSA should be maintained on the Station's shared drive.
- Copies of the site's contingency plan must be maintained at the HWSA.
- Signage with legend "Danger Unauthorized Personnel Keep Out" must be posted at each entrance to the hazardous waste storage area in sufficient numbers to be seen from any approach.
- During preparation for CONUS hazardous waste shipments, an on-site Environmental Technician must be present during the transfer, removal, or delivery of any hazardous wastes from the Hazardous Waste Storage Area.
- Personnel requiring access to the Hazardous Waste Storage Area must be accompanied by an on-site Environmental Technician at all times.
- DD FORM 1149 Requisition and Invoice/Shipping Document, are to be completed and signed by the on-site Environmental Technician prior to the transfer of hazardous waste to Logistics for shipment.

6 HAZARDOUS WASTE STORAGE AREA MAINTENANCE REQUIREMENTS

- Remove dirt, leaves, trash, rainwater, and other items within the site and sump area weekly.

- Hazardous waste storage areas must be inspected weekly for the following:
    - Leaking or deterioration of containers and the containment system.
    - Secondary containment systems are inspected for defects and emptied of retained stormwater, inspections should be documented on the Inspection Checklist (Appendix F), and maintained in the facility records.
    - Rainwater captured in secondary containment areas should be inspected prior to release.
    - Proper operation of safety shower/eye wash.
    - Emergency tie-down equipment is made available for each site as necessary for protection against severe storm and high wind conditions.
    - Intrinsically safe telephone, alarm or two-way radio systems must be immediately accessible during operations.
    - Spill kit containing absorbents, PPE, container for spill material and portable fire extinguishers.

7 HAZARDOUS WASTE ACCUMULATION POINT (HWAP) REQUIREMENTS

- Generators managing a HWAP may accumulate no more than 55 gallons of hazardous waste or 1 quart of acutely hazardous waste for each waste stream.
- Each HWAP must have warning signs (National Fire Protection Association or appropriate international sign) appropriate for the waste being accumulated.
- The generator has three working days to move the hazardous waste once limits have been reached.
- Arrangements include submission of turn-in documentation to initiate removal. This can be an e-mail to the Station Environmental Technician.
- Containers must be maintained, closed, and secured, except when adding and removing waste.
- Copies of the sites contingency plan must be maintained at the HWAP.
- Hazardous waste containing free liquids shall be on a curbed impervious surface, which shall contain at least ten percent of the total volume in storage or the volume of the largest container, whichever is greater. Containers of hazardous waste with no free liquids need not have containment provided the area is sloped or is otherwise designed and operated to drain and remove liquids resulting from precipitation or the containers are elevated to protect from contact with accumulated liquid. The storage area should be protected from the elements.
- Shops which are not maintaining a HWAP who from time to time have potentially hazardous wastes should request a pick-up from the Environmental Technician. The request for pick-up of the shop's waste should also be documented in an e-mail. In addition, any information the shop has concerning the waste material, such as the process that generated the waste and any SDSs, must be provided to the Environmental Technician.

8 CONTINGENCY PLANS

A site specific Spill Prevention Control and Countermeasure (SPCC) Plan is used in the event of a spill. It outlines the proper procedures for notification, reporting, containment, and cleanup of spills. The base-wide SPCC Plan is maintained by the Environmental office and stored on the Ascension shared drive. Sites with a large potential for spills have hard copies of their site's SPCC

Plan located within their secondary containment areas. All spill incidents shall be reported to ROS Environmental Engineering Office immediately. Environmental Spill Response and Incident Report forms can be obtained from the Environmental Engineering office.

9 TRAINING

- All hazardous wastes operators must receive hazardous waste training no later than six months after assignment to hazardous waste duties and annually thereafter. A new hazardous waste operator must work under direction of a trained operator until hazardous waste training is received. OSHA 40 hour Hazardous Waste Operation and Emergency Response (HAZWOPER) is the recommended training course for all hazardous waste operators.
- Shop personnel who manage accumulation sites must also attend storage site training provided by the ROS contractor.
- Training can be a combination of on-the-job and classroom instruction. The Training Coordinator will document and maintain training records.
- The training program must include: information on the characteristics of the wastes, the emergency plan implementation, maintenance and inspection, generator responsibilities, drum handling, waste accumulation and management, use of personnel protection equipment, use of safety equipment on the site, and any other relevant material dealing with the wastes handled.
- Nelson Engineering Co. provides a section on hazardous waste as part of the annual environmental awareness training for all personnel whose job activities involves occasionally handling hazardous waste.

10 CHARACTERIZATION FOR WASTE DISPOSAL

- All wastes are required to be characterized to ensure proper handling and disposal. This can be done by:
  - Process knowledge.
  - Material's SDS, for unused or expired products.
  - Chemical analysis.
  - Or a combination of the three.
- Waste should be recycled in lieu of disposal whenever possible. Materials that are to be recycled such as used oil should be processed meeting the requirements of the recycling facility.
- Reoccurring waste streams are sampled and/or characterized annually.
- Unknown waste has the following analyses run:
  - Flash Point (ASTM-D-93-10A).
  - TCLP Metals (EPA 6010-B).
  - TCLP Volatiles (EPA8260-B).
  - Semi-Volatiles (EPA8270-B).
  - pH (EPA 9040-C).

NOTE: if the waste is multi-layered the analysis must be run on each layer.

- Generators of used oil should collect and recycle the oil. ROS Primary Contractor arranges for sampling and analysis of used oil, prior to attempted recovery of the used oil. It is essential that used petroleum products be segregated from all other wastes to avoid contamination from halogenated solvents, antifreeze, grease, water and debris.
- Waste which is going to be shipped back to CONUS requires adequate information to complete the Hazardous Waste Profile Sheets (DLA Form 2511) for the Defense Logistics Agency (DLA).

See Appendix A, Table 1 for further information on sampling requirements such as size of sample, type of bottles, and holdings times.

All samples shipped to a contractor laboratory must have a Chain of Custody form filled out and signed to accompany the samples.

11 ENVIRONMENTAL ENGINEERING'S ON-ISLAND DISPOSITION PROCEDURES

- Liquid waste classified solely as characteristically corrosive can be neutralized with the proper neutralizing agent before disposal. Questions concerning the proper neutralization procedure to be used should be directed to ROS Environmental Services.
- All non-usable "empty" containers should be crushed and disposed of at a landfill location designated by the Base Commander.
- Waste that has been characterized and determined to be non-hazardous can be disposed of on-island at the appropriate landfill. ROS Environmental Services and the Station Environmental Technician maintain documentation of the characterization.
- Out-of-service batteries are turned-in to the DLA or an on-island recycling facility. Lead acid batteries should be shipped with acid remaining in them. Battery caps must be kept on the batteries. Batteries that are cracked or missing caps must be drained and the acid neutralized. ROS Environmental Services provides direction on proper neutralization methods and analysis to determine if neutralized acid is a hazardous waste.
- Sodium Bulbs are treated IAW SOP 6130-16.

12 DLA DISPOSITION SERVICES WASTE TURN-IN PROCEDURES

- No hazardous, asbestos or PCB waste is disposed of on-island at Ascension AAF. All hazardous waste, asbestos, or PCB waste is disposed of through DLA Disposition Services Jacksonville. All waste shipments to CONUS must be coordinated with DLA Disposition Services, 45 CES/CEIE, and ROS Contractor.
- The Defense Logistics Agency's Disposition Services provides hazardous waste/material removal for Ascension AAF, for CONUS recycling or disposal.
- DLA procedures require the generator to report to DLA each waste stream of eligible material for disposition via a DD Form 1348-1a.
- Hazardous Waste Profile Sheets (DLA Form 2511) are required to be submitted to DLA Disposition Services for each waste stream.
- Upon approval from 45 CES/CEIE, the contractor submits DD Form 1348-1a and Form 2511 for each waste stream requested to be picked-up/shipped to DLA Disposition Services Jacksonville.

- 45 CES/CEIE arranges for DLA and their disposal contractor to travel to CONUS Port Canaveral, unless otherwise directed, for pickup of waste.
- The DLA Contractor is responsible for inspection of the waste, preparing hazardous waste shipment documentation, labelling, and placarding the waste container.
- The Primary Contractor notifies DLA Jacksonville as to the scheduled date of the ships arrival to Port Canaveral.
- The DLA contractor arranges for a truck(s) to come to Port Canaveral to receive the waste from the ship. ROS and DLA representatives will be at the Port to inspect the shipment for problems and verify waste.
- The DLA sends signed copies of the manifest back to ROS Environmental Services at PAFB. Contractor provides copies to 45 CES/CEIE.
- The DLA Contractor arranges for ultimate disposal of Hazardous Waste.

13 DEPARTMENT OF DEFENSE AND ENVIRONMENTAL PROTECTION AGENCY REPORTING REQUIREMENTS

Starting in November 2018, SLD 45 provided additional reporting requirements for hazardous waste shipments from Ascension AAF. The following guidance was provided:

Until Further Notice, US Space Force property/materials returned to the U.S. from operations generate hazardous waste overseas, the materials are to be treated as if they were an import of hazardous waste from a foreign county and apply requirements outlined in 40 CFR 262.84. IAW Mr. Joe Beyer, DLA Disposition Services Jacksonville, FL, email dated 13 Sep 2018, the following hazardous waste forecast data is required prior to shipment due to issues between DoD and EPA.

Do not ship until notifications are complete and permission to ship has been granted. All data is to be provided to the Air Force Civil Engineer Center (AFCEC) Hazardous Waste Subject Matter Expert, Mr. Kevin Gabos, using the following emails in the notification. AFCEC will coordinate the necessary notifications issue the authority to ship through DLA-DS.

Send to: kevin.gabos@us.af.mil; joseph.smith.5@us.af.mil; mark.dixon.5@us.af.mil; patrick.woods.1@us.af.mil

SUMMARY OF HAZARDOUS WASTE TO BE SHIPPED:

1. Name, address, and contact information for the originating DoD installation/location from which the shipment will originate;

2. The initial U.S. DoD or Defense Logistics Agency (DLA) site name, EPA ID number, address, telephone, fax numbers, email address;

3. The timeframe during which hazardous waste is anticipated to be shipped, including a start date and an end date for the transboundary movements - can do for an entire CY or one-by-one for each shipment;

4. The estimated maximum number of shipments expected during the authorization period defined in the acknowledgment of consent (AOC) - based upon item 3, either entire CY or one-by-one for each shipment;

5. The transporters who may ship or transport such waste to the United States from the originating installation;

6. The port or ports where the hazardous waste may enter the United States;

7. An Excel Spreadsheet containing a list of anticipated waste streams/waste types:

   - Their RCRA and international waste codes
   - United Nations/U.S. Department of Transportation (DOT) ID numbers
   - Anticipated recovery or disposal operations (likely none at point of entry)
   - Estimated total amounts over the timeframe that may be retrograded during the authorization period

8. The final receiving facility name, EPA ID number, address, telephone, fax numbers, email address, technologies employed, and the applicable recovery or disposal operations, if known, based upon the DLA DS contract CLINs. A separate notice will be provided for each potential final receiving facility;

9. The ISO standard 3166 country name 2-digit code, OECD*/Basel competent authority code, and the ports of entry and exit for each country of transit; *Organization for Economic Co-operation and Development.

REFERENCE: https://ecfr.io/Title-40/se40.28.262_184

14 CLOSURE

Within a year after a site is no longer active, removal of any remaining material and decontamination of the area is required. The 45 CES/CEIE is notified prior to closure of the site. This action is followed up with a written document to 45 CES/CEIE to certify that site is clean. There is no scheduled closure date for Ascension AAF hazardous waste storage areas at this time.

- Site Description
  - Ascension AAF hazardous waste storage area is facility number 23210. The facility is a concrete pad approximately 3,600 square feet surrounded by a seven-foot concrete wall with gates and covered with an aluminum roof. The maximum worst case storage capacity of the facility, assuming isle space requirements are ignored, and drums are double stacked, is about 1,800 55-gallon drums or approximately 1,200,000 pounds of waste.

The following is an outline of steps to be taken to achieve closure of the facility:

- Drain all sumps, pumps, and process equipment of all hazardous wastes into appropriate containers. Decontaminate equipment or characterize prior to disposal. Label all containers clearly to identify contents.
- Characterize and profile all waste streams in storage.
- Inspect storage area pad and surrounding areas for discoloration or other evidence of releases (i.e. stressed or dead vegetation).
- Review spill records for spill history in area.
- Decontaminate pad and/or surrounding area as required. This could include sweeping, pressure washing, scabbing, or soil excavation. Characterize and manage all residues and PPE from the decontamination operations.

- Sample for the contaminants of concern, if necessary, to verify decontamination efforts were successful.
- Prepare appropriate paperwork and transfer all hazardous waste decontamination residues and PPE, if required, following characterization to DLA for transport and disposal.

The steps for closure of petroleum tanks include:

- Drain all tanks, pipes, sumps, pumps and process equipment of all petroleum products into appropriate containers. Label all containers clearly to identify contents.
- Transfer all drummed petroleum products, to an area where they can be reused, recycled, or disposed of properly.
- Decontaminate storage tank, secondary containment, and surrounding area of any oil, grease, spillage, or other materials including all loading/unloading areas. Decontamination methods include sweeping and use of oil absorbent, washing, and pressure washing with surfactant. All wastes are characterized and disposed of appropriately.
- If tank is still in useable condition and can be used at another facility for storage of similar material, decontamination efforts only have to be to the extent that no release to the environment will occur during relocation and reinstallation of the tank.
- Sample area, if necessary, to determine if there is any residual contamination remaining.

15 APPENDIX A: WASTE ANALYSIS PLAN

General

A Waste Analysis Plan is required in accordance with Space Force regulations for use by Ascension AAF operations support personnel. Support personnel are required to understand the hazards of the materials they work with and how to manage the waste generated from processes.

Requirements

A detailed chemical and physical analysis is required for all wastes generated. Generators and environmental personnel identify wastes. Waste profile sheets for wastes generated at downrange locations are filed with the on-station Environmental Technician.

Analysis parameters for wastes are determined by using SDS's from products that make up the waste and user knowledge by determining what likely contaminates may be present, based on the waste generating process.

Sampling Methods

The sampling methods used to obtain representative samples of waste meet the requirements of the EPA sampling protocol. Sampling methods vary based on the type of sample taken. Table 1 shows sampling requirements such as size of sample, type of bottles, and holdings times. Samples are collected using the sampling protocols listed below or an equivalent sampling method.

- Extremely viscous liquid - ASTM Standard D-140-88.
- Crushed or powdered material - ASTM Standard D-346-78.
- Soil or rock-like material - ASTM Standard D-420-87.
- Soil-like material - ASTM Standard D-1452-80.
- Fly ash-like material - ASTM Standard D-2234-89.
- Containerized liquid wastes - Coliwassa, ref. SW-8462, Section 9, "Test Methods for Evaluating Solid Waste," U.S. EPA, Third Edition, Nov. 86 USEPA - "Samples and Sampling Procedures for Hazardous Waste Streams," EPA 600/2- 80-018.

Table 1: Conservatives, Preservatives, and Holding Times

Method	Sample Volume Solid	Container Type Liquid	Preservative Liquid	Holding Time	Parameter
EPA 8010	5g GV	2-40 ml GV	HCl, Cool 4C	14 days	VOCs
EPA, 8020	5g GV	2-40 ml GV	HCl, Cool 4C	14 days	Aromatic VOCs
EPA 8021	5g GV	2-40 ml GV	HCl, Cool	14 days	Aromatic VOCs
EPA 608, 8082	10g G	1000 ml G	4C Cool 4C	7 days ext/40 days	PCBs
EPA 610, 8100	10g G	1000 ml G	Cool 4C	7 days ext/40 days	PAHs
EPA 614, 8140	10g G	1000 ml G	Cool 4C	7 days ext/40 days	Pesticides
EPA 625, 8270	10g G	1000 ml G	Cool 4C	7 days ext/40 days	Semi Volatile
EPA 8015	5g GV	2-40 ml GV	Cool 4C	14 days	
1311/6010B	100g G	500 ml G,P	None	180 days, 28 Hg	TCLP Metals
1311 8260B	50g GV	2-40 ml GV	Cool 4C	14 days	TCLP Volatiles
1311	100g G	1000 ml G	Cool 4C	14 days	TCLP
8270B/C 1311 8151A	100g G	1000 ml G	Cool 4C	14 days	Semi Volatiles TCLP Herb
1311 8081	100g G	1000 ml G	None	14 days	TCLP Pest

G = Glass, cleaned to protocol A
P = Plastic, cleaned to protocol A
GV = Glass vials with Teflon septa
ml = milliliters

H2SO4 = Sulfuric Acid
HCl = Hydrochloric Acid
ZnOAc = Zinc Acetate
G=grams

Procedures

The Environmental Technician interviews shop personnel regarding their work processes and the materials used in each process. The Environmental Technicians and Environmental Services keep a log of what wastes are generated at each shop and the quantities. Frequency for waste generation varies depending on maintenance and project construction schedules.

The Environmental Technician will review shop processes at least annually. Any problems are documented during hazardous waste inspections and any changes in waste streams are noted and follow-up action is taken as necessary.

Information on suitable non-hazardous or less hazardous substitutes are updated during the inspection. The Environmental Technician samples drums of waste once they enter the Hazardous Waste Storage facility. Sample dates may be noted on the drum(s). The drum contents are written on the drum. When the analysis results are completed, the containers are labelled appropriately. Non-hazardous items are labelled non-regulated and hazardous items have the words "Hazardous Waste" written on the drum along with a brief description of the analysis and why the drum is hazardous, i.e., Spent MOGAS contaminated with 400 ppm lead, flash point 70 degrees Fahrenheit. Containers are labelled with the appropriate DOT and GHS labels.

TCLP Analysis

The Toxicity Characteristic Leaching Procedure (TCLP) is used to characterize wastes as hazardous or non-hazardous, based on the Toxicity Characteristic Rule published in the Federal Register (40 CFR 261.24) in 1990. The rule lists 39 toxic substances and maximum concentrations for each. The concentrations are listed in terms of the TCLP procedure rather than total concentrations of the sample. Solid samples are extracted with a buffer solution, which has a pH similar to that of rainwater. The leachate is then analyzed to determine the concentration of constituents that leach from the sample. This provides a means for determining possible impact to groundwater, which could occur if the sampling source is subjected to weathering, (i.e. placed in a landfill). For liquid samples containing greater than or equal to 0.5% solids, the liquid is separated from the solid phase and the solids are extracted. The extraction and the initial liquid phase are then combined and analyzed together. Liquid samples which contain less than 0.5% solids are filtered and the filtrate analyzed. Table 2 lists the federal limits for the Toxicity Rule. Any sample which exhibits concentration of one or more constituents equal to or greater than the limit for that constituent is characterized as hazardous waste and must be treated accordingly.

Table 2: Toxicity Characteristic Leaching Procedure Regulatory Levels

METALS	(mg/L)	VOLATILES	(mg/L)	SEMIVOLATILES	(mg/L)
Arsenic	5.0	Benzene	0.5	o-Cresol	200.0**
Barium	100.0	Carbon tetrachloride	0.5	m-Cresol	200.0**
Cadmium	1.0	Chlorobenzene	100.0	p-Cresol	200.0**
Chromium	5.0	Chloroform	6.0	Cresol	200.0**
Lead	5.0	1,4-Dichlorobenzene	7.5	2,4-Dinitrotoluene	0.13
Mercury	0.2	1,2-Dichloroethane	0.5	Hexachlorobenzene	0.13*
Selenium	1.0	1,1-Dichloroethylene	1.7	Hexachlorobutadiene Hexachloroethane	0.5
Silver	5.0	Methyl ethyl ketone	200.0		3.0
		Tetrachloroethylene	0.7	Nitrobenzene	2.0
		Trichloroethylene	0.5	Pentachlorophenol	100.0
		Vinyl chloride	0.2	Pyridine	5.0*
				2,4,5-Trichlorophenol	400.0
				2,4,6-Trichlorophenol	2.0
PESTICIDES	**mg/L**	**HERBICIDES**	**(mg/L)**		
Chlordane	0.003	2,4-D	10.0		
Lindane	0.4	2,4,5-TP (Silvex)	1.0		
Methoxychlor	10.0				
Toxaphene	0.5				
Endrin	0.02				
Heptachlor *(and its epoxide)*	0.008				

*Quantitation limit is greater than the calculated regulatory level. The quantitation level therefore becomes the regulatory level.

**If o-, m-, and p-cresol concentrations cannot be differentiated, the total cresol concentration is used.

16 APPENDIX B: ASCENSION AAF POL STORAGE TANKS

Facility Number	Location	Volume gallons	Contents	Construction	Year Built	Remarks
12099	Dining Hall	4,000	JP-8	Steel	1960	Removed From Service 2011
12102	Dining Hall	4,000	JP-8	Steel	1960	
12207	Powerhouse	2,500	Used Oil	Fiberglass	2007	
12208	Powerhouse	2,500	Lube Oil	Fiberglass	2007	
12239	Powerhouse	265	Lube Oil	Steel	2003	
12266	Powerhouse	30,000	JP-8	Steel	1992	
12267	Powerhouse	30,000	JP-8	Steel	1992	
12278	Motor Pool	500	Used Oil	Steel	1995	Oil/Water Separator
12297	Airfield, east	300	JP-8	Steel	1996	Airfield, east
12327	Motorpool	5,000	JP-8	Steel	1995	Motor Pool
12328	Motorpool	25,000	MOGAS	Steel	1995	Motor Pool
12366	Homing Beacon	300	JP-8	Steel	1995	
12354	Powerhouse	3,000	JP-8	Steel	1996	Outside Day Tank
12355	Powerhouse	3,000	JP-8	Steel	1996	Outside Day Tank
12360	Powerhouse	300	Oil/Water Mixture	Concrete	1997	Oil/Water Separator out of service. 332 for replacement submitted.
15019	Receivers	300	JP-8	Steel	1995	
16555	12.15 Radar	2,000	JP-8	Steel	1973	
35065	Base of COTAR	300	JP-8	Steel	1996	
41018	Transmitters	1,000	JP-8	Steel	1992	Double-Walled
12185	GPS	568	JP-8	Steel	2005	Double-Walled
12185	GPS	568	JP-8	Steel	2005	Double-Walled
24263	CIF	2100	JP-8	Steel	2009	Double-Walled
24264	CIF	2100	JP-8	Steel	2009	Double-Walled

Facility Number	Location	Volume gallons	Contents	Construction	Year Built	Remarks
12024	NRL	3,500	Diesel	Steel	2010	Double-Walled
12024	NRL	150	Diesel	Steel	2010	Double-Walled
12234	Catherine Point	150,000	Diesel	Steel	1967	Transferred to the RAF
12235	Catherine Point	420,000	Diesel	Steel	1966	Transferred to the RAF
12236	Catherine Point	420,000	Diesel	Steel	1966	Transferred to the RAF
12244	Catherine Point	150,000	MOGAS	Steel	1957	Transferred to the RAF
12245	Catherine Point	150,000	Diesel	Steel	1957	Transferred to the RAF
12252	Catherine Point	420,000	Diesel	Steel	1969	Transferred to the RAF
12255	Catherine Point	500	Waste Oil	Fiberglass	1977	Transferred to the RAF
12256	Catherine Point	500	Diesel	Steel	1983	Transferred to the RAF
12257	Catherine Point	420,000	Diesel	Steel	1983	Transferred to the RAF
?????	Catherine Point	500	Lube Oil	Steel	?????	Transferred to the RAF
12348	Catherine Point	250	Diesel	Steel	1996	Transferred to the RAF
Total Storage Capacity Catherine Point:				2,131,750 gallons		

17 APPENDIX C: DD FORM 1348-1A ISSUE/RELEASE/RECEIPT DOCUMENT EXAMPLE

DD FORM 1348-1A, JUL 91 (EG) ISSUE RELEASE/RECEIPT DOCUMENT

DOC IDENT	RI FROM	M&S	UNIT	QUANTITY	SUPPLEMENTARY ADDRESS	COG	FSCD	DISTRIBUTION	PROJECT	PRI	REQD DELIV DATE	ADV	RI	OP	CD	UNIT PRICE DOLLARS	UNIT PRICE CTS	DOLLARS	CTS
A5JASI	1b	107		SY2354		30	01		15A						H	00	30	32	10

1. TOTAL PRICE

2. SHIP FROM: FY 7898 ASCENSION

3. SHIP TO: SY 2354 DRMO CCAFS, FL 32920

4. MARK FOR: DRMO HW

5. DOC DATE | 6. NMFC | 7. FRT RATE | 8. TYPE CARGO | 9. PS

10. QTY. REC'D | 11. UP | 12. UNIT WEIGHT | 13. UNIT CUBE | 14. UFC | 15. SL

16. FREIGHT CLASSIFICATION NOMENCLATURE: RQ Waste Corrosive Liquid, Acidic, Organic, N.O.S.,(Contains POLYMALIC ACID) 8, UN3265, PGIII (D002)

17. ITEM NOMENCLATURE: Belgard EV

18. TY CONT	19. NO CONT	20. TOTAL WEIGHT	21. TOTAL CUBE
Drum	1	107 lbs	

22. RECEIVED BY | 23. DATE RECEIVED

24. DOCUMENT NUMBER & SUFFIX (30-44): FB2520 PROFILE MSDS

25. NATIONAL STOCK NO. & ADD (6-22): 8010-00 Paint Related Materials

26. RIC (4-6) UI (23-24) QTY (25-29) CON CODE (71) DIST (55-56) UP (74-80)

27. ADDITIONAL DATA:

This has been packaged IAW DoT 49 CFR and IMDG regulations P.O.C : Barry Hicks/Gary Milne/
DOT: RQ Waste Corrosive Liquid, Acidic, Organic, N.O.S.,(CONTAINS POLYMALEIC ACID) 8, UN3265, PGIII (D002)

IMDG: Waste Corrosive Liquid, Acidic, Organic, N.O.S.,(CONTAINS POLYMALEIC ACID) 8,

UN3265 PG III
EPA Code: D002
CLIN : 9202
Milsbills: 30 Signature: _____ Date: _____
Label: Corrosive, Marine Pollutant
Total Weight: 107 lbs. 49 KG Net: 77 lbs 35 KG 30 Liters
Package / Special Requirements: Packaging instructions P001 Special Provision 274
One 20 gallon Open Top UN1A2/Y1.5/199/05/USA UN/POP 1 1A2 X 30 liters
Contract Number: 321-494-741 Item Number: _____

PREVIOUS EDITION MAY BE USED

PerFORM (DLA)

18 APPENDIX D: ASCENSION AAF FACILITIES HANDLING PETROLEUM PRODUCTS OR HAZARDOUS MATERIALS

NAME OF FACILITY	TYPE OF WASTE
Auto Maintenance Shop	Lube Oil Antifreeze Degreasing Solvents Oil/Fuel Filters Waste Fuel Lubricants Lead-Acid Batteries Aerosols
Hazardous Materials Storage Facility	Lubricants Corrosives
Paint Storage Building	Paints Thinner
Paint Spray/Vehicle shop	Paint Solvents
Power Plant	Lube Oil Degreasing Solvents Spent Acid Solutions Waste Fuel Lead-Acid Batteries Oil/Fuel Filters
Maintenance Shop	Spent Lamps Lithium-Ion Batteries Nickel-Cadmium Batteries
Vehicle Service Pad	Lube Oil Degreasing Solvents
POV Service Rack	Lube Oil Antifreeze Lead-Acid Batteries Oil/Fuel Filters
Paint Shop	Paints Thinners
Hazardous Materials Warehouse	Lubricants
Bottled Gas Storage	Oxygen, Refrigerants, Oxygen, Sulphur Hex, Acetylene, Oxygen, Propane, Nitrogen, Argon, Acetylene, and specialty gas for calibrating equipment
Pesticide Storage Facility	Various Pesticides
Air Ground Equipment Shop (Air Field)	Lubricants Fluids
Sandblast/Paint Facility	Paints Thinners

NAME OF FACILITY	TYPE OF WASTE
Hazardous Waste Facility	Paint Related Materials POLs Corrosive Batteries PCBs Spent Lamps

19 APPENDIX E: INSTRUCTIONS FOR DLA FORM 2511

(Authority: DOD 4160.21-M, Chap. 10, par. D.2.a.(3)) PART I

A. GENERAL INFORMATION *(Required)*

WASTE PROFILE NUMBER – A unique number assigned to this waste stream for future reference. The preferred format is Generator DoD AAC + five digit serial number assigned by either the Generator or the DRMO. Any variation from this format must be approved by your DRMO.

1. GENERATOR NAME – Enter the name of the generating facility (Should match official name associated with the EPA ID number).
2. FACILITY ADDRESS – Enter the address of generating facility listed in block A.1.
3. ZIP CODE – Enter the generating facility's five or nine-digit Zip Code.
4. GENERATOR USEPA ID – Enter the 12-character, alpha-numeric descriptor issued by the USEPA to the facility identified in block A.1. (If not applicable, enter "NONE")
5. GENERATOR STATE ID – Enter the descriptor issued by the Resident State to the facility identified in block A.1.
6. TECHNICAL CONTACT – Enter the name of the person to contact for more information about this waste.
7. TITLE – Enter the Technical Contact's official title (e.g., "HW-Manager", "Shop Chief", etc.).
8. PHONE – Enter the Technical Contact's telephone number

B. WASTE INFORMATION *(Required)*

1. NAME OF WASTE – Enter a name that is generally descriptive of this waste (e.g., paint wastes, oil-water separator sludge, PCB-contaminated dirt, etc.)
2A. USEPA WASTE CODE(S) – List all that apply. If non-RCRA, enter "NONE"

2B. STATE/LOCAL/HOST NATION WASTE CODE(S) – List all that apply. If not applicable, enter "NONE".

3. PROCESS GENERATING WASTE – List the specific process/operation or source that generates this waste (e.g., paint-booth spray, PCB spill, metal-plating operation, etc.)
4. PROJECTED ANNUAL GENERATIONS – The quantity of waste projected for turn-in annually. (Preferably in pounds, but other units of measure may be used, e.g., gallons, kilograms, etc.)
5. MODE OF COLLECTION – Describe the method used to collect and store this waste stream (e.g., drums, tanks, roll- off, etc.)
6. DIOXIN WASTE? – Storage and disposal of Dioxin wastes requires special attention. If this waste is a USEPA-listed Dioxin waste, indicate "Yes", and contact your DRMO representative for further instructions.
7. A. IS THIS WASTE RESTRICTED FROM LAND DISPOSAL? – Check "YES" or "NO"
   B. HAS AN EXEMPTION BEEN GRANTED? – If "Yes", explain in Part II, block 6, at "Explain how and why these documents comply with RCRA requirements".
   C. DOES THE WASTE MEET APPLICABLE TREATMENT STANDARDS ALREADY?

If "Yes", explain in Part II, block 6, at "Explain how and why these documents comply with RCRA requirements".

PART II

1. MATERIAL CHARACTERIZATION (*Optional unless otherwise indicated*)

1. COLOR – Describe the color of the waste (e.g., blue, clear, varies, etc.)
2. DENSITY – The specific gravity of water is 1.0. Most organics are less than 1.0. Chlorinated solvents, most inorganics, and paint sludge are greater than 1.0.
3. BTU/LB – This entry may be required if you request that this waste be used as a fuel substitute.
4. ASH CONTENT – This entry may be required is you request recovery of used oil.
5. TOTAL SOLIDS – Content can be expressed as either a weight percentage, or dry-weight concentration (mg/kg).
6. LAYERING – Check applicable box. Multi-layered means more than two layers (e.g., oil/water/solvent/sludge). Bilayer means the waste is comprised of two layers which may or may not be the same phase (e.g., oil/water, solvent/sludge). Single phase means the waste is homogeneous.

2. RCRA CHARACTERISTICS *(Required as applicable)*

PHYSICAL STATE – If the four boxes do not apply, a description should be entered after "Other".
IGNITABLE – Check this box if the waste meets the criteria listed at 40 CFR 261.21.

FLASH POINT – For liquids, list the flash point, *regardless of whether the waste is Ignitable (D001) or NOT*. TOTAL ORGANIC CARBON (TOC) – Required for Ignitable Liquids

CORROSIVE – Check this box if the waste is corrosive as defined in 40 CFR 261.22.

- If applicable, include the PH reading in the space provided. (40 CFR 261.22 (a) (1).
- If applicable, check the "Corrodes Steel" box. (40 CFR 261.22(a) (2).

REACTIVE – Indicate if the waste is reactive as defined in 40 CFR 261.23. If so, indicate the reason by checking the appropriate box. If other than one of the reasons provided, explain in detail at Part II, "Special Handling Requirements".
TOXICITY CHARACTERISTIC – If the waste exhibits the characteristic of toxicity, as defined in 40 CFR 261.24, check this box, and include the contaminant level in Part II, block 3.

3. CHEMICAL/MATERIAL COMPOSITION *(Required as applicable)*

CAS # - Chemical Abstract Number. (Optional) May be used instead of the chemical name in the "Component" block. COMPONENT – List all chemical *and material* components and contaminants.

- *Examples of chemical components and contaminants:*
  - "PCB's", " methanol", "oil", "endrin", "sodium chloride", "napthalene", "gasoline", etc.
  - Applicable F-listed constituents; e.g., for waste numbers F001-F005, the waste constituents of concern are the solvents themselves.
  - Applicable Underlying Hazardous Constituents (UHCs). For certain characteristic waste numbers, D001- D043, you may have to examine the waste components for UHCs. Look in 40 CFR, Table 268.40. If the treatment standard given includes the words *"and meet 268.48 standards"*, then you must indicate any UHCs present in the waste *if they are present above the levels specified in part 268.48.*
- *Examples of material components and contaminants: water, dirt, sand, paint sludge, rags, etc.*

CONCENTRATION – Use this column for constituents of concern which do not exceed 10,000 ppm (1%). Indicate the concentration level in ppm or mg/L.

RANGE – For components comprising greater than or equal to 1% of the total waste stream, estimate the range (in percent) in which the component is present. The total maximum values of the components must be greater than, or equal to 100%, including chemical and material components.

4. SHIPPING INFORMATION - Refer to 49 CFR 172 to complete this part.
NOTE: Information provided in this portion of the waste profile is not meant to constitute a standard USDOT certificate given by a shipper offering a package to a transporter, but is needed to identify any other health and safety hazards, which are not readily apparent from the basic waste description.

5. SPECIAL HANDLING INFORMATION - Describe those hazards which you know or reasonably believe are or may be associated with short term or prolonged human exposure to this waste (29 CFR 1910.1200). If known, please identify any carcinogens present in this waste in excess of 0.1% (29 CFR 1910.1200(d) (4). Failure to make an entry in this part is considered to be a representation that you neither know nor believe that there are any adverse human health effects associated with exposure to this waste. Also include any additional information that will aid in the management of this waste.

6. GENERATOR CERTIFICATION *(Required)*
CHEMICAL ANALYSIS – Attach a copy, if applicable (see Note below).

USER KNOWLEDGE - User knowledge is appropriate when it can be documented (e.g., in-out logs, published information, SDS, process production information, etc.). There is room provided to explain "what" and "why" user knowledge is used in lieu of analysis.

CERTIFICATION - Include the PRINTED NAME of the person providing the Certification Signature.
SIGNATURE - An authorized representative of the generator must sign and date this certification on the completed Hazardous Waste Profile Sheet.

DATE – Date signed by Certifier*.

*** This Hazardous Waste Profile Sheet (HWPS) may be used for subsequent turn-ins of the same waste stream, for a period of one year. If a turn-in date is more than a year past the Certification Date listed, the generator must either re-certify the HWPS, or provide a new HWPS, with the current date. See instructions at DOD 4160.21-M, Chapter 10, par. D.2.a. (3) (b).**

If you require assistance completing this form, please contact your local DRMO.

20 APPENDIX F: HAZARDOUS WASTE WEEKLY INSPECTION LIST

NAME OF INSPECTORS: _____	DATE:						
	TIME:						
	INITIALS:						
CHECKLIST ITEMS							
1. Check all drums for leaks, corrosion, bulging, etc.							
2. Make sure unsealed containers of ignitables are grounded.							
3. Make sure drums are stored on pallets with walking space around the pallets.							
4. Make sure drums are labeled and have a start date.							
5. Ensure that drum inventory correlates with inventory log.							
6. Make sure showers and eyewashes work.							
7. Empty sump of rainwater. Close and lock valves.							
8. Make sure facility is clean and gate is locked.							
9. Check condition of loading/unloading area, curbing dike, fence, and signs.							
10. Make sure vegetation is trimmed, look for dead vegetation.							
11. Check condition of spill kit.							
12. Is fire extinguisher full and sealed?							
13. Check operation of phone, lights, water supply and personal protective equipment.							
14. Make sure storage areas are placarded by hazard class and drums are in designated area.							
15. Make sure Contingency Plan, Management Plans and emergency phone numbers areavailable.							
16. Number of containers in storage.							

REMARKS: (Dates corrective actions were taken, problems or other observations):

NOTE: Inspections must be conducted at least each 7 days and records must be maintained for a minimum of 3 years.

APPENDIX G: ASCENSION AAF HAZARDOUS WASTE STORAGE SITE



Space Launch Delta 45
Patrick SFB FL 32925-3239

SLD 45 HAZARDOUS WASTE MANAGEMENT PLAN

APPENDIX K

SLD 45 Hazardous Waste Hurricane Procedures

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1. General

a. It is the intent of hazardous waste hurricane preparation to (a) consolidate all accumulated hazardous waste on both Cape Canaveral Space Force Station (CCSFS) and Patrick Space Force Base (PSFB) into one of the three hazardous waste permitted facilities to the extent feasible and (b) ship all hazardous waste off the installations if time allows.

b. Waste will be transferred to the SLD 45 transfer, storage and disposal facilities (TSDF) provided the TSDFs are more secure than the Resource Conservation and Recovery Act (RCRA) <90 day accumulation site. If the <90 day accumulation site is rated for higher sustained winds than the TSDFs, the waste will remain in place unless there is time to ship offsite. 45 Civil Engineer Squadron/Civil, Environmental and Infrastructure Engineering (CES/CEIE) will make final determination of waste to be stored in PSFB Building 947 as space/time allow.

c. Upon anticipation of possible hurricane (2-3 days prior to HURCON IV), 45 CES/CEIE will alert the Patrick Fence to Fence (F2F) contractor to implement the following procedures:

2. Policy

a. Using the Compliance Site Inventory, Patrick F2F will notify all PSFB and CCSFS Hazardous/Controlled waste generators via phone and email. Patrick F2F will provide a blank Waste Support Request for the generator with the notification email.

(1) All CCSFS and PSFB generators will submit a Waste Support Request for an emergency pick up by the Patrick F2F. The Waste Support Request is emailed to: 45CES.ESC.HazWasteSupport@us.af.mil.

(2) The Patrick F2F will deliver waste to CCSFS permitted facilities, buildings 44200 and 44205.

(3) The Patrick F2F contractor will transport waste to PSFB's permitted facility, building 947.

b. Controlled waste will only be picked up/shipped out if time and storage space allows.

c. Patrick F2F will prioritize completion of uniform hazardous waste manifest for off-site shipping of hazardous waste from both CCSFS and PSFB permitted facilities.

d. An emergency request for offsite disposal will be made by Patrick F2F, using the Defense Logistics Agency (DLA), for shipment of hazardous waste.

e. In the event DLA is unable to procure the offsite vendor for shipment prior to hurricane; Patrick F2F will ensure that all hazardous waste in the three permitted facilities (two at CCSFS, 44200 & 44205 and one at PSFB, 947) is secured. This will include controlled waste only if space/time allows.

Note: All SLD 45 TSDFs are constructed with built-in secondary containment and are rated to withstand up to 100 mile per hour winds.

Space Launch Delta 45
Patrick SFB FL 32925-3239

SLD 45 HAZARDOUS WASTE MANAGEMENT PLAN

APPENDIX L

MUNITIONS RULE

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TABLE OF CONTENTS

1. GENERAL 5
2. POLICY 6
3. WASTE DETERMINATION 8
4. TRANSPORTING 9
5. STORAGE 9
6. EMERGENCY RESPONSE TO EXPLOSIVES EMERGENCIES 11

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1. GENERAL

a. The Military Munitions Rule (MMR) will be discussed to the extent that it is applicable to the SLD 45. The MMR is not applicable to munitions that are being returned to the appropriate depot for re-issue, recycling, or foreign military sales.

b. The Environmental Protection Agency (EPA) was required by the Federal Facility Act of 1992 to determine when conventional and chemical military munitions become hazardous waste under the Resource Conservation and Recovery Act (RCRA). EPA worked with the Department of Defense (DOD), States, tribal governments, and interested stakeholders to promulgate the MMR. The MMR was published in the Federal Register on 12 February 1997 and became effective on 12 August 1997. The final rule consolidated the requirements specific to conventional military munitions in a new Subpart M to 40 CFR 266. The MMR requirements have been codified in 40 CFR as follows:

(1) 260.10 – definitions for explosives or munitions emergency, explosives or munitions emergency response, explosives or munitions emergency response specialist, and military munitions

(2) 262.10(i) – exempts personnel responding to an explosives or munitions emergency from RCRA generator requirements

(3) 262.20 (f) – exempts transport of all hazardous waste along right-of-ways on or bordering contiguous property controlled by the same person from RCRA manifest and marking requirements

(4) 263.10(e) – exempts responses to explosives or munitions emergencies from RCRA transporter requirements

(5) 264.1(g)(8), 265.1(c)(11), and 270.1(c)(3) – provides an exemption for the immediate response to an explosives or munitions emergency from RCRA permitting, including emergency permits

(6) 264.1(g)(8)(iv) – provides the requirement for military emergency response specialists to retain records of emergency response operations for three years

(7) 264.1201 and 265.1201 – provides design and operating standards for hazardous waste munitions and explosives storage units for waste chemical munitions, waste military munitions not stored in compliance with Department of Defense Explosive Safety Board Standards and the conditional exemption provided in 266.205, and all non-military waste munitions and explosives

(8) 266.201 – definitions for - Active range, Chemical agents and munitions, Inactive range, Military, Military range, and Unexploded ordnance (UXO)

(9) 266.202 (a)(1)(i) – provides that munitions used during military training exercises are

not regulated under RCRA

(10) 266.202 (a)(1)(ii) – excludes from RCRA regulations all munitions used in weapons research, development, testing, and evaluation programs

(11) 266.202 (a)(1)(iii) – provides that range clearance activities accomplished on active or inactive ranges are not regulated under RCRA

(12) 266.202 (a)(2) – excludes from RCRA regulations the materials recovery activities of repairing, reusing, recycling, reclaiming, disassembling, or reconfiguring unused military munitions

(13) 266.202(b) – provides when unused military munitions become solid waste

(14) 266.202(c) – provides when used or fired military munitions become solid waste

(15) 266.202(d) – provides requirements for military munitions that land off range

(16) 266.203 – provides a conditional exemption from RCRA hazardous waste generator and transporter requirements for waste military munitions (except chemical munitions) shipped from a military owned or operated facility to a military owned or operated treatment, storage or disposal facility if shipped in accordance with DOD shipping controls for military munitions

(17) 266.205 – provides a conditional exemption from RCRA hazardous waste storage requirements for waste military non-chemical munitions that are subject to and stored in accordance with Department of Defense Explosives Safety Board (DDESB) Standards

2. POLICY

a. DOD's Implementation Policy

(1) The DOD Policy to Implement the EPA's Military Munitions Rule is intended to provide DOD's interpretation of the MMR while establishing an overarching policy for the management of waste military munitions (WMM) that is consistent among DOD Components.

(2) The policy is applicable to DOD field activities in the US and US Territories, Reserve Components, National Guard, and Coast Guard as well as Defense Agencies. Training is required by the policy for all personnel involved in handling WMM.

(3) The training must include the applicable RCRA, State, MMR, and the DOD Policy requirements for management of WMM and EOD emergency responses.

b. Explosive Safety Standards

WMM must be managed per the MMR, the DOD Policy, and applicable federal, State, or local regulations. In the event such regulations conflict with DOD 6055.9-STD, Explosive Safety

Standards, DOD Components will follow the DOD 6055.9-STD for purposes of explosive safety until the conflict is resolved. If the conflict concerns environmental regulations that do not affect explosive safety, the environmental regulations will be followed until the conflict is resolved.

c. Munitions Used In Training of Military Personnel

Training documentation should include information such as the number of personnel trained, the date and time of the training, the attendance list, and the amount of ordnance used for the training. Documentation of required training will provide evidence that the activity is for training purposes rather than waste disposal. Although utilizing excess ordnance for training purposes is authorized, utilizing more than is required to train a given number of personnel is not authorized and would be considered "sham training" by regulatory authorities.

d. Commercial and NASA Ordnance Waste Storage and Disposal

(1) A HQ Air Force Space Command (AFSPC) SE/JA letter dated 9 May 2002 approved the storage of both commercial space launch ordnance and National Aeronautics and Space Administration (NASA) ordnance and the treatment of NASA ordnance waste on the Cape Canaveral Space Force Station (CCSFS). In response to the SLD 45 and HQ AFSPC request, the SLD 45 received a Secretary of the Air Force (SECAF) letter dated 31 May 2007 approving the storage and treatment of both commercial space launch ordnance and NASA ordnance waste on CCSFS. The letters held that the Air Force (AF) benefits from the services commercial space launch and NASA provide. Therefore, both commercial space launch and NASA meet the exemption provided in 10 U.S.C. § 2692, paragraph (b)(1), which allows the use of DOD property for storage and/or disposal of non-DOD hazardous material including ordnance. NASA ordnance waste is treated regularly on CCSFS in the permitted Thermal Treatment Unit (TTU); however, commercial ordnance has not been treated to this point.

(2) In a letter dated 20 Aug 2002 from the Florida Department of Environmental Protection (FDEP), the AF was provided authorization to store non-DOD ordnance waste on CCSFS in accordance with Subpart M of 40 CFR 266. The storage and treatment of commercial space launch and NASA ordnance waste has since been added to the CCSFS Part X permit for open burning/open detonation (OB/OD) range operations. The compliance partnering group (Waste Trackers) provided FDEP and EPA with documentation of the controls that are in place to ensure non-DOD ordnance waste is managed and controlled in the same manner as AF ordnance waste. Additionally, the AF ordnance storage bunkers are subject to the jurisdiction of and compliant with the DDESB standards. In order to ensure timely disposal, the time limit for storage of the commercial non-DOD ordnance waste will not exceed one year from the date the ordnance was determined to be waste. This will allow sufficient storage time to make the shipment of ordnance waste for disposal less costly to the commercial space launch contractors. Additionally, the commercial space launch contractors will maintain an inventory of all non-DOD ordnance waste in storage. The inventory will include the date the ordnance was determined to be waste, part number, description/name, net explosive weight and the date the ordnance waste was shipped off-site for disposal.

3. WASTE DETERMINATION

a. When military munitions are not a solid waste:

Military munitions are not a solid waste and therefore not waste military munitions when used for its intended purpose. The MMR provides that "used for intended purpose" includes the following:

(1) Training of military personnel on the destruction of unused propellant, emergency destruction and combat disposal,

(2) Test and Evaluation of munitions, weapons, or weapons systems,

(3) Range Clearance Activities at active or inactive ranges, which must take place on the range

(4) Resource Recovery and Recycling of unused munitions to include demilitarization.

b. When Unused Military Munitions are a Solid Waste

Unused military munitions are a solid waste and therefore is waste military munitions when it has been:

(1) Abandoned by being disposed of by burying, land filling, burning, detonating (except intended use), incinerating, dumping at sea, or treating prior to disposal,

(2) Removed from storage in a military magazine or storage area for the purpose of disposal or treatment prior to disposal,

(3) Damaged or deteriorated to the point that it cannot be put into serviceable condition and cannot be recycled or used for other purposes,

(4) Declared a waste by an Authorized Military Official (AMO) (DOD limits the AMO's authority to designating entire classes of munitions as waste, i.e., 1984, Army M55 Rocket).

c. Unused Military Munitions Removed From Storage for Disposal or Treatment

Unused military munitions do not become WMM until they are removed from storage for the specific purpose of disposal or treatment. Regardless of their condition code or serviceability, the storage of unused military munitions as products is not subject to RCRA regulations. EPA views unused military munitions as "products" that do not become waste until they are "discarded" and believes the "intent to discard" must be demonstrated. In EPA's view, the appropriate point at which to consider most unused military munitions to be a solid waste is when the material is finally removed from storage for the purpose of disposal or treatment prior to disposal. Therefore, movement of unserviceable military munitions from one on-site storage area to another on-site storage area for the purpose of storage is not subject to RCRA regulations.

Unused munitions that are in damaged or deteriorated condition is automatically considered a WMM and must be managed in accordance with the Subpart M conditional exemption for storage of WMM.

4. TRANSPORTING

a. Transporting Waste Military Munitions

The MMR provides a conditional exemption (CE) from RCRA hazardous waste generator and transporter requirements for waste military munitions (WMM) that are shipped in accordance with DOD munitions shipping and tracking procedures. If WMM are shipped under the CE, the RCRA manifest requirements, and the container marking requirements of 40 CFR 262.32 (b) do not apply. However, the WMM must be transported per the military munitions shipping controls of DOD 4500.9-R and DOD 5160.65-M and the DOT shipping requirements applicable to the transport of explosives. The CE is only applicable to shipments originating from a military-owned or operated facility that are shipped to a military-owned or operated treatment, storage, or disposal facility (TSDF). The CE does not apply to shipments of WMM that are shipped to a commercial TSDF or to shipments of WMM that are not accomplished under the DOD shipping controls for military munitions.

b. Defense Transportation Regulations

DOD 4500.9R requires use of DD Form 836, Shipping Paper and Emergency Response Information for Hazardous Materials Transported by Government Vehicles, when transporting hazardous materials. Drivers are required to carry DOT P5800.6, Emergency Response Guidebook, and must use evacuation distances specified during an emergency in transportation. Shipping activities must also prepare DD Form 626 before commercial or government vehicles are used for transportation of hazardous materials on public highways.

5. STORAGE

a. Storage of Waste Military Munitions

The MMR also provides a CE from hazardous waste regulations for the storage of WMM that are determined to be waste under 40 CFR 266.202(b)(3) and (4) and unexploded ordnance recovered from ranges and moved into storage prior to treatment or disposal. The CE is applicable only to WMM subject to the jurisdiction of and stored in accordance with the DDESB Standards (no waivers). The CE is not applicable to owners or operators of storage facilities storing non-military waste munitions and explosives, and; is not applicable to persons storing military munitions who are not subject to the jurisdiction of the DDESB. To claim the CE for storage of WMM the owner or operator must:

(1) Notify the EPA of the location of any storage unit used to store WMM within 90 days from the date storage of WMM first began,

(2) Provide verbal notice within 24 hours to EPA of any loss or theft of the WMM with a written description of circumstances of the loss or theft within 5 days of the event,

(3) Inventory the WMM at least annually and maintain a record of the inventory and any findings for at least three years,

(4) Inspect the WMM at least quarterly for compliance with 40 CFR 266.205 (a)(1) and maintain a record of the inspections and any findings for at least three years,

(5) Limit access to the stored WMM to appropriately trained and authorized personnel,

(6) Notify the EPA when previously reported WMM storage unit will no longer be used for that purpose.

If the CE is claimed, but the WMM are not stored in compliance with the provisions of the CE, the facility could be subject to enforcement actions for violation of the hazardous waste requirements.

b. Written Record of WMM Stored Under CE

The DOD policy requires installations or the responsible activity to keep a written record of all WMM stored under the CE. This record must be maintained for three years and must contain the following:

(1) The type of WMM stored by nomenclature, Lot Number, Federal Supply Code (FSC), National Stock Number (NSN), DOD Ammunition Code (DODAC), and condition code,

(2) The quantity of each type of WMM stored,

(3) The date each military munitions, by type, was identified as waste,

(4) The last storage date for each WMM by type,

(5) The storage location(s) used to store the WMM,

(6) The disposition of and date of action for the WMM by type,

(7) If applicable, the sending and receiving sites for WMM received from or shipped to off-site sources.

6. EMERGENCY RESPONSE TO EXPLOSIVES EMERGENCIES

a. Emergency Responses

DOD policy is to provide technical support for explosives or munitions emergency responses to military, federal, State, and local law enforcement and emergency response authorities when requested. The MMR added exemptions from RCRA regulations that remove regulatory impediments to emergency responses dealing with explosives or munitions emergencies. This means that responses to explosives or munitions emergencies are exempt from RCRA generator, transporter, and permit requirements, including emergency permits. Additionally, temporary storage because of extenuating circumstances such as adverse weather, nightfall, or safety considerations falls within the emergency response exemption from RCRA permitting. DOT requirements must still be met when transporting explosives to or from off-installation responses to explosives or munitions emergencies. The MMR added definitions to 40 CFR 260.10 that clarifies the scope of the emergency response exemption. The new definitions describe what constitutes an "explosives or munitions emergency", clarifies that the "explosives or munitions emergency response specialist" is the person responsible for determining if an emergency exists, and describes the actions that are included within the scope of an "explosives or munitions emergency response". The DOD Policy requires the response specialists to determine if the emergency is an "Immediate Response" (Level 1) or an "Imminent and Substantial Endangerment Response" (Level 2).

b. Immediate Response (Level 1)

DOD's policy on "immediate response" requires that only Explosive Ordnance Disposal (EOD) or Technical Escort Unit (TEU) personnel conduct Level 1 responses. DOD considers Level 1 responses to include responses to situations where military munitions are not secured and under DOD control and therefore threaten human health, property and the environment. DOD's intent is that EOD and TEU personnel will use established procedures and good judgment to determine whether a situation requires a Level 1 response. Regardless of whether a Level 1 response is to an on-base or off-base incident, the RCRA generator, transporter, and permit requirements, including emergency permits do not apply. However, the DOD 4500.9R requirements for completion of a DD Form 626 and 836 would still apply for an off-base Level 1 response where ordnance is transported to or from the site over public roadways.

c. Imminent and Substantial Endangerment to Human Health and the Environment (Level 2)

(1) EPA did not fully exempt from RCRA regulations those situations that pose an imminent and substantial endangerment to human health and the environment. EOD or TEU personnel must determine whether the response action can be delayed long enough to obtain an emergency permit without compromising safety or increasing risk. When response actions can be delayed, EOD or TEU personnel should consult with the host installation's Environmental Office to request an emergency permit. DOD calls this level of emergency response "Level 2" responses. In Level 2 responses, EPA or the State may issue a temporary emergency permit.

(2) For a Level 2 response on CCSFS, an internal controlled waste manifest should be

used to document how the ordnance waste was generated – via a Level 2 emergency response. For a Level 2 response on PSFB, a DD Form 626 and 836 should be completed prior to transporting the ordnance item to CCSFS for treatment. If the ordnance item is up to and including 100 lbs net explosive weight (NEW), the ordnance can be treated at the CCSFS TTU under the existing permit (use the facility log to document the event) and contact with 45 CES/CEIE is not required. 45 CES/CEIE must call FDEP for an emergency permit when the ordnance item to be treated is more than 100 lbs NEW. 45 CES/CEIE must also obtain an emergency permit from FDEP for any amount of a non-ordnance item that is an explosive hazard such as crystallized picric acid. In both cases, treatment must be delayed until the emergency permit is issued or FDEP states that no permit is required.

(3) For an off-base Level 2 response to a DOD ordnance item, a DD Form 626 and 836 should be completed in order to transport the ordnance item to CCSFS for treatment. If the ordnance item is up to and including 100 lbs NEW, the ordnance item can be treated at the CCSFS TTU under the existing permit (use facility log to document event) and contact with 45 CES/CEIE is not required. 45 CES/CEIE must call FDEP for an emergency permit when the DOD ordnance item to be treated is more than 100 lbs NEW. Treatment must be delayed until the emergency permit is issued or FDEP states that no permit is required.

(4) When an off-base response involves non-military munitions or explosive and requires an emergency permit (Level 2), the civilian authority requesting EOD support is responsible for requesting the emergency permit. An example of the information required for an Emergency Permit is as follows:

(a) Type of munitions or explosive involved,

(b) Manner and location of proposed disposal, treatment, storage,

(c) Manner in which the munitions or explosive will be transported; if required,

(d) The EPA or State may require additional information (e.g., an after action disposition report).

d. Recording Keeping Requirements

The MMR established record keeping requirements for all explosive or munitions emergency responses. Responding units must keep these records for at least three years. The written record of the response must include:

(1) Date and time of response,

(2) Names and grade of individuals who responded,

(3) Type and description of the munitions addressed,

(4) Disposition of the munitions,

(5) A written copy of the emergency permit, if issued, and all related documents.

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Space Launch Delta 45
Patrick SFB FL 32925-3239

SLD 45 HAZARDOUS WASTE MANAGEMENT PLAN

APPENDIX M

PCB ITEMS CONTROL

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TABLE OF CONTENTS

CONTENTS PAGE

1. POLICY 5
2. GENERAL FACTS ABOUT PCBs: 5
3. TASK ORGANIZATIONS: 9
4. USE RESTRICTIONS FOR PCB ELECTRICAL EQUIPMENT 10
5. PCB TRANSFORMER INSPECTION REQUIREMENTS 11
6. PREVENTION OF PCB TRANSFORMER FIRES. 15
7. HANDLING PCB ITEMS. 16
8. STORAGE FOR DISPOSAL 17
9. DISPOSAL 20
10. TESTING 26
11. MARKING 28
12. PCB SPILLS 32
13. INSPECTION FOR LEAKS 35
14. RECORD KEEPING 36
15. FIRE RELATED INCIDENTS 40
16. PERSONNEL TRAINING 40
17. ON BASE TRANSPORTATION 42
18. AIR FORCE PCB SPILL CLEANUP POLICY 43

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1. POLICY

a. History

(1) In 1976, Congress passed the Toxic Substances Control Act (TSCA) and specifically directed EPA to regulate polychlorinated biphenyls (PCBs) that present an "unreasonable risk of injury to health and the environment," Section 6(e) is the only provision of TSCA that directly controls the manufacture, processing, distribution in commerce, use, and disposal of specific chemical substances, PCBs.

(2) Congress took this action because it believed that the chemical and toxicological properties of PCBs were such that the continued manufacturing, processing, distribution in commerce, and use would pose significant risks to public health and the environment.

(3) Section 6(e) of TSCA (the Act) not only bans the manufacturing, processing, distribution in commerce, and use of PCBs, but also controls the disposal of PCBs. The Act directly bans the manufacturing of new PCBs, prohibits the processing, distribution in commerce, and use of all PCBs in other than a totally enclosed manner, and regulates disposal of PCBs.

(4) EPA initiates use authorizations through rulemaking. Exemptions to the ban on the manufacturing, processing, and distribution in commerce of PCBs can only be granted upon petition, on a case-by-case basis through rulemaking.

b. Current Guidance

(1) Technical guidance on PCBs can be obtained from 45 Civil Engineer Squadron/Civil, Environmental and Infrastructure Engineering (CES/CEIE), telephone 494-9270 on Patrick Space Force Base (PSFB) or from the Patrick Fence to Fence (Patrick F2F) on Cape Canaveral Space Force Station (CCSFS) at 853-6985.

(2) The management of PCBs is covered in AFMAN 32-7002, Chapter 7 .2.1 Management of Polychlorinated Biphenyl (PCB) Wastes.

2. GENERAL FACTS ABOUT PCBs:

a. PCB Chemistry

(1) The term PCBs is short for polychlorinated biphenyls, which belong to a broad family of organic chemicals known as chlorinated hydrocarbons. Attaching chlorine molecules to a biphenyl molecule produces PCBs. Almost all PCBs in existence today have been synthetically manufactured. Requirements and prohibitions for the manufacture, processing, distribution, use, disposal, and storage are contained in 40 CFR 761.

(2) PCBs have a heavy liquid, oil-like consistency, and weigh 10 -12 pounds per gallon. The properties which made them commercially attractive include: a high degree of chemical

stability; low water content; low vapor pressure; low flammability; high heat capacity; low electrical conductivity; and a favorable dielectric constant.

b. History of PCB Use

(1) The primary use of PCBs has been in electrical equipment. The majority of PCBs marketed in the United States are still in service, primarily in electrical equipment.

(2) Monsanto Corporation was the principal manufacturer of PCBs in the United States. They began production of PCBs in 1929; in 1977 they voluntarily terminated production because of the widespread environmental concerns about PCBs.

c. Health Concern

(1) PCBs are harmful because once released into the environment, they do not break down, instead they persist and biomagnify in the food chain, that is, they accumulate in the tissues of living organisms and as they move up the food chain towards man, their concentration increases. EPA has concluded that PCBs are toxic and persistent.

d. Definitions:

(1) "Capacitor" - A device for accumulating and holding a charge of electricity and consisting of conducting surfaces separated by a dielectric (40 CFR 761).

(2) "CFR" means Code of Federal Regulations.

(3) "Chemical Waste Landfill" - A landfill at which protection against risk of injury to health or the environment from migration of PCBs to land, water, or the atmosphere is provided from PCBs and PCB items deposited therein by locating, engineering, and operating the landfill. The Construction and Demolition (C&D) Landfill at CCSFS is not a chemical waste landfill nor is the Brevard County Landfill (40 CFR 761).

(4) "Incinerator" - An engineered device using controlled flame combustion to thermally degrade PCBs and PCB items. There are no incinerators on this base approved for PCB destruction (40 CFR 761).

(5) "Large Capacitor" - A capacitor that contains 1.36 kg (3 lbs) or more of dielectric fluid (40 CFR 761).

(6) "Leak" or "Leaking" means any instance in which a PCB article, PCB container, or PCB equipment has any PCBs on any portion of its external surface (40 CFR 761).

(7) "Marked" - The marking of PCB items and PCB storage areas and transport vehicles by means of applying a legible mark by painting, fixation of an adhesive label, or by any other method that meets EPA's requirements (40 CFR 761).

(8) "Mineral Oil PCB Transformer" - Any transformer originally designed to contain mineral oil as the dielectric fluid and which has been tested and found to contain 500 ppm or greater PCBs (40 CFR 761).

(9) "PCB and PCBs" - Any chemical substance or combination of substances that are limited to the biphenyl molecule that has been chlorinated to varying degrees (40 CFR 761).

(10) "PCB Bulk Product Waste" – Waste derived from manufactured products containing PCBs in a non-liquid state, at any concentration where the concentration at the time of designation for disposal was $\geq$ 50 ppm PCBs. PCB bulk product waste does not include PCBs or PCB items regulated for disposal under 40 CFR 761.60(a) through (c), 40 CFR 761.61, 40 CFR 761.63, or 40 CFR 761.64. PCB bulk product waste includes, but is not limited to:

(a) Non-liquid bulk wastes or debris from the demolition of buildings and other man-made structures manufactured, coated, or serviced with PCBs. PCB bulk product waste does not include debris from the demolition of buildings or other man-made structures that is contaminated by spills from regulated PCBs which have not been disposed of, decontaminated, or otherwise cleaned up in accordance with subpart D of this part.

(b) PCB-containing wastes from the shredding of automobiles, household appliances, or industrial appliances.

(c) Plastics (such as plastic insulation from wire or cable; radio, television and computer casings; vehicle parts; or furniture laminates); preformed or molded rubber parts and components; applied dried paint, varnishes, waxes or other similar coatings or sealants; caulking; adhesives; paper; Galbestos; sound deadening or other types of insulation; and felt or fabric products such as gaskets.

(d) Fluorescent light ballasts containing PCBs in the potting material.

(11) "PCB Container" – means any package, can, bottle, bag, barrels, drum, tank, or other device that contains PCBs or PCB articles and whose surface(s) has been in direct contact with PCBs.

(12) "PCB-Contaminated" – means a non-liquid material containing PCBs at concentrations $\geq$ 50 ppm but <500 ppm; a liquid material containing PCBs at concentrations $\geq$ 50 ppm but <500 ppm or insufficient liquid material is available for analysis, a non-porous surface having a surface concentration >10 µg/100 cm2 but <100 µg/100 cm2, measured by a standard wipe test as defined in 40 CFR 761.123.

(13) "PCB Item" – Means any PCB Article, PCB Article Container, PCB Container, PCB Equipment or anything that deliberately or unintentionally contains or has as a part of it any PCB or PCBs.

(14) "PCB Remediation Waste" - Means waste containing PCBs as a result of a spill, release, or other unauthorized disposal, at the following concentrations: Materials disposed of prior to April 18, 1978, that are currently at concentrations $\geq$ 50 ppm PCBs, regardless of the concentration of the original spill; materials which are currently at any volume or concentration where the original source was $\geq$ 500 ppm PCB beginning on April 18, 1978, or $\geq$ 50 ppm PCB beginning on July 2, 1979; and materials which are currently at any concentration if the PCBs are from a source not authorized for use under this part. PCB remediation waste means soil, rags, and other debris generated as a result of any PCB spill cleanup, including, but not limited to:

(a) Environmental media containing PCBs, such as soil and gravel; dredged materials, such as sediments, settled sediment fines, and aqueous decantate from sediment.

(b) Sewage sludge containing <50 ppm PCBs and not in use according to 40 CFR 761.20(a)(4); PCB sewage sludge; commercial or industrial sludge contaminated as the result of a spill of PCBs including sludges located in or removed from any pollution control device; aqueous decantate from an industrial sludge.

(c) Buildings and other man-made structures, such as concrete or wood floors or walls contaminated from a leaking PCB or PCB-Contaminated transformer, porous surfaces and non-porous surfaces.

(15) "PCB Transformer" – Means any transformer that contains $\geq$ 500 ppm PCBs. For PCB concentration assumptions applicable to transformers containing 1.36 kilograms (3 lbs) or more of fluid other than mineral oil (40 CFR 761.2). For provisions permitting reclassification of electrical equipment, including PCB Transformers, containing > 500 ppm PCBs to PCB-Contaminated Electrical Equipment [40 CFR 761.30(a) and (h)].

(16) "PCB Transformer Determination" – A transformer must be assumed to be a PCB transformer if:

(a) The nameplate indicates that the transformer contains PCB dielectric fluid;

(b) The owner or operator has any reason to believe that the transformer contains PCB dielectric fluid; or

(c) The transformer's dielectric fluid has been tested and found to contain 500 ppm or greater PCB. If a transformer does not have a nameplate or there is not any information to indicate the type of dielectric fluid in it, the transformer must be assumed to be a PCB transformer.

(17) "ppm" means concentration in parts per million as milligrams per kilogram (mg/kg).

(18) "Small Capacitor" - A capacitor which contains less than 1.36 kg (3 lbs) of dielectric fluid.

3. TASK ORGANIZATIONS:

a. The SLD 45 PCB Control OPR is the 45 CES/CEIE. The 45 CES/CEIE tasks the Patrick Fence to Fence (Patrick F2F) Contractor to maintain PCB Items Control for the CCSFS and mainland sites. The Range Operations Support (ROS) contractor has been tasked to manage PCBs at the downrange sites. Tasks include:

(1) Ensure all transformers and capacitors with PCB concentrations of 50 ppm or more are located and identified in the appropriate section of the base Spill Prevention and Countermeasures Cleanup Plan.

(2) Report all spills of PCBs at concentrations of 50 ppm or greater which are subject to decontamination requirements under TSCA.

(3) Direct all spills of PCBs at concentrations of 50 ppm or greater to final cleanup standards.

(4) Ensure PCB contaminated soils, solvents, rags and other materials resulting from the cleanup are containerized, labeled, and disposal of properly.

b. Patrick Fence to Fence (Patrick F2F)

(1) Provides operating activity to implement the Management Plan for CCSFS and all mainland stations.

(2) Stores PCB and PCB contaminated equipment generated on CCSFS prior to offsite disposal from facility 44200.

(3) Is responsible for chemical analyses of dielectric fluids as requested.

c. Range Operations Support Contractor (ROS)

(1) Provides operating activity to implement the Management Plan for downrange (Ascension).

(2) Provides transportation of PCB and PCB contaminated equipment to the Defense Logistics Agency Disposition Services (DLA).

d. Defense Logistics Agency

(1) Accepts accountability for and disposes of all PCB and PCB contaminated items requiring disposal.

e. Bioenvironmental, 45 OMRS/SGXB

(1) Provides sampling for environmental health risk assessment purposes.

(2) Provides soil sampling for characterizing health hazards to DOD personnel and the general public.

f. Fire Protection Flight, 45 CES/CEF (PSFB) and the Fire Protection, Emergency Management and Emergency Medical Services (45 CES/FEMS (CCSFS))

(1) Respond in the event of fires on PSFB and CCSFS, respectively.

4. USE RESTRICTIONS FOR PCB ELECTRICAL EQUIPMENT

a. EPA Rule

(1) EPA issued the August 25, 1982 Electrical-Use Rule after earlier regulations had been invalidated by the U.S. Court of Appeals for the District of Columbia Circuit. The rule:

(a) Authorizes the use of PCBs in capacitors,

(b) Authorizes the use and servicing of PCBs in transformers, electromagnets,

circuit breakers, voltage regulators, reclosers, cables, and switches,

(c) Are dependent on the type of equipment (e.g., transformer, capacitor, electromagnet), as well as the equipment's location.

(d) Type and location, determine the conditions for use.

(e) The “location” restrictions have to do with whether or not the electrical equipment's location “poses an exposure risk to food or feed.”

(2) EPA has divided electrical equipment into two categories:

(a) Transformers, capacitors, and electromagnets that do pose an exposure risk to food or feed;

(b) Transformers, capacitors, and electromagnets that do not pose an exposure risk to food or feeds.

b. Food and feed restrictions

(1) There are no PCB items in use at PSFB, CCSFS, or SLD 45 downrange or mainland sites which pose an exposure risk to food or feed.

(2) Food and feed restrictions are published within this document in the event subsequent PCB installations apply.

5. PCB TRANSFORMER INSPECTION REQUIREMENTS

a. Inspection requirement for transformers that do not pose an exposure risk to food or feed are captured in the following table:

TRANSFORMER TYPE	INSPECTION/ MAINTENANCE	FREQUENCY
PCB Transformers with > 500 ppm PCBs	Yes	Quarterly (40 CFR 761.30(a)(1)(ix))
PCB Transformers with Secondary Containment	Yes	Annually (40 CFR 761.30(a)(1)(xiii)(A))
PCB Contaminated Transformers with 50-500 ppm PCBs	No	N/A

b. PCB Transformer Servicing restrictions

(1) Any servicing of a PCB-Transformer (a transformer containing $\geq$ 500 ppm PCBs) that requires the removal of the transformer coil from the transformer case is prohibited (40 CFR 761.30(a)(2)(ii)).

(2) PCB contaminated transformers containing 50-500 ppm PCB may only be serviced with dielectric fluid containing less than 500 ppm PCBs [40 CFR 761.30 (a)(2)(i)].

c. Testing transformers

(1) The PCB regulations do not require that transformers be tested to determine the PCB concentration of the fluid. However, in the absence of a test, certain assumptions should be made about the transformer.

(a) If the nameplate indicates that the transformer contains PCB dielectric fluid, or if there is any reason to believe that the transformer contains PCB dielectric fluid, then the transformer must be assumed to be a PCB transformer.

(b) A transformer designed to use mineral oil dielectric fluids must be assumed to be a PCB contaminated transformer (between 50 and 500 ppm PCBs).

(c) The Air Force no longer has any registered transformers in-service at CCSFS.

d. Reclassifying transformers

(1) A PCB contaminated transformer can be reclassified by draining, refilling or otherwise servicing the transformer.

(2) In order to reclassify, the transformer's dielectric fluid must contain less than 50 ppm PCBs after a minimum of three months in-service use.

(3) The in-service use period must be immediately after the last servicing done to lower the PCB concentration in the transformer (40 CFR 761.30(a)(2)(v)).

e. Use and disposal requirements

(1) PCBs removed during any servicing activity must be captured and either reused as dielectric fluid or properly disposed of (40 CFR 761.30(a)(2)(iii)).

(2) PCBs from PCB Transformers (transformers containing greater than 500 ppm PCBs) may not be mixed with or added to dielectric fluid from PCB-contaminated electrical equipment (40 CFR 761.30(a)(2)(iii)).

f. PCB records

(1) For PCB transformers, records of the inspection and maintenance history must be maintained and retained for at least 3 years after disposing of a transformer. The records to be maintained are (40 CFR 761.30(a)(1)(xii)):

(a) The location of the PCB transformer.

(b) The date of each visual inspection, and the date that a leak was discovered if the date is different from the scheduled inspection date.

(c) The inspector's name that physically performs the daily, weekly, annually or other special inspection.

(d) The location of any leaks.

(e) An estimate of the amount of dielectric fluid released from any leak.

(f) The date of any clean up, containment, or repair performed.

(g) The results of a daily inspection of the containment and if an uncorrected leak occurs.

(2) An operator of a facility using or storing at one time at least 45 kg (99.4 pounds) of PCBs contained in PCB containers, or one or more PCB transformers, or 50 or more PCB large capacitors must maintain, at that facility or a central facility, annual records and a written

annual log of the disposition of PCBs and PCB items for a minimum of 3 years after the facility ceases using or storing PCBs at these levels.

(3) The annual document log must be prepared for each facility by July 1, covering the records of the previous year (40 CFR 761.180). The annual records to be maintained include:

(a) All signed manifests generated by the facility during the calendar year;

(b) All Certificates of Disposal that have been received by the facility during the calendar year; and

(c) Records of inspections and cleanups performed in accordance with 40 CFR 761.65(c)(5).

(4) For capacitors that do not pose an exposure risk to food or feed, the following restrictions apply:

TYPE OF CAPACITOR	TIME RESTRICTIONS
Large PCB Capacitors (>3 pounds dielectric fluid) in restricted Access Indoor Installations and in Restricted Access Outdoor Electric Substations	For Remainder of Useful Lives (40 CFR 761.30(l)(1)(ii))
Large PCB Capacitors (>3 pounds dielectric fluid) in Other Than Restricted Access Areas	October 1, 1988 (40 CFR 761.30(l)(1)(ii))
Small Capacitors (<3 pounds Dielectric fluid)	For Remainder of Useful Lives (40 CFR 761.30(l))

g. Reuse of pole mounted large PCB capacitors

(1) A pole mounted large PCB capacitor in the field may be relocated to a contained and restricted access indoor installation or to a restricted access electrical substation (see 47 FR 37358; 40 CFR 761.30(l)(1)(ii)). Although probably not practical, these capacitors could be outfitted to meet the criteria of a contained and restricted indoor installation.

(2) Large PCB capacitors in storage for reuse do not have to be phased out by 1988. Since there is an Air Force directive to phase out electrical equipment containing PCBs it is recommended that equipment containing PCBs not be put back into service.

h. PCB use in Electromagnets, Switches and Voltage Regulators.

(1) PCBs at any concentration may be used in electromagnets, in switches, and in voltage regulators (that do not pose an exposure risk to food or feed), and may be used for purposes of servicing this equipment for the remainder of their useful lives (40 CFR 761.30(h)). Electromagnets, switches, and voltage regulators that contain PCBs are grouped into three categories:

(a) those containing over 500 ppm PCBs,

(b) those containing 50-500 ppm PCBs, and

(c) those containing below 50 ppm PCBs.

i. PCB Servicing of Electromagnetics, Switches and Voltage Regulators

(1) Servicing any electromagnet, switch, or voltage regulator with a PCB concentration above 500 ppm that requires the removal and rework of the internal components is prohibited (40 CFR 761.30(h)(2)(i)).

j. Reuse of pole mounted large PCB capacitors

(1) A pole mounted large PCB capacitor in the field may be relocated to a contained and restricted access indoor installation or to a restricted access electrical substation (see 47 FR 37358; 40 CFR 761.30(l)(1)(ii)). Although probably not practical, these capacitors could be outfitted to meet the criteria of a contained and restricted indoor installation.

(2) Large PCB capacitors in storage for reuse do not have to be phased out by 1988. Since there is an Air Force directive to phase out electrical equipment containing PCBs it is recommended that equipment containing PCBs not be put back into service.

k. Reclassification of a PCB-contaminated Electromagnet, Switch, or Voltage Regulator

(1) A PCB-contaminated electromagnet, switch, or voltage regulator can be reclassified as a PCB-free electromagnet, switch, or voltage regulator by draining, refilling, and/or otherwise servicing the equipment (40 CFR 761.30(h)(2)(v)).

(2) In order to be reclassified, the equipment must contain less than 50 ppm PCBs after a minimum of three months in service. The three months must be subsequent to the last servicing conducted for purposes of reducing the PCB concentration in the equipment.

l. Use and Servicing of Circuit Breakers, Reclosers, and Cable.

(1) PCBs at any concentration may be used in circuit breakers, reclosers, and cable for the remainder of their useful lives.

(2) Servicing of this equipment may only be conducted with dielectric fluids containing PCBs in concentrations below 50 ppm (40 CFR 761.30(m)).

(3) Further, for circuit breakers, reclosers, and cable containing 50 ppm PCBs or greater, the servicing restrictions listed in 40 CFR 761.30(h)(2) apply.

6. PREVENTION OF PCB TRANSFORMER FIRES.

a. For purpose of this rule

(1) A commercial building is defined as a non-industrial (non-substation) building that is typically accessible to both members of the general public and employees. Commercial buildings include; public assembly properties, educational properties, institutional properties, residential properties, stores, office buildings, and transportation centers (i.e., airport terminal buildings, subway stations, bus stations, and train stations).

(2) "In or near" a commercial building is defined as within the interior of a commercial building, on the roof of a commercial building or attached to the exterior wall of a commercial building, in the parking area of a commercial building, or located within 30 meters of a commercial building.

(3) An industrial building is defined as a building directly used in manufacturing or technically productive enterprises. Industrial buildings are not generally or typically accessible to individuals other than workers.

(4) EPA has determined that requiring the removal of particularly high risk PCB transformers from use and adding conditions and restrictions on the use of the remaining PCB transformers (including enhanced electrical protection, registration, and labeling) will significantly reduce the fire-related risks posed by the use of PCB transformers.

(5) The enhanced electrical protection requirements for higher secondary voltage radial PCB transformers consist of the installation of protection against transformer failures from sustained low current faults.

(6) EPA has determined that the enhanced protection of these PCB transformers is necessary to reduce the fire-related risks posed by the continued use of these transformers in commercial locations.

(7) This protection will reduce the frequency of PCB transformer fires in these types of transformers by allowing rapid de-energization in the event of a sustained low current fault.

(8) Rectifiers that contain PCBs may remain in service for the remainder of their useful life. EPA has concluded that due to generally low concentrations of PCBs in this equipment, continued use will not pose an unreasonable risk (40 CFR 761.30(r)).

(9) EPA has added a use authorization for contaminated porous surfaces (such as concrete, wood, and coated metal surfaces) contaminated by spills of liquid PCBs.

(a) The authorization requires self-implementing controls to reduce exposure to the spilled PCBs and to restrict further migration of the PCBs from or within the porous materials.

(b) Conditions include that the PCB contamination is removed or contained to prevent further release and that superficial surface cleaning of the porous surface be completed.

(c) It should be noted that if a spill occurred on concrete and the source seeped through the concrete and into the underlying soil, the responsibility for addressing contamination to the underlying soil remains, even though the concrete could possibly meet the specified conditions (40 CFR 761.30(p)).

7. HANDLING PCB ITEMS.

a. Personal Protective Equipment (PPE)

(1) The type of protective clothing that shall be worn when working with PCBs is dependent on the individual circumstances. Worker protective clothing and equipment is intended to prevent skin and eye contact, and control respiratory exposure.

(2) In any operation where workers may come into contact with PCBs, protective clothing impervious to PCBs shall be worn. Gloves, boots, overshoes, and bib-type aprons that cover boot tops should be provided when necessary. Butyl rubber or neoprene rubber gloves are recommended for exposure times up to 8 hours and nitrile gloves are recommended for 1-4 hours' exposure.

(3) Skin protection can usually be achieved by wearing nonporous gloves and boots and heavy overalls. For major spill cleanup activities, a full-suit of nonporous clothing may be appropriate. Also, nonporous aprons can be effective in reducing contamination of worker clothing.

(4) Eye protection (chemical safety goggles, face shields with goggles or safety glasses with side shields) shall be worn during any operation in which PCBs are present.

(a) If liquid or solid PCBs contact the eyes, the eyes shall be flushed immediately with large quantities of water for at least 30 minutes and then examined by a physician or other responsible medical personnel.

(5) To the extent possible, avoid skin contact with PCBs.

(a) In case of spillage on the clothing, the clothing shall be removed as soon as practical, the skin washed thoroughly with soap and water for at least 30 minutes and the clothing laundered. Medicinal washes or mild detergents followed by the application of cold cream will reduce the irritation resulting from the contact of an open cut or abrasion with PCBs.

(b) Persons developing a skin irritation or respiratory tract irritation while working with PCBs should be placed under the supervision of a physician.

(6) Worker exposure can occur as a result of PCB spills and authorized servicing operations for PCB transformers. Respiratory exposure control (whether individual protection

or workplace control) is most relevant for long-term production operations or major spills, when concentrations of airborne PCBs may exceed the recommended occupational exposure limit.

(7) When in doubt about procedures/precautions, contact Bioenvironmental Engineering, 45 AMD/SGGB, 321-494-5435.

8. STORAGE FOR DISPOSAL

a. Specific storage requirements for PCB facilities can be found in 40 CFR 761.65. Below is a summary of those requirements applicable to the SLD 45 operations.

(1) Storage Facilities. PCBs and PCB items must be stored in a facility that meets the EPA criteria listed in Figure 1 as well as the following:

(a) Controlled entry to facility.

(b) Appropriate fire extinguisher must be present. Personnel must be instructed in use of fire extinguisher.

(c) An inventory on all items must be maintained. The inventory should include, but is not limited to: serial number, type of equipment, manufacturer, sample number, PCB content, date in storage, date shipped off-site, and where the item was shipped.

(d) All stored PCB items shall be checked for leaks at least once every 30 days.

(e) Any leaking PCB items and their contents shall be transferred immediately to properly marked, non-leaking containers.

(f) Any spilled or leaked materials shall be immediately reported to 45 CES/CEIE, in accordance with the SLD 45 IEMP 10-2.

(g) Cleanup must be in accordance with 40 CFR 761 Subpart G.

(h) CAUTION: The seals used on some PCB transformers are cork and could be in a deteriorated condition. This condition could allow leakage when the transformer is moved. If this condition is believed to exist, any possible sources of leakage should be tightened prior to movement.

(i) Each PCB item must be dated with the date of removal from service for disposal and must be disposed within one year from that date (40 CFR 761.65(a)(1)). To ensure all items are properly disposed within one year, all items must be shipped off-site within nine months from the out of service date.

(j) Large storage tanks are authorized for storing bulk PCB liquids. There are none in use or planned for use at either PSFB or CCSFS. If large storage tanks are planned for use, see OSHA 29 CFR 1910.106 for standards.

(2) Temporary Storage

(a) The following PCB items may be stored temporarily in an area that does not comply with EPA's requirements for up to thirty (30) days from the date of their removal from service, provided that a notation is attached to the item or container indicating the date the item was removed from service.

(1) Non-leaking PCB transformers, PCB-contaminated transformers, and PCB capacitors (small and large).

(2) Leaking PCB transformers, PCB-contaminated transformers, and PCB capacitors (small and large), if the items are placed in a non-leaking container that contains sufficient sorbent materials to absorb any liquid PCBs remaining in the items.

(3) PCB containers storing non-liquid PCBs such as contaminated soil, rags, and debris.

(4) PCB containers containing liquid PCBs at a concentration $\geq$ 50 ppm shall be prepared for the storage area in accordance with 40 CFR 112.

(5) Non-leaking and structurally undamaged PCB large capacitors and PCB-contaminated transformers that have not been drained of free flowing dielectric fluid may be stored on pallets next to a storage facility that meets EPA's requirements provided that the storage facility has immediately available unfilled storage space equal to 10% of the volume of transformers and capacitors stored outside the facility. The transformers and capacitors temporarily stored out-side the facility shall be checked for leaks weekly.

(b) Any temporary storage facility shall be marked as required by 40 CFR 761.40(a)(10).

(3) Designated PCB Storage Facilities

(a) PSFB does not have a storage facility for PCB items. All items are transported to Facility 44200 at CCSFS.

(b) The approved PCB storage facility on CCSFS is Facility 44200. Patrick F2F is responsible for managing this facility. 45 CES/CEIE can approve other PCB storage locations on CCSFS.

(c) It is the responsibility of Patrick F2F to ensure that the storage area meets the specifications. The facility operators must inspect PCB storage areas at least every 30 days. All PCB items and PCB containers in storage for disposal shall be checked for leaks at least once every 30 days. Any leaking PCB items and PCB containers and their contents shall be transferred immediately to properly marked non-leaking containers. Any spilled or leaked

materials shall be immediately cleaned up in accordance with 40 CFR 761 and Annex A. The PCB-contaminated materials and residue shall be containerized, marked and stored for disposal.

(d) The custodian of the PCB storage facility must keep a current inventory of PCB items stored in the facility. This listing should be readily available to assist in possible emergency situations such as fire, spills, or hurricane protection.

FIGURE 1. REQUIREMENTS FOR FACILITIES STORING PCBs OR PCB ITEMS IN ACCORDANCE WITH 40 CFR 761.65(b)(1)

FACILITIES SHOULD MEET THE FOLLOWING CRITERIA:
• Adequate roof and walls to prevent rainwater from reaching the stored PCBs and PCB items;
• An adequate floor that has continuous curbing with a minimum six-inch-high curb. The floor and curbing must provide a containment volume equal to at least two times the internal volume of the largest PCB Article or PCB Container stored therein or 25 percent of the total internal volume of all PCB Articles or PCB Containers stored therein, whichever is greater;
• No drain valves, floor drains, expansion joints, sewer lines, or other openings that would permit liquids to flow from the curbed area;
• Floors and curbing constructed of continuous smooth and non-porous surface as defined at 40 CFR 761.3, or Portland cement or concrete, to prevent or minimize penetration of PCBs; and
• Not located at a site that is below the 100-year flood water elevation.

(e) Although serviceable PCB transformers and large PCB capacitors may be kept in storage for reuse, disposal of these PCB items is recommended in order to obtain a PCB-free installation. PCB transformers which are not in use but are intended for reuse are considered in-service transformers and are authorized for the remainder of useful service life.

(f) EPA has extended the storage of PCB Articles intended for reuse from 3 years to 5 years. The PCB Article may be stored in an area that is not designed, constructed, and operated in compliance with 40 CFR 761.65(b). However, there are requirements for labeling and recordkeeping (40 CFR 761.35).

(4) DOT requires Performance Orientated Packaging (POP) container requirements for PCB storage, transportation, and disposal. Containers must comply with the DOT Hazardous Material Regulation's performance-based container requirements (40 CFR 761.60(b)(2)(vi)).

9. DISPOSAL

a. Rule

(1) Per 40 CFR 761.60 (b)(2)(ii), PCB small capacitor (containing less than 1.36 kg dielectric fluid) can be discarded with normal refuse to a sanitary landfill or municipal incinerator. This includes fluorescent light ballasts with PCB capacitors containing less than 1.36 kg dielectric fluid. However, per 40 CFR 761.60(b)(6)(iii), fluorescent light ballasts containing PCBs in their material must be disposed of in a TSCA-approved disposal facility as bulk product waste under 40 CFR 761.62, under 40 CFR 761.63 if applicable, or in accordance with the decontamination provisions of 40 CFR 761.79.

(2) On CCSFS, PCB items requiring storage prior to disposal should be turned-in to the Patrick F2F. Arrangements must be made with Patrick F2F at least 24 hours prior to arrival for turn-in. Subcontractors must make arrangements through their contract monitor to verify that all items being turned-in did, in fact, come from an Air Force project. The subcontractor is required to provide a means for off-loading all items into the designated area inside facility 44200 as directed by Patrick F2F. The Patrick F2F will dispose of PCB items using DLA or, if possible, recycle using Air Force vendors.

(3) On other SLD 45 mainland sites, PCB items will be identified to the Patrick F2F for pickup and transportation to the CCSFS PCB storage facility or shipped directly offsite from location. The 45 CES/CEIE may determine that a PCB item should be stored at the generating site until shipped for off-site disposal by Patrick F2F using DLA.

(4) CCSFS will accept accountability if all items are properly identified. Identification of transformers will depend upon manufacturer's nameplate data if it is a PCB transformer. In the absence of a nameplate, or if nameplate identifies it as a mineral oil transformer, the identification must be supported by laboratory chemical analysis.

(5) PCB items must be turned in to Patrick F2F at CCSFS in a timely manner to ensure that PCB items are shipped off-site within nine months of the out-of-service date.

(6) According to the method of contract disposal, the PWQ/TRP will specify the containerization required.

(7) Excess electrical equipment containing <50 ppm PCBs must be turned in to Patrick F2F at CCSFS for recycling.

(8) Non-PCB transformers or carcasses may be turned-in to the Patrick F2F at CCSFS for recycling.

b. Current disposal policy.

(1) PCB Liquids. PCB liquids at concentrations =50 ppm must be disposed of in an incinerator which complies with 40 CFR 761.70, except that PCB liquids at concentrations $\geq$ 50 ppm and <500 ppm may be disposed of as follows:

(a) For mineral oil dielectric fluid, in a high efficiency boiler according to 40 CFR 761.71(a).

(b) For liquids other than mineral oil dielectric fluid, in a high efficiency boiler according to 40 CFR 761.71(b).

(c) For liquids from incidental sources, such as precipitation, condensation, leachate or load separation and are associated with PCB Articles or non-liquid PCB wastes, in a chemical waste landfill which complies with 40 CFR 761.75 if disposal does not violate 40 CFR 268.32(a)(2) or 40 CFR 268.42(a)(1).

(d) Information is provided to or obtained by the owner or operator of the chemical waste landfill that shows that the liquids do not exceed 500 ppm PCB and are not an ignitable waste as described in 40 CFR 761.75(b)(8)(iii).

c. Transformers. PCB Transformers shall be disposed of in accordance with either of the following:

(1) In an incinerator that complies with 40 CFR 761.70;

(2) In a chemical waste landfill approved under 40 CFR 761.75; provided that all free-flowing liquid is removed from the transformer, the transformer is filled with a solvent, the transformer is allowed to stand for at least 18 continuous hours, and then the solvent is thoroughly removed.

(3) Any person disposing of PCB transformer liquids, including both the dielectric fluid and all solvents used as a flush, that are removed from the transformer, shall do so in an incinerator that complies with 40 CFR 761.70 or decontaminate them in accordance with 40 CFR 761.79.

(a) Solvents may include kerosene, xylene, toluene, and other solvents in which PCBs are readily soluble. Any person disposing of these PCB liquids must ensure that the solvent flushing procedure is conducted in accordance with applicable safety and health standards as required by Federal or State regulations.

Capacitors

(1) Small PCB capacitors can be disposed of as municipal waste by households and other infrequent disposers (40 CFR 761.60(b)(2)(ii)).

(2) Those individuals who manufacture or at any time manufactured PCB capacitors or PCB equipment and acquired PCB capacitors in the course of such manufacturing, shall dispose of them in an incinerator.

(3) Large PCB capacitors must be disposed of by high temperature incineration (40 CFR 761.60(b)(2)(iii)(A)), or by any other method which EPA has permitted under the disposal permitting program.

d. PCB Bulk Product Waste

(1) EPA has offered four disposal methods for this waste (see 40 CFR 761 and 40 CFR 762). The disposal methods include performance-based disposal, disposal in solid waste landfills, risk-based cleanup, and disposal as daily landfill cover or roadbed.

(2) Performance-based disposal. Any person disposing of PCB bulk product waste may do so as follows:

(a) In an incinerator approved under 40 CFR 761.70.

(b) In a chemical waste landfill approved under 40 CFR 761.75.

(c) In a hazardous waste landfill permitted by EPA under section 3004 of the RCRA statutes, or by a State authorized under section 3006 of the RCRA statutes.

(d) Under an alternate disposal approval under 40 CFR 761.60(e).

(e) In accordance with the decontamination provisions of 40 CFR 761.79.

(f) For metal surfaces in contact with PCBs, in accordance with the thermal decontamination provisions of 40 CFR 761.79(c)(6).

(g) In accordance with a TSCA PCB Coordinated Approval issued under 40 CFR 761.77.

(3) Disposal in Solid Waste Landfills

(a) Any person may dispose of the following PCB bulk product waste in a facility permitted, licensed, or registered by a State as a municipal or non-municipal non-hazardous waste landfill:

(b) Plastics (such as plastic insulation from wire or cable; radio, television and computer casings; vehicle parts; or furniture laminates); preformed or molded rubber parts and components; applied dried paints, varnishes, waxes or other similar coatings or sealants; caulking; Galbestos; non-liquid building demolition debris; or non-liquid PCB bulk product waste from the shredding of automobiles or household appliances from which PCB small capacitors have been removed (shredder fluff).

(c) Other PCB bulk product waste, sampled in accordance with the protocols set out in subpart R of this part, that leaches PCBs at <10 µg/L of water measured using a procedure used to simulate leachate generation.

(d) Any person may dispose of PCB bulk product waste other than those materials meeting the conditions of paragraph (b)(1) of 40 CFR 761.62, (e.g., paper or felt gaskets contaminated by liquid PCBs) in a facility that is permitted, licensed, or registered by a State to manage municipal solid waste subject to 40 CFR 258 or non-municipal non-hazardous waste subject to40 CFR 257.5 through 257.30, as applicable, if:

(1) The PCB bulk product waste is segregated from organic liquids disposed of in the landfill unit.

(2) Leachate is collected from the landfill unit and monitored for PCBs.

(3) Any release of PCBs (including but not limited to leachate) from the landfill unit shall be cleaned up in accordance with 40 CFR 761.61.

(e) Any person disposing off-site of PCB bulk product waste regulated under paragraph (b)(1) of 40 CFR 761.62 at a waste management facility not having a commercial PCB storage or disposal approval must provide written notice to the facility a minimum of 15 days in advance of the first shipment from the same disposal waste stream. The notice shall state that the PCB bulk product waste may include components containing PCBs at $\geq$ 50 ppm based on analysis of the waste in the shipment or application of a general knowledge of the waste stream (or similar material) which is known to contain PCBs at those levels, and that the PCB bulk product waste is known or presumed to leach <10 µg/L PCBs.

(f) Any person disposing off-site of PCB bulk product waste regulated under paragraph (b)(2) of 40 CFR 761.62 at a waste management facility not having a commercial PCB storage or disposal approval must provide written notice to the facility a minimum of 15 days in advance of the first shipment from the same disposal waste stream and with each shipment thereafter. The notice shall state that the PCB bulk product waste may include components containing PCBs at $\geq$ 50 ppm based on analysis of the waste in the shipment or application of a general knowledge of the waste stream (or similar material) which is known to contain PCBs at

those levels, and that the PCB bulk product waste is known or presumed to leach ≥ 10 µg/L PCBs.

(g) Any person disposing of PCB bulk product waste must maintain a written record of all sampling and analysis of PCBs or notifications made under 40 CFR 761.62(b) for 3 years from the date of the waste's generation. The records must be made available to EPA upon request.

(h) Requirements in subparts C, J and K of 40 CFR 761 do not apply to waste disposed of under paragraph (b) of 40 CFR 761.62.

(4) Risk-based cleanup approval

(a) Any person wishing to sample or dispose of PCB bulk product waste in a manner other than prescribed in paragraphs (a) or (b) of 40 CFR 761.62, or store PCB bulk product waste in a manner other than prescribed in 40 CFR 761.65, must apply in writing to: the EPA Regional Administrator in the Region where the disposal or storage site is located, for disposal or storage occurring in a single EPA Region; or the Director of the National Program Chemicals Division, for disposal or storage occurring in more than one EPA Region. Each application must contain information indicating that, based on technical, environmental, or waste-specific characteristics or considerations, the proposed storage or disposal methods or locations will not pose an unreasonable risk of injury to health or the environment. EPA may request other information that it believes necessary to evaluate the application. No person may conduct disposal or storage activities under this paragraph prior to obtaining written approval by EPA.

(b) EPA will issue a written decision on each application for a risk-based storage or disposal method for PCB bulk product wastes. EPA will approve such an application if it finds that the method will not pose an unreasonable risk of injury to health or the environment.

(5) Disposal as daily landfill cover or roadbed. Bulk product waste described in paragraph (b)(1) of 40 CFR 761.62 may be disposed of:

(a) As daily landfill cover as long as the daily cover remains in the landfill and is not released or dispersed by wind or other action; or

(b) Under asphalt as part of a road bed.

e. PCB Containers may be decontaminated by flushing the internal surface of the container three times with a solvent containing less than 50 ppm PCBs. The solubility of PCBs in the solvent must be five (5) percent or more by weight. Each rinse shall use a volume of the normal diluent equal to approximately ten (10) percent of the PCB container capability. The solvent may be reused until it contains 50 ppm PCBs. The solvent shall then be disposed of as a PCB or PCB-contaminated liquid depending on the concentration of the oil.

(1) Decontaminated PCB containers may be turned in to DLA.

(2) Empty PCB containers used only to contain materials or fluids with PCB concentrations between 50 to 499 ppm can be turned-in to DLA. If a container is not labeled "TRIPLE RINSED," the container must maintain all original shipping labels.

f. PCB Remediation Waste

(1) EPA adopted rules to provide cleanup and disposal options for PCB remediation waste (40 CFR 761.61). Cleaning and disposal of PCBs for this waste stream will be managed based on the PCB concentration at which the PCBs are found. It should be noted that the Wing's Installation Restoration Program (IRP) generally handles this type of waste. IRP personnel are partnering with EPA to establish acceptable cleanup levels

g. Requirements for Disposal Sites

(1) Incinerators used to dispose of PCBs must be approved by the appropriate EPA Regional Administrator. The approved incinerators must meet the requirements set out in the May 1979 Rule (40 CFR 761.70(a)).

(2) Likewise, chemical waste landfills used for the disposal of PCBs or PCB items must be approved by the appropriate EPA Regional Administrator, and must meet the requirements established in the May 1979 Rule (40 CFR 761.75(a)). The CCSFS Construction and Demolition landfill is not an approved landfill for disposal of PCB items.

10. TESTING

a. Rule

(1) The PCB rule does not require that in-service transformers be tested to determine the PCB concentration of the fluid. However, when testing is done it shall be IAW 40 CFR 761. In the absence of a test, certain assumptions should be made about the transformer.

(a) If the nameplate indicates that the transformer contains PCB dielectric fluid, or if there is any reason to believe that the transformer contains PCB dielectric fluid, then the transformer must be assumed to be a PCB transformer.

(b) A transformer designed to use mineral oil dielectric fluids must be assumed to be contaminated with between 50 and 500 ppm PCBs. Such a transformer is classified as a PCB-contaminated transformer.

(2) In the past, PCBs have been added to the oil/hydraulic gear cases and coolant systems of industrial plant equipment as a type of flame retardant. Movement of these items, prior to PCB testing, could possibly expose personnel to PCB. It is the responsibility of the user to certify the condition of these items (Serviceable or Reparable), request PCB testing, and obtain a laboratory analysis verifying test results of PCB testing. Screening kits may be used for initial testing of PCBs in order to screen for levels of PCB greater than 50 ppm. These kits must meet the U.S. EPA SW-846 Method 9079 test method for presence of PCB's > 50 ppm.

(3) A laboratory analysis by gas chromatography is required on all PCB items.

(4) The Patrick F2F, analyzes dielectric fluids for contamination of PCB content for disposal purposes for the CCSFS, PSFBPSFB, mainland sites and downrange installations. This includes fluids testing <50 ppm to ensure proper disposal.

(a) PCB samples will be taken by the Patrick F2F sampling group. Downrange sites are sampled by Range Operation Support (ROS) personnel.

(5) Disposal of <50 ppm electrical fluids on PSFB or CCSFS is handled by Patrick F2F in accordance with Hazardous Waste Management Plan. For down-range sites, off-base shipments will be processed through DLA. Lab analyses must be provided to DLA.

(6) Prior to disposal, equipment or containers, which may contain PCB or PCB-contaminated fluids from PSFB, CCSFS, mainland or downrange sites must be tested after last fluid servicing for PCB content unless their PCB content can be identified by the manufacture’s nameplate. The Patrick F2F requires that lab analysis be submitted in order to ship PCB and PCB-contaminated items off-site for disposal.

(7) If through documentation or prior knowledge there is reason to believe that PCB bulk product waste are present, sampling must be done in accordance with 40 CFR 761.340,

Subpart R. Disposal method must be taken into consideration, as sampling may not be required in all instances.

(8) Testing for PCB remediation waste may include porous surfaces, non-porous surfaces, liquids, and other solids. Specific criteria for sampling these different types of materials are found in parts 40 CFR 761.260 through 761.316. These parts of the federal regulation address sampling methods, criteria for determining the number of samples, and testing methods.

(9) Confirmatory sampling for PCBs will be conducted during electrical equipment removal or replacement projects. Transformer sites where a removal or replacement operation is being conducted will be tested for contamination, specifically the soils around and under the concrete surface where the transformer was previously located. Coordinate with the SLD 45 Installation Restoration Program (IRP) office if contamination (0.5 mg/kg PCBs in soil) is found. If there are questions regarding sampling, contact the IRP office for guidance.

11. MARKING

a. PCB Transformers

(1) PCB transformers (containing 500 ppm or greater PCB) that are in-service are required to be labeled (Figure 2 or Figure 3). PCB-contaminated transformers (containing between 50 and 500 ppm PCB) that are in-service are not required to be labeled, however marking on the container is recommended to document that the item has been tested.

(2) Non-PCB transformers (containing less than 50 ppm PCB) are not required to be labeled. It is recommended that these containers be marked (Figure 4) to clarify the contents of these items.

(3) An unmarked transformer is automatically assumed to be a PCB-contaminated transformer. However, if a transformer has no nameplate information but there is a reasonable suspicion that PCBs may be present above 500 ppm, the transformer should be labeled as a PCB transformer until the PCB content can be verified.

b. PCB Capacitors

(1) All large, high voltage PCB capacitors have to be labeled, including those in service.

(2) Large, low voltage capacitors have to be labeled when they are taken out of service for disposal.

(3) Small capacitors do not have to be labeled.

(4) Equipment manufactured after January 1, 1979, that contains small PCB capacitors must be labeled as non-PCB.

(5) If a PCB capacitor is installed in a “protected” area (e.g., restricted access on a power pole, or structure, or behind a fence), the pole, structure, or fence is to be labeled in a place easily seen by interested persons, such as servicemen. It is not acceptable to label only one capacitor instead of the structure.

(6) PCB large low voltage capacitors are required to be marked.

(a) Capacitors in use in inaccessible locations inside equipment are exempt, provided that the outer equipment is marked.

(b) The capacitors must be marked individually at the time of removal from service (40 CFR 761.40(k)(1).

(7) PCB Containers containing PCBs in concentrations 50 ppm or greater must be labeled.

(8) If not already marked, all PCB transformers and large PCB capacitors shall be marked when removed from service.

(9) Drums of contaminated sand, gloves, etc., should also show the transformer number, date, and the sample number, if analysis is made.

(10) Each storage area used to store PCBs and PCB items must have appropriate signage.

(a) All marks must be placed in a position on the exterior of the PCB items so that any persons inspecting or servicing the marked PCB items can easily read the marks.

(b) If a truck carries PCB transformers or is loaded with PCB containers that contain more than 45 kg (99.4 lbs) of liquid PCBs, it must be placarded on all four sides in accordance with appropriate DOT standards.

(11) EPA is requiring that aboveground natural gas pipeline system components containing PCB liquids at $\geq$ 50 ppm bear the ML Mark because of the potential exposure to PCB liquids. Thus, the marking requirements apply to equipment such as compressors, valves, drips, or other pipeline components that are aboveground or used to contain or collect PCB liquids. This only applies to aboveground systems and the requirements for marking underground systems has now been omitted (40 CFR 761.30(i)(1)(iii)(A)(6)).

(12) Voltage regulators that contain three pounds or more of dielectric fluid containing 500 ppm or greater, must be properly marked while in service (40 CFR 761.40(l)(2).

(a) Marking Formats: The marks shall be as shown in Figures 2 and 3, letters and striping on a white or yellow background and shall be sufficiently durable to equal or exceed the life (including storage for disposal) of the PCB items.

(13) The Fire Department, Real Property Records, and Building Custodians should be informed of all locations containing PCB items.

(a) The responsibility for notification is 45 CES/CEIE for PSFB or Patrick F2F for CCSFS and mainland sites. ROS personnel will notify the Fire Department for downrange sites.

(b) Any transfer of PCB items into or out of a building requires the same notifications.

(c) Marking is required on the exterior of all PCB Transformer locations (excluding grates and manhole covers). Marking will be accomplished by the Electrical Shops.

FIGURE 2

Large PCB Mark: The size of the mark shall be at least 15.25 cm (6 inches) on each side. If the PCB item is too small to accommodate this size, the mark may be reduced in size proportionally (Figure 3).

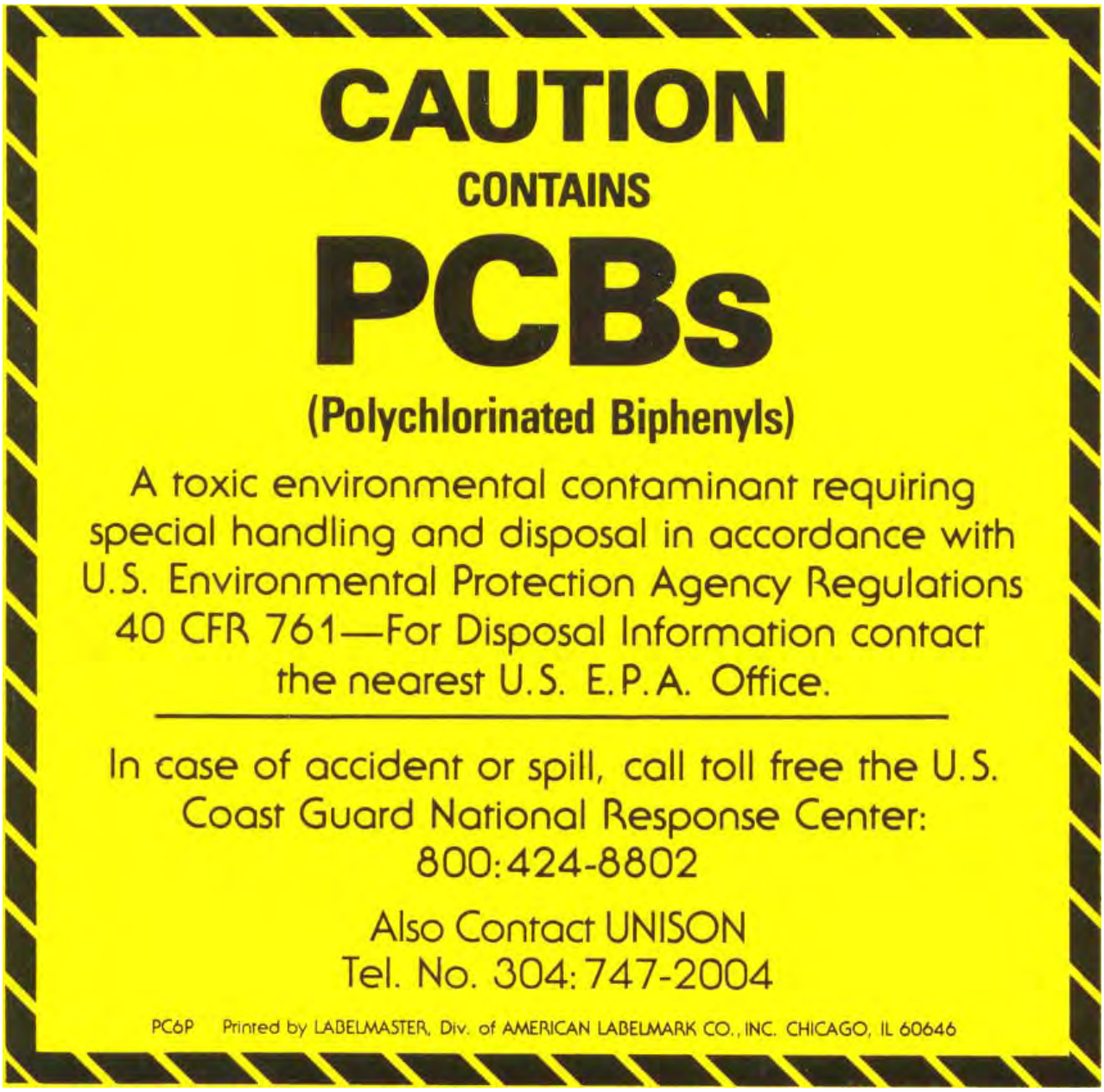


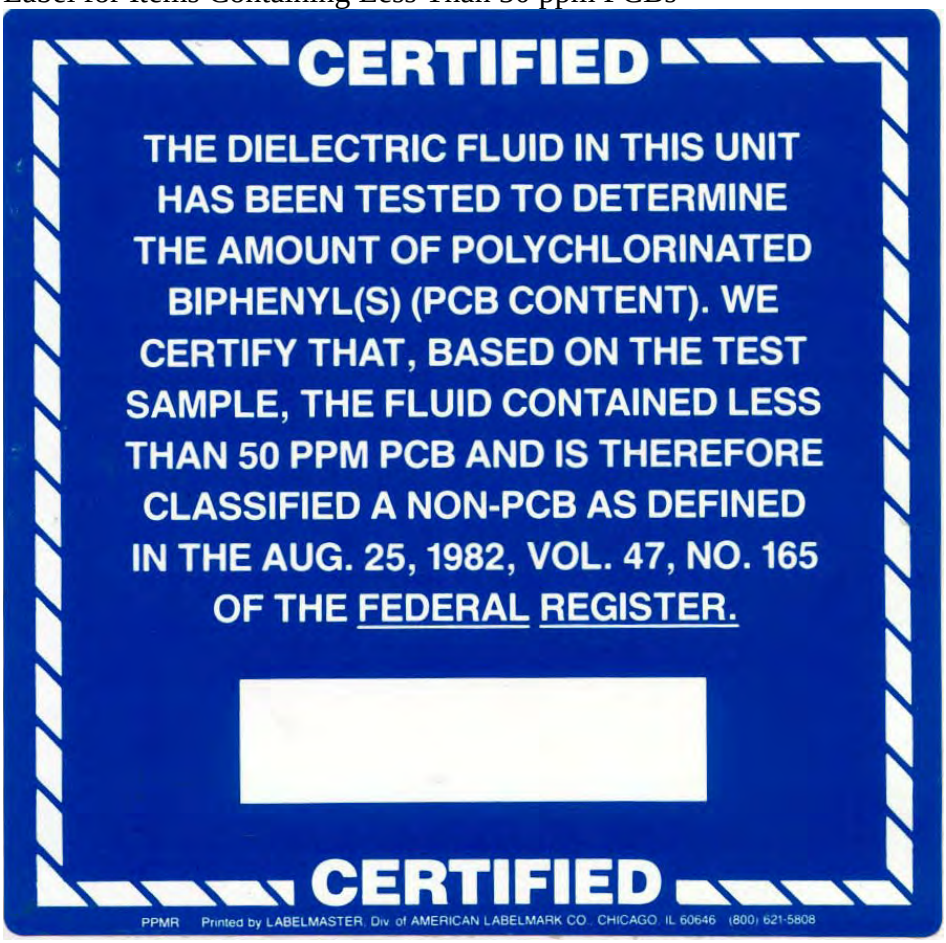
FIGURE 3

Small PCB Mark: The mark shall be a rectangle 2.5 by 5 cm (1 inch by 2 inches). If the PCB item is too small to accommodate this size, the mark may be reduced in size proportionally down to a minimum of 1 by 2 cm (0.4 by 0.8 inches).



FIGURE 4

Label for Items Containing Less Than 50 ppm PCBs



12. PCB SPILLS

a. Rule

(1) A PCB spill as defined by EPA means both intentional and unintentional spills, leaks, and other uncontrolled discharges where the release results in any quantity of PCBs running off or about to run off the external surface of the equipment or other PCB source, as well as the contamination resulting from those releases. This applies to spills of 50 ppm or greater PCBs.

(2) The concentration of PCBs spilled is determined by the PCB concentration in the material spilled as opposed to the concentration of PCBs in the material onto which the PCBs were spilled.

(3) Where a spill of untested mineral oil occurs, the oil is presumed to contain greater than 50 ppm, but less than 500 ppm PCBs, and is subject to the relevant requirements of this policy.

(4) Any spill whether PCBs or mineral oil must be handled in accordance with the installation 45 CES CRP 10-211, or the current installation contingency plan. PCB Spill cleanup must be in accordance with 40 CFR 761 and Air Force PCB Spill Cleanup Policy. (See Section 18)

(5) Spills from electrical equipment must be handled as PCB contamination until proven otherwise.

(a) The CLOIS contractor will cleanup PCB spills on PSFB and CCSFS.

(b) Contract cleanup may be employed for larger PCB spills in accordance with the Installation Emergency Management Plan 10-2, or current installation contingency plan.

(c) Obtain and record nameplate data and obtain equipment identification data from the Electrical Shop to determine kind of electric fluid and equipment history.

(d) 45 CES/CEIE for PSFB or Patrick F2F for CCSFS will complete the appropriate section of the EASIER electronic reporting system. EASIER stands for Enforcement Actions, Spills, and Inspections Environmental Reporting.

(6) Once a spill is contained, cleanup measures can begin.

(a) PCB spill cleanup procedures are specified in 40 CFR 761 and must be closely followed.

(b) Cleanup of low-concentration spills that involve less than 1 lb. PCBs by weight (less than 270 gallons of untested mineral oil) must be completed within 48 hours after discovery.

(c) Immediate clean-up activities are required for high-concentration spills (1 lb. or more PCBs by weight), as defined in 40 CFR 761.125(c).

(d) Levels required for cleanup may vary; therefore, 45 CES/CEIE is the only office that will contact EPA Region IV experts to obtain guidance on the extent of PCB cleanup.

(e) The spill material, dirty rags and contaminated sand/soil will be placed in an approved performance oriented packaging (POP) container and stored in the PCB storage facility until disposal. Containers will be labeled as PCB.

(f) If the sample analysis of mineral oil dielectric results in a less than 50 ppm PCB, the oily material can be removed from PCB storage and disposed locally.

(g) EPA clarified that solvents contaminated during use in decontamination are to be managed and used at their existing concentration.

(h) Disposal options do not depend on the original concentration of PCBs in the material that is decontaminated. However, chlorinated solvents used for decontamination are to be disposed of as PCB waste regardless of their concentration in order to discourage their use and to minimize adverse consequences from uncontrolled air releases.

b. Reporting of PCB Spills

(1) Report all spills or releases of hazardous materials or waste on the installation by dialing 911 or by dialing 853-0911 if you are using a cellular phone on CCSFS.

(a) To report a spill or release from JDMTA or Malabar call Cape Support by dialing 853-5211. On Ascension AAF call Fire/Security at 2222.

(b) Any PCB spill regardless of the volume, which directly contaminates surface water, sewers, drinking water, grazing lands or vegetable gardens must be reported to the EPA Regional Office.

(c) The reportable quantity (RQ) for PCBs greater than 50 ppm is 1 pound of PCB by weight. (NOTE: This is a significant change made in the rule effective 28 August 1998. Previously, the reporting quantity was 10 pounds. It should be further noted that EPA stated in the Federal Register that “unless otherwise noted in the regulations, references to weights or

volumes in 40 CFR 761 apply to the total weight or volume of the PCB containing material (oil, soil, etc.), not the calculated weight or volume of only the PCB molecules within the substance.")

Under the authority of TSCA, PCB spills have to be reported whenever the incident poses a substantial risk to human health or the environment. Since "substantial risk" cannot be precisely defined, any spill should be reported to 45 CES/CEIE and in accordance with the IEMP 10-2.

Notification of a release of a reportable quantity must be made to EPA Region IV, the National Response Center, and AFCEC.

(d) These notifications may only be made by 45 CES/CEIE after coordination with the Base Civil Engineer and the 45 SLD Wing Commander.

(e) These reports must be made within 48 hours after discovery or within 24 hours if the spill directly contaminates surface water, sewers, drinking water, grazing lands, or vegetable gardens.

(f) If surface waters are impacted, notification to the Florida Department of Environmental Protection and the Brevard County Office of Natural Resource Management is recommended.

c. Records and certification of cleanup must include:

(1) Source of the spill, location, date and time of spill, date and time cleanup completed, a brief description of the spill location, sampling methods and data, cleaning methods and procedures, depth and amount of soil residue removed, and a certification statement signed by the responsible party stating that the cleanup requirements have been met and that the information contained in the record is accurate.

(a) PCB spill cleanup must be in accordance with 40 CFR 761 and Annex A of this plan.

(b) Records must be maintained for a period of 5 years.

d. Immediate notification to the National Response Center is required in the event of a PCB Transformer fire related incident. Notification will be made by the Command Post or 45 CES/CEIE.

13. INSPECTION FOR LEAKS

a. Rule

(1) EPA Regulations require inspection of PCB electrical items as follows:

(a) PCB items, electromagnets, switches and voltage regulators in food storage and food preparation areas - Weekly.

(b) PCB transformers, electromagnets, switches and voltage regulators, in-service in other areas - Quarterly.

(c) If the dielectric is other than mineral oil or askarel, a determination must be made, through laboratory analysis, as to whether the dielectric is PCB. If the dielectric is identified to contain in excess of 500 ppm PCB, the inspection requirement above applies to the electrical items.

(d) If the transformer contains mineral oil, it is not subject to the PCB inspection requirements, even if analysis shows some PCBs in the range of 50-499 ppm.

(e) PCB-contaminated transformers are not subject to the EPA inspection requirements above.

(2) In addition to the in-service transformer inspection, all PCB items in storage must be inspected every 30 days.

(3) If a PCB item is found to have a leak; reporting and cleanup must begin within 24 hours of its discovery.

(4) Until appropriate action is completed, active leaks must be contained to prevent exposure to humans and the environment and inspected daily to verify containment of the leak.

14. RECORD KEEPING

a. Rule

(1) The Annual Document Log will be maintained by the Electrical Section and the Annual Records (manifests and certificates of disposal) will be maintained by 45 CES/CEIE for PSFB.

(2) Both the Annual Document Log and Records shall be maintained by Patrick F2F for CCSFS and mainland sites.

(3) ROS personnel will maintain records for downrange sites.

(4) The EPA regulations require record keeping of PCB items for 5 years after the facility ceases to use or store PCB items.

(5) DLA personnel are responsible for keeping a written record of confirmation of PCB waste transported by an independent transporter, as required by 40 CFR 761.180.

(6) In addition, DLA is responsible for using the Uniform Hazardous Waste Manifest for offsite shipments of PCBs and for obtaining signed return manifests within 45 days after a shipment.

(7) DLA is required to contact the receiving facility within 24 hours of receiving a signed manifest to verify the signature is authentic (40 CFR 761.180(a)(2)(viii)).

(8) Certificates of disposal for all PCBs shipped offsite must be received within 13 months after an item has been placed out of service. DLA personnel are responsible for providing copies of all completed manifests and certificates of disposal to 45 CES/CEIE.

(9) Patrick F2F and ROS personnel will also receive copies and complete Exception Reports if a signed manifest is not received within the specified time periods. The Wing's Installation Restoration Program (IRP) office maintains copies of its PCB manifests; however, the Patrick F2F (on CCSFS) and 45 CES/CEIE maintain the official manifest file for all PCB manifests (40 CFR 761.180(a)).

(10) The Annual Document Log must include:

(a) The name, address, and EPA identification number of the facility covered by the annual document log and the calendar year covered by the annual document log. The unique manifest number of every manifest generated by the facility during the calendar year, and from each manifest and unmanifested waste that may be stored at the facility; the following information:

(1) For bulk PCB waste (e.g., in a tanker or truck), its weight in kilograms, the first date it was removed from service for disposal, the date it was placed into transport for off-site storage or disposal, and the date of disposal, if known.

(2) For each PCB Article, the serial number (if available) or other means of identifying each (e.g., transformer or capacitor), the weight in kilograms of the PCB waste in each transformer or capacitor, the date it was removed from service for disposal, the date it was placed in transport for off-site storage or disposal, and the date of disposal, if known.

(3) For PCB Containers, a unique number identifying each, a description of the contents of each PCB Container, such as liquid, soil, cleanup debris, etc., including the total weight of the material in kilograms in each PCB Container, the first date material was placed in each PCB Container for disposal, and the date each PCB Container was placed in transport for off-site storage or disposal, and the date of disposal, if known.

(4) For PCB Article Containers, a unique number identifying each, a description of the contents of each PCB Article Container, such as pipes, capacitors, electric motors, pumps, etc., including the total weight in kilograms of the contents of each PCB Article Container, the first date a PCB Article was placed into each PCB Article Container for disposal, the total weight of the PCB Articles in kilograms in each PCB Article Container, and the date the PCB Article Container was placed in transport for off-site storage or disposal, and the date of disposal, if known. The total number of specific type of PCB Articles and the total weight in kilograms of PCBs in PCB Articles, the total number of PCB Article Containers and total weight in kilograms of the contents of PCB Articles Containers, the total number of PCB Containers and the total weight in kilograms of the contents of PCB Containers, and the total weight in kilograms of bulk PCB waste that was placed into storage for disposal or disposed during the calendar year.

(5) The total number of PCB Transformers and total weight in kilograms of PCBs contained in the transformers remaining in service at the end of the calendar year.

(6) The total number of Large High or Low Voltage PCB Capacitors remaining in service at the end of the calendar year.

(7) The total weight in kilograms of any PCBs and PCB Items in PCB Containers including the identification of container contents, remaining in service at the facility at the end of the calendar year.

(8) For any PCBs or PCB items received from or shipped to another facility owned or operated by the same generator all the information is required.

(9) A record of each telephone call, or means of verification agreed upon by both parties, made to each designated commercial storer or designated disposer to confirm receipt of PCB waste transported by an independent transporter, as required by 40 CFR 761.208.

(10) Whenever a PCB Item, excluding small capacitors, with a concentration = 50 ppm is distributed in commerce for reuse pursuant to 40 CFR 761.20(c)(1), the name, address,

and telephone number of the person to whom the item was transferred, date of transfer, and the serial number of the item or the internal identification number, if a serial number is not available, must be recorded in the annual document log. The serial number must be permanently marked on the equipment.

b. PCB Annual Reports:

(1) Annually, CE Electrical Engineering and Patrick F2F must submit the annual document log location and disposition of PCB items covering the previous calendar year to 45 CES/CEIE. Records must include the date each PCB item was removed from service, the date placed into storage for disposal, and the date shipped offsite for disposal. The records and reports shall be maintained for at least 5 years, after the installation ceases using or storing PCBs. The annual report should include the following:

(a) Total weight in kilograms of any PCBs in PCB containers, including the identification of container contents such as liquids and capacitors.

(b) Total number of PCB transformers and total weight in kilograms of any PCBs contained in the transformer.

(c) Total number of PCB capacitors and total weight in kilograms of any PCBs contained in the capacitors.

(d) Total number of other PCB electrical equipment containing PCBs and the total weight in kilograms of any PCBs contained in the capacitor.

(e) An estimate of the amount of dielectric fluid released from any leak.

(f) The date of any cleanup, containment, or repair performed.

(g) The results of any containment and daily inspection required for uncorrected active leaks.

c. Inspection Records:

(1) Inspections of PCB transformers in use or stored for reuse, must be done once every three months.

(2) Items stored in the storage facility must be inspected at least once every 30 days and records of the inspection and maintenance history are to be maintained for at least three years after disposing of all PCB or PCB-contaminated items. The records to be maintained are:

(a) The location of the PCB equipment or facility.
(b) The date of each visual inspection, and the date that a leak was discovered.

(c) The person performing the inspection.

(d) The location of any leaks or discrepant conditions.

(e) An estimate of the amount of dielectric fluid released from any leak.

(f) The date of any cleanup, containment, or repair performed.

(g) The results of any containment and daily inspection required for uncorrected active leaks.

d. Inventory

(1) PCB and PCB-Contaminated Electrical Equipment Inventory:

(a) An inventory for PCB and PCB-contaminated equipment for CCSFS and mainland sites will be maintained by Patrick F2F. The ROS environmental office will maintain information for downrange sites. The PSFB records and inventories are kept by 45 CES/CEIE.

(b) All notifications and lab analyses sent to landfills for PCB bulk product wastes must be maintained by the Air Force for three years.

15. FIRE RELATED INCIDENTS

a. Rule

(1) If a PCB transformer is involved in a fire-related incident, 45 CES/CEIE must immediately report the incident to the National Response Center.

(2) A fire-related incident is defined as any incident generating enough heat or pressure to result in the violent or nonviolent rupture of a PCB transformer and the release of PCBs.

(3) Information provided must include type of PCB transformer involved and ascertainable cause of fire-related incident.

(4) The On-Scene Coordinator and the Fire Department must also take measures, as soon as possible, to contain and control potential release of PCBs and incomplete combustion products into water. These measures include:

(a) Blocking of floor drains in the vicinity.

(b) Containment of water runoff.

(c) Control and treatment of water (prior to release) from subsequent cleanup actions.

(d) Records of inspection and maintenance history.

16. PERSONNEL TRAINING

a. Rule

(1) Training for personnel handling PCBs is to include at a minimum:

(a) Spill Prevention and Response implementation.

(b) Procedures for using, inspecting, and repairing facility emergency and monitoring equipment.

(c) Operation of communications and alarm system.

(d) Response to fire or explosion.

(2) These requirements may be met by providing training in the following subject areas:

(a) Training for Personnel Safety and Health.

(b) Labeling of PCBs.

(c) Health effects of PCBs.

(d) Personal protective equipment.

(e) Use of emergency equipment.

(f) First aid.

(g) Spill Prevention and Response

(h) Decontamination Procedures.

(i) Personnel.

(j) Equipment.

(k) Facility Use and Upkeep.

(l) Inspections.

(m) Normal and emergency operating procedures.

(3) A combination of classroom and on-the-job training may be utilized to satisfy the training requirements. This requirement may also be met by addressing PCBs in Hazard Communications training. The facility supervisor is responsible for ensuring these training requirements are met.

17. ON BASE TRANSPORTATION

a. Rule

(1) Each transport vehicle shall be marked on each end and side with PCB labels as described in 40 CFR 761.45(a) if it is loaded with PCB containers that contain more than 45 kg (99.5 lbs) of PCBs in the liquid phase or with one or more PCB transformers.

(2) Any container used for the storage of liquid PCBs shall comply with the Performance Oriented Packaging requirements found in the Department of Transportation, 49 CFR 178. Any container used for the storage of non-liquid PCBs shall comply with the specifications of 49 CFR 178. Specifications follow in Figure 6.

FIGURE 6

GENERAL SHIPPING AND PACKAGING INFORMATION FOR PCBs Instructions: Use this information as appropriate, for shipping and packaging of PCBs. Read carefully and distribute to all authorized personnel.	
Proper Shipping Name:	Polychlorinated biphenyls
Hazard Class:	9
Identification Number:	UN2315
Reportable Quantity:	1 lb PCB
Required Label:	Class 9
Required Marking:	TSCA Marking
Shipping document information:	Polychlorinated biphenyls, UN2315
Required Packaging Prior to Disposal:	For solids: UN1A2 For liquids: UN1A1 or UN1A2 (overpack)

(3) The transporter is responsible for safe transportation of PCB items. All containers are to be tied down. No one is to ride in the back of the vehicle with the cargo. The transporter is to be aware of what he is carrying, what hazards are involved, and what safety precautions are to be taken. Fire extinguishers and other applicable safety equipment should be included with the transporter. Vehicles and contents are to be labeled in accordance with 40 CFR 761.

(4) Should containers begin leaking or spill during transportation, the driver should move the vehicle to any isolated area which is away from storm drainage systems and water systems and contain the spill if possible without endangering themselves.

(5) In accordance with the installation IEMP 10-2, or current contingency plan, report all spills or releases of hazardous materials or waste on the installation by dialing 911 or by dialing 853-0911 if you are using a cellular phone on CCSFS. To report a spill or release from JDMTA or Malabar call Cape Support by dialing 853-5211. On Ascension AAF call Fire/Security at 2222.

18. AIR FORCE PCB SPILL CLEANUP POLICY

a. Scope.

(1) This policy establishes requirements for the cleanup of spills resulting from the release of materials containing polychlorinated biphenyls (PCBs) at concentrations of 50 parts per million (ppm) or greater. This policy implements the Toxic Substances Control Act (TSCA) policy for cleanup of spilled PCBs.

(2) For old spills which have already been discovered, this policy is not intended to require additional cleanup where the installation has already cleaned spill in accordance with requirements imposed by the US Environmental Protection Agency (EPA) through its regional offices, nor is this policy intended to interfere with ongoing litigation of enforcement actions which bring into issue PCB spills cleanup.

(3) Occasionally, some small percentage of spills covered by this policy may warrant different or more stringent cleanup requirements because of additional routes of exposure or significantly greater exposure than those assumed in developing the final cleanup standards of this policy.

(4) There may also be exceptional spill situations that require less stringent cleanup, or a different approach to cleanup, due to factors associated with the particular spill. These factors may mitigate expected exposures and risks or make cleanup to these requirements Impracticable.

b. Excluded Spills.

(1) The following six spill situations are excluded from the numerical decontamination standards:

(a) Spills that result in the direct contamination of Surface water (surface waters include, but are not limited to, "Waters of the United States" as defined in 40 CFR 122, ponds, lagoons, wetlands, and storage reservoirs).

(b) Spills that result in the direct contamination of sewers or sewer treatment systems.

(c) Spills that result in the direct contamination of any private or public drinking water sources or distribution systems.

(d) Spills which migrate to and contaminate surface waters, sewers, or drinking water supplies before cleanup has been completed in accordance with this policy.

(e) Spills that contaminate animal grazing lands.
(f) Spills that contaminate vegetable gardens.

(2) In addition, all of these excluded situations require practicable, immediate actions to contain the area of contamination. While these situations may not always require more stringent cleanup measures, the EPA excluded these situations because they will always involve significant factors that may not be adequately addressed by cleanup standards based upon typical spill characteristics for these six spill situations. 45 CES/CEIE shall contact the appropriate regional EPA office of Pesticides and Toxic Substances for site-specific requirements for spill decontamination.

c. Relationship of This Policy to Other Statutes.

(1) This policy does not affect cleanup standards or requirements for the reporting of spills imposed, or to be imposed, under other Federal statutory authorities, including but not limited to, the Clean Water Act, the Resource Conservation and Recovery Act, and the Comprehensive Environmental Response Compensation and Liability Act of 1980 as amended by the Superfund Amendments and Reauthorization Act. Where more than one requirement applies, the stricter standard must be met.

d. Definitions.

(1) For the purposes of this policy, certain words and phrases are used to denote specific materials, procedures, or circumstances. The following definitions are provided for purposes of clarity and are not to be taken as exhaustive lists of situations and materials covered by the policy.

(a) PCBs. The term means polychlorinated biphenyls as defined in 40 CFR 761.3. (Any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances which contains such substances.) As specified in 40 CFR 761.1(b), no requirements may be avoided through dilution of the PCB concentration.

(b) Low-concentration PCBs. The term means PCBs that are tested and found to contain less than 500 ppm PCBs, or those PCB-containing materials which EPA requires the assumed concentrations to be below 500 ppm (i.e., untested mineral oil dielectric fluid).

(c) High-concentration PCBs. The term means PCBs that contain 500 ppm or greater PCBs, or those materials which EPA requires to be assumed to contain 500 ppm or greater PCBs in the absence of testing.

(d) Spill. The term as used in this policy means both intentional and unintentional spills, leaks, and other uncontrolled discharges where the release results in any quantity of PCBs running off or about to run off the external surface of the equipment or other PCB source, as well as the contamination resulting from those releases. This policy applies to spills of 50 ppm or greater PCBs. The concentration of PCBs spilled is determined by the PCB concentration in the material spilled as opposed to the concentration of PCBs in the material onto which the PCBs were spilled. Where a spill of untested mineral oil occurs, the oil is presumed to contain greater than 50 ppm, but less than 500 ppm PCBs, and is subject to the relevant requirements of this policy.

(e) Residential /commercial areas. Residential /commercial areas are those areas where people live or reside, or where people work in other than manufacturing or farming industries. Residential areas include housing and the property on which housing is located, as well as playgrounds, roadways, sidewalks, parks, and other similar areas within a residential community. Commercial areas are typically accessible to both members of the general public and employees and include public assembly properties, Institutional properties, stores, office buildings, and transportation centers.

(f) Outdoor electrical substations. Outdoor electrical substations are outdoor, fenced-off and restricted access areas used in the transmission and/or distribution of electrical power. Outdoor electrical substations restrict public access by being fenced or walled off as defined at 40 CFR 761.30(l)(1)(ii). For purposes of this policy, outdoor electrical substations are defined as being located at least 0.1 kilometer (km) from a residential /commercial area. Outdoor fenced-off and restricted access areas used in the transmission and/or distribution of electrical power which are located less than 0.1 km from a residential /commercial area are considered to be residential /commercial areas.

(g) Other restricted access (nonsubstation) locations. Other restricted-access (nonsubstation) locations are areas other than electrical substations that are at least 0.1 km from a residential/commercial area and limited by manmade barriers (e.g., fences and walls) or substantially limited by naturally occurring barriers such as mountains, cliffs, or rough terrain. These areas generally include industrial facilities and extremely remote rural locations. (Areas where access is restricted but are less than 0.1 km from a residential /commercial area are considered to be residential /commercial areas.)

(h) Unrestricted access areas. An unrestricted access area is any area other than restricted access outdoor electrical substations, and other restricted access locations, as defined in paragraphs 4.f. and 4.g. In addition to residential /commercial areas, these areas include unrestricted access rural areas (areas of low density development and population where access is uncontrolled by either manmade barriers or naturally occurring barriers, such as rough terrain, mountains, or cliffs).

(i) High-contact residential /commercial surface. A high-contact residential/commercial surface is a surface in a residential /commercial area which is repeatedly touched, often for relatively long periods of time. Doors, wall areas below six feet in height, uncovered flooring, windowsills, fencing, banisters, stairs, automobiles, and children's play areas, outdoor patios and sidewalks are examples of high-contact residential/commercial surfaces. Examples of low-contact residential/commercial surfaces include interior ceilings, interior wall areas above six feet in height, roofs, asphalt roadways, concrete roadways, wooden utility poles, unmanned machinery, concrete pads beneath electrical equipment, curbing, exterior structural building components (e.g., aluminum/vinyl siding, cinder block, asphalt tiles) and pipes.

(j) High-contact industrial surfaces. A high-contact industrial surface is a surface in an industrial setting which is repeatedly touched, often for long periods of time. Manned

machinery and control panels are examples of high-contact industrial surfaces. High-contact industrial surfaces are generally of impervious solid materials. Examples of low-contact industrial surfaces include ceilings, walls, floors, roofs, roadways and sidewalks in the industrial area, utility poles, unmanned machinery, concrete pads beneath electrical equipment, curbing, exterior structural building components, indoor vaults and pipes.

(k) Soil. The term means all vegetation, soils and other ground media, including but not limited to sand, grass, gravel and oyster shells. It does not include concrete and asphalt.

(l) Impervious solid surfaces. The term means solid surfaces which are nonporous and thus unlikely to absorb spilled PCBs within the short period of time required for cleanup of spills under this policy. Impervious solid surfaces include, but are not limited to, metals, glass, aluminum siding, and enameled or laminated surfaces.

(m) Pervious solid surfaces. The term means solid surfaces which are porous and are more likely to absorb spilled PCBs prior to completion of the cleanup requirements prescribed in this policy. Pervious solid surfaces include but are not limited to, wood, concrete, asphalt, and plasterboard.

(n) Double wash/rinse. The double rinse/wash procedural performance standard applied in this policy means the minimum requirement to cleanse solid surfaces (both impervious and pervious) two times with an appropriate solvent or other material in which PCBs are at least five percent soluble (by weight). A volume of PCB-free fluid sufficient to cover the contaminated surface completely must be used in each wash/rinse. (The wash/rinse requirement does not mean the mere spreading of solvent or other fluid over the surface, nor does the requirement mean a once-over wipe with a soaked cloth.) Precautions must be taken to contain any runoff resulting from the cleansing and to dispose properly of wastes generated during the cleansing. EPA recommends using hexane or iso-octane for the double wash/rinse.

(o) Standard swipe test. For spills of high concentration PCBs on solid surfaces, this policy requires cleanup to numerical surface standards and sampling by a standard swipe test to verify that the numerical standards have been met. This definition constitutes the minimum requirements for an appropriate swipe testing protocol. A standard-size template (10 centimeters (cm) x 10 cm) will be used to delineate the area of cleanup; the wiping medium will be a gauze pad or glass wool of known size which has been saturated with hexane. The gauze should be prepared with hexane in the laboratory and the wiping medium be stored in sealed glass vials until it is used for the wipe test. It is important that the wipe be performed very quickly after the hexane is exposed to air.

(p) Requirements and standards. The term "requirements" as used in this policy means both the procedural responses and numerical decontamination levels set forth in this policy as constituting adequate cleanup of PCBs. The term "standards" means the numerical decontamination levels set forth in this policy.

(q) Spill area. The term means the area on which visible traces of the spill can be observed plus a buffer zone of one foot beyond the visible traces. Any surface or object (e.g.,

concrete sidewalk or automobile) within the visible traces area, or on which visible traces of the spilled material are observed, is included in the spill area. This area represents the minimum area assumed to be contaminated by PCBs in the absence of pre-cleanup sampling data and is thus the minimum area that must be cleaned.

(r) Spill boundaries. The term means the actual area of contamination as determined by post cleanup verification sampling, or by pre-cleanup sampling to determine actual spill boundaries. Additional cleanup will be necessary to decontaminate all areas within the spill boundaries to the levels required in this policy (e.g., additional cleanup will be required if post cleanup sampling indicates that the area decontaminated did not encompass the actual boundaries of PCB contamination).

e. Responsibilities.

(1) Base Civil Engineer, 45 CES/CC

(a) Will ensure all transformers and capacitors with PCB concentrations of 50 ppm or more are located and identified in the appropriate section of the base Spill Prevention and Countermeasures Cleanup Plan.

(b) Will notify the Major Command Environmental Coordinator of all spills of PCBs at concentrations of 50 ppm or greater promptly after discovery of the incident by telephone during duty hours or by priority message after duty hours.

(c) Will ensure cleanup all spills of PCBs at concentrations of 50 ppm or greater to final cleanup standards.

(d) Will ensure PCB contaminated soils, solvents, rags and other materials resulting from the cleanup are containerized, labeled, and dispose of properly.

(2) 45th Medical Group Squad Commander (through Bio-environmental Engineering Flight), 45 MDG/CC

(a) Will provide Environmental Health Risk Assessments when necessary.

(b) Will make recommendations to workplace supervisors and commanders in the proper use and care of personal protective equipment (PPE) and clothing (DOD personnel only).

(3) Environmental Compliance Office, 45 CES/CEIE

(a) Will report all releases of PCBs, one pound or greater, to the National Response Center, in accordance with 40 CFR 761.125(a)(1).

(b) Will report all spills of PCBs when the concentrations is 50 ppm or greater and which are subject to decontamination requirements under TSCA, to the appropriate EPA Regional Office of Pesticides and Toxic Substances as soon as possible but in no case greater

than 24 hours from discovery per 40 CFR 761 Subpart G. This includes spills listed in paragraph 2 of this Annex which are excluded from final cleanup standards.

f. Requirements for PCB Spill Cleanup.

(1) General Requirements

(a) Reporting requirements. In accordance with 40 CFR 761.125, the following reporting is required. This is in addition to any reporting required by other regulations.

(b) Where a spill directly contaminates surface water, sewers, drinking water supplies, grazing lands or vegetable gardens, the installation shall notify the appropriate regional EPA Office of Pesticides and Toxic Substances and obtain guidance for appropriate cleanup measures in the shortest possible time after discovery, but in no case later than 24 hours after discovery.

(c) For a spill 10 pounds or greater of PCB material (generally one gallon of PCB dielectric fluid) which is not addressed in paragraph (a)(1)(i) or (ii) of 40 CFR 761.125, the installation will notify the appropriate regional EPA office and proceed to decontaminate the spill area in accordance with this policy in the shortest possible time after discovery, but in no case later than 24 hours after discovery. (For purposes of the notification requirements, the 10 pounds are measured by the weight of the PCB-containing material spilled rather than by the weight of only the PCBs spilled.)

(d) Spills of less than 10 pounds which are not addressed in paragraphs a)(1)(i) or (ii) of 40 CFR 761.125 must by cleaned up in accordance with this policy, however, notification to EPA is not required.

(2) Disposal of cleanup debris and materials.

(a) All contaminated soils, solvents, rags, and other materials resulting from the cleanup of PCBs under this policy shall be properly containerized, labeled, stored, and disposed of in accordance with the provisions of 40 CFR 761-60.

(3) Determination of spill boundaries in the absence of visible traces.

(a) For spills where there are insufficient visible traces yet there is evidence of a leak or spill, the boundaries of the spill are to be determined by using a statistically based sampling scheme.

(4) Requirements for cleanup of low-concentration spills which involved less than 1 pound of PCBs by weight (less than 270 gallons of untested mineral oil).

(a) Decontamination requirements. Spills of low-concentration PCBs which involve less than one pound of PCBs by weight (i.e., less than 270 gallons of untested mineral oil containing less than 500 ppm PCBs) shall be cleaned in the following manner:

(b) Solid surfaces must be double washed/rinsed except that all indoor, residential surfaces other than vault areas must be cleaned to 10 micrograms per 100 square centimeters (10 ug/100 cm2) by standard swipe test.

(c) All soil within the spill area must be excavated and the ground be restored to its original configuration by back-filling with clean soil (i.e., containing less than one ppm PCBs).

(5) Effect of emergency or adverse weather. Completion of cleanup may be delayed beyond 48 hours in case of circumstances including but not limited to, civil emergency, adverse weather conditions, lack of access to the site, and emergency operating conditions. The occurrence of a spill on a weekend or overtime costs are not acceptable reasons to delay response. Completion of cleanup may be delayed only for the duration of the adverse conditions. If the adverse weather conditions, or time lapse due to other emergency, have left insufficient visible traces, a statistically based sampling scheme must be used to determine the spill boundaries.

g. Records and certification.

(1) At the completion of cleanup, the installation shall document the cleanup with records and certification of decontamination.

h. Records Disposition Procedures and Responsibilities.

(1) The records and certification shall consist of the following:

(a) Identification of the source of the spill, e.g., type of equipment;

(b) Estimated or actual date and time of the spill occurrence;

(c) The date and time cleanup was completed or terminated (if cleanup was delayed by emergency or adverse weather: the nature and duration of the delay), and

(d) A brief description of the spill location.

(2) Pre-cleanup sampling data used to establish spill boundaries if required because of insufficient visible traces, and a brief description of the sampling methodology used to establish the spill boundaries.

(3) A brief description of the solid surfaces cleaned and of the double wash/rinse method used.

(4) Approximate depth of soil excavation and the amount of soil removed.

(5) A certification statement signed by the base commander stating that the cleanup requirements have been met and that the information contained in the record is true to the best of his/her knowledge.

i. Requirements for Cleanup of High-Concentration Spills and Low-Concentration Spills Involving 1 Pound or More PCBs by Weight (270 Gallons or More of Untested Mineral Oil)

(1) Immediate requirements. The four actions listed in (a) through (d) must be taken as quickly as possible and within no more than 24 hours (or within 48 hours for PCB transformers) after the installation became aware of the spill. Actions may be delayed beyond 24 hours if circumstances (e.g., civil emergency, hurricane, tornado, or other similar adverse weather conditions, lack of access due to physical impossibility, or emergency operating conditions) so require for the duration of the adverse conditions. The occurrence of a spill on a weekend or overtime costs are not acceptable reasons to delay response. The installation shall:

(a) Notify the Major Command and Air Force Civil Engineer Center Environmental Coordinator and/or Installation Support Section.

(b) Effectively cordon off or otherwise delineate and restrict an area encompassing any visible traces plus a three-foot buffer and place clearly visible signs advising persons to avoid the area to minimize the spread of contamination as well as the potential for human exposure.

(c) Record and document the area of visible contamination, noting the extent of the visible trace areas and the center of the visible trace area. If there are no visible traces, the Base Civil Engineer shall record this fact and document the statistical sampling procedure used by the Base Medical Treatment Facility Commander to establish the spill boundaries.

(d) Initiate cleanup of all visible traces of the fluid on hard surfaces and initiate removal of all visible traces of the spill on soil and other media, such as gravel, sand, oyster shells, etc.

(2) Spills which occur in outdoor electrical substations shall be decontaminated as follows:

(a) Contaminated solid surfaces (both impervious and non-impervious) shall be cleaned to a PCB concentration of 100 ug/100 cm2 (as measured by standard swipe tests);

(b) Soil or other media, such as gravel, sand, oyster shell, etc., contaminated by the spill will be removed to either: 25 ppm PCBs by weight, or 50 ppm PCBs by weight provided that a label or notice is visibly placed stating the area is PCB contaminated; and

(c) Upon demonstration by the installation that cleanup to 25 ppm or 50 ppm will jeopardize the integrity or mission of the electrical equipment at the substation, the regional EPA Office of Pesticides and Toxic Substances may establish an alternative cleanup method or level and place the installation on a timely and reasonable schedule for completion of cleanup.

j. Requirements for decontaminating spills in other restricted access areas.

(1) Spills which occur in restricted access locations other than outdoor electrical substations shall be decontaminated as listed below in paragraphs (a) through (e). Conformance to the cleanup standards shall be verified by post-cleanup sampling. At such times as restricted access areas other than outdoor electrical substations are converted to another use, the spill site shall be cleaned up to the non-restricted access area requirements.

(a) High-contact solid surfaces shall be cleaned to 10 ug/100 cm2 (as measured by standard swipe tests).

(b) Low-contact, indoor, impervious solid surfaces will be cleaned to 10 ug/100 cm2.

(c) Low-contact, indoor, pervious surfaces will be cleaned either: (1) to 10 ug/100 cm2; or (2) to 100 ug/100 cm2 and encapsulated. (The EPA may disallow the encapsulation option for a particular spill situation upon finding that the uncertainties associated with that option pose special concerns at that site.)

(d) Low-contact, outdoor surfaces (both impervious and non-impervious) shall be cleaned to 100 ug/100 cm2.

(e) Soil or other media, such as gravel, sand, oyster shell etc., contaminated with more than 25 ppm PCBs by weight will be removed and properly disposed.

k. Requirements for decontaminating spills in unrestricted access areas.

(1) Spills which occur in unrestricted access locations shall be decontaminated as listed below in paragraphs (a) through (e). Conformance to the cleanup standards shall be verified by post-cleanup sampling. At such times as outdoor electrical substations and other restricted access areas are converted to another use, the spill site shall be cleaned up to the non-restricted access area requirements.

(a) Furnishings, toys, and other easily replaceable household items shall be disposed of in accordance with the provisions of 40 CFR 761.60 and replaced by the installation.

(b) Indoor solid surfaces and high-contact outdoor solid surfaces shall be cleaned to 10 ug/100 cm2 (as measured by standard swipe tests).

(c) Indoor vault areas, and low-contact, outdoor, impervious solid surfaces shall be decontaminated to 10 ug/100 cm2. Due to the potential for exposure to toxic vapors, all personnel entering an indoor vault area shall wear proper protective clothing and equipment as specified by the Base Medical Treatment Facility Commander.

(d) Low-contact, outdoor, pervious solid surfaces shall be either: cleaned to 10 ug/100 cm2; or cleaned to 100 ug/100 cm2 and encapsulated. The EPA may disallow the encapsulation option for a particular spill situation upon finding that the uncertainties associated with that option pose special concerns at the site.

(e) Soil or other media, such as gravel, sand, oyster shell, etc., contaminated by the spill with more than 10 ppm PCB by weight will be removed to a minimum depth of 10 inches. The excavated material will be replaced with clean soil or gravel (i.e., containing less than one ppm PCBs), and the spill site will be restored (e.g., replacement of turf).

(2) The Base Civil Engineer shall document the cleanup with records of decontamination.

l. Sampling Requirements.

(1) Post-cleanup sampling is required to verify the level of cleanup. The Base Medical Treatment Facility Commander may use any statistically valid, reproducible, sampling scheme (either random samples or grid samples), provided that the requirements listed below in (a) through (d) are satisfied. EPA recommends in 40 CFR 761.130(e) the use of a sampling scheme used in EPA enforcement inspections: "Verification of PCB Spill Cleanup by Sampling and Analysis EPA-560/5-85-026, August 1985 and "Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup" EPA-560/5-86017, May 1986.

(a) The sampling area is the greater of (1) an area equal to the area cleaned plus an additional one-foot boundary or (2) an area 20 percent larger than the original area of contamination.

(b) The sampling scheme must ensure 95 percent confidence against false positives.

(c) The number of samples must be sufficient to ensure that areas of contamination of a radius of two feet or more within the sampling area will be detected, except that the minimum number of samples is three and the maximum number of samples is 40.

(2) The sampling scheme must include calculations for expected variability due to analytical error.