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45th SPACE WING OPLAN 19-14

**WASTE PETROLEUM PRODUCTS
AND
HAZARDOUS WASTE
MANAGEMENT PLAN**

FEBRUARY 2009

UNITED STATES AIR FORCE



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DEPARTMENT OF THE AIR FORCE
45TH SPACE WING (AFSPC)

MAR 20 2009

MEMORANDUM FOR DISTRIBUTION (ANNEX Z)

FROM: 45 SW/CC
1201 Edward H. White II Street, MS 7100
Patrick AFB FL 32925-3299

SUBJECT: Waste Petroleum Products and Hazardous Waste Management Plan,
45th Space Wing (45 SW) Operations Plan 19-14

1. The attached Petroleum Products and Hazardous Waste Management Plan, OPlan 19-14, supersedes and replaces all previous issues of the plan. This plan will be available to all units capable of accessing the share drive at \\p423fp2\plans.
2. This plan describes procedures for the compliant management of waste petroleum products and hazardous or controlled waste. This plan applies to all 45 SW personnel, organizations, tenants and contractors, who design, use, operate, maintain, manage or contract for services or operations that generate waste petroleum products and/or hazardous or controlled waste on 45 SW owned, leased or operated property.
3. The use, handling, storage and disposal of hazardous waste is defined in, and regulated by, Title 40 of the Code of Federal Regulations, Parts 260 through 279. The collection, management, transportation and disposition of waste petroleum products and other controlled waste are also regulated by various federal and state regulations. Substantial civil and criminal penalties are associated with the violation of these regulations.
4. Each organization generating waste petroleum products and/or hazardous or controlled waste bears responsibility for compliance with federal, state and Air Force regulations as well as this plan. Organizations having contracted operations are responsible for their contractor's compliance with this plan.
5. 45 CES/CEAN is the office of primary responsibility, and will conduct an annual review of the plan. All recommendations for revision are to be forwarded to the 45 CES/CEAN.

A handwritten signature in black ink, appearing to read "E. L. Bolton, Jr.", is positioned above the typed name.

EDWARD L. BOLTON, JR.
Brigadier General, USAF
Commander

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DISTRIBUTION CHANGE LETTER

Date

MEMORANDUM FOR 45 CES ENVIRONMENTAL OFFICE
1224 Jupiter Street,
Patrick Air Force Base, FL 32925-3343

FROM: _____
(Office Symbol, Phone)

SUBJECT: Distribution of 45 SW Operations Plan 19-14, Waste Petroleum Products and Hazardous Waste Management Plan

1. This office has received _____ copies of subject document. Request distribution be changed as follows:

- a. () Exclude from distribution.
- b. () Increase number of copies to _____ .
- c. () Decrease number of copies to _____ .
- d. () Change office symbol and address :

(1) OLD ADDRESS:

(2) NEW ADDRESS:

2. () Above changes apply to this OPlan only.

3. () Above changes apply to all OPlan distribution for which 45 CES Environmental Office is OPR.

(SIGNATURE)

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45th Space Wing
Patrick Air Force Base, FL 32925-3239
February 2009

45 SW OPLAN 19-14, Waste Petroleum Products and Hazardous Waste Management Plan

SECURITY INSTRUCTIONS

1. The long title of this plan is 45th Space Wing Operations Plan 19-14, Waste Petroleum Products and Hazardous Waste Management Plan (45 SW PLAN 19-14). The short title is 45 SW OPlan 19-14. Both titles are unclassified.
2. This plan is unclassified, it does not come within the scope of directives governing the protection of information affecting national security as specified in Air Force Directives. It requires no specific safeguarding or protection.
3. This plan will be distributed to those organizations shown on the Distribution List, Annex Z. The plan will be controlled in accordance with established Air Force procedures for unclassified documents.
4. Reproduction of this plan in whole or part without the permission of the OPR is authorized as required in preparation of supporting plans, reports or checklists.

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45 SW OPLAN 19-14, Waste Petroleum Products And Hazardous Waste

Management Plan

RECORD OF CHANGES

RECORD OF CHANGES				
CHANGE NUMBER	DATE OF CHANGE	DATE POSTED	POSTED BY	DATE CHECKLIST REVIEWED

RECORD OF ANNUAL REVIEW		
REVIEW BY	DATE REVIEWED	REMARKS
ESC	July, 2006	Change 1, July 2006
ESC	March, 2008	Change 2, March 2008
ESC	February, 2009	Rev 6, February 2009

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45 SW OPLAN 19-14, Waste Petroleum Products and Hazardous Waste

Management Plan

PLAN SUMMARY

1. The Resource Conservation and Recovery Act of 1976 (RCRA) established the federal program regulating the generation, transportation, treatment, storage and disposal of solid and hazardous waste. The Act defines solid and hazardous waste, authorizes the Environmental Protection Agency (EPA) to set standards for facilities that generate or manage hazardous waste and establishes a permit program for hazardous waste treatment, storage and disposal facilities. Subtitle C of RCRA addresses "cradle-to-grave" requirements for hazardous waste from the point of generation to disposal. Regulations implementing Subtitle C of RCRA for hazardous waste management appear in 40 CFR 260-279. Subtitle D of RCRA contains less restrictive requirements for non-hazardous solid waste. RCRA was last reauthorized by the Hazardous and Solid Waste Amendments of 1984. The amendments set deadlines for permit issuance, prohibited the land disposal of many types of hazardous waste without prior treatment, required the use of specific technologies at land disposal facilities and established a new program regulating underground storage tanks.

2. On 12 February 1985, Florida received final authorization from the EPA to administer its own hazardous waste management and regulatory program under the Resource Conservation and Recover Act (RCRA). This authorization allows the State to issue permits that conform to the regulatory requirements of the law, to inspect and monitor activities subject to regulation and to take appropriate enforcement action against violators. Regulations implementing the State of Florida's hazardous waste program appear in Florida Administrative Code (FAC) Chapter 62-730.

3. This plan applies to all 45th Space Wing (45 SW) personnel, contractors, and tenant organizations that generate waste on Cape Canaveral Air Force Station (CCAFS), Patrick Air Force Base (PAFB), the Florida Annexes and all downrange licensed or operated sites.

4. In order to ensure uniformity and continuity on environmental issues, 45 CES Environmental Office will be the single point of contact with federal, state and local environmental regulatory agencies.

5. Each organization generating hazardous waste bears the responsibility for identifying, characterizing, segregating, containerizing, labeling, marking and minimizing their wastes IAW federal and state regulations. Each organization must retain all records of their waste activities.

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6. The Environmental Support Contractor (ESC), as directed by 45 CES Environmental Office, will provide hazardous waste management and technical support for CCAFS and PAFB, including tenants and 45 SW mainland sites. Downrange OCONUS sites will receive hazardous waste management and technical support from Eastern Range Technical Support Contractor (ERTSCE) as directed by 45 CES Environmental Office. Hazardous wastes generated at U.S. installations located overseas are legally within U.S. jurisdiction and, therefore, cannot be considered a foreign source, per Florida Department of Environmental Protection (FDEP) letter dated 29 April 1986 and 40 CFR 264.12.

7. Federal and state hazardous waste regulations and AF Instruction (AFI) 32-7042 require personnel managing or handling hazardous waste to be trained no later than 6 months after assignment to hazardous waste duties and annually thereafter.

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45 SW OPLAN 19-14, Waste Petroleum Products and Hazardous Waste Management Plan

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GLOSSARY

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 no longer used, but can still be found in old insulation, brake lining, gaskets, floor tile, and fireproof fabrics. Prior to work being accomplished in any building on PAFB or CCAS, 45 CES 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.

Carcinogen. A material that either causes cancer in humans, or, because it causes cancer in animals, is considered capable of causing cancer in humans. Findings are based on the feeding of large quantities of a material to test animals or by the application of concentrated solutions to the animals' skin. A material is considered a carcinogen if (1) the International Agency for Research on Cancer (IARC) has evaluated it and found it to be a carcinogen or potential carcinogen; (2) the National Toxicology Program's (NTP) Annual Report on Carcinogens lists it as a carcinogen or potential carcinogen; (3) OSHA regulates it as a carcinogen; or (4) one positive study has been published.

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°C. Degrees Celsius (centigrade). Metric temperature scale on which 0- (zero) °C (32°F) equals the freezing point of water. 100°C (212°F) equals the boiling point of water. $F^{\circ} = (C^{\circ} \times 1.8) + 32$. $C^{\circ} = (F^{\circ} - 32) \times 5/9$.

CFR. Code of Federal Regulations. A collection of the regulations established by law. Contact the agency that issued the regulation for details, interpretations, etc. Copies can be examined at 45 SW/JA or are sold by the Superintendent of Documents, Attn: New Orders, P.O. Box 371954, Pittsburgh, PA 15250-7954, or 202-783-3238.

CFC. Chlorofluorocarbon. 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.

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.

DOT. US Department of Transportation. 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.

EPA. (US) Environmental Protection Agency. A federal agency with environmental protection regulatory and enforcement authority. Administers the CAA, CWA, RCRA, TSCA, and other federal environmental laws.

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.

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The Federal Register (FR). A daily official federal publication that lists and discusses federal regulations. Copies available for examination at 45 SW/JA.

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 waste 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:

- a. PCB -Polychlorinated biphenyl transformer insulating oils.
- b. CB-Bromochloromethane fire extinguisher materials.
- c. Freon - Refrigerants and solvents.
- d. Trichloroethane - Vapor degreasing solvent.
- e. Trichloro-trifluoroethane - Degreasing solvent.
- f. Chloroform, carbon tetrachloride, etc.

HazMart. Acts as the single point of control for hazardous materials at PAFB. Designed by the 45th SW 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:

- a. 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).

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b. 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.

c. 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.

d. 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.

MSDS. Material Safety Data Sheet. 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.

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.

OSHA. The Occupational Safety and Health Administration. Part of the US Department of Labor. The regulatory and enforcement agency for safety and health in most US industrial sectors.

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.

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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.

Respirator. Any of a variety of devices that limit the inhalation of toxic materials. They range from disposable dust mask to self-contained breathing apparatus. All have specific uses and limitations.

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).

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.

Threshold Limit Value (TLV). An occupational exposure limit developed to ensure safe exposures for a working lifetime for the majority of workers. TLV's are guidance developed by the ACGIH and are only legally enforceable at hazardous waste sites when there are no equivalent OSHA exposure standards

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.

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VOC. Volatile organic compounds. 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. Measure of a materials 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.

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LIST OF ACRONYMS

AAAF	Ascension Auxiliary Air Field
AAS	Antigua Air Station
ACO	Administrating Contract Officer
AFB	Air Force Base
AFI	Air Force Instruction
AFM	Air Force Manual
AFOSH	Air Force Occupational Safety and Health
AFR	Air Force Regulation
AMO	Authorized Military Official
CAA	Clean Air Act
CCAFS	Cape Canaveral Air Force Station
CE	Conditional Exemption
CEF	Fire Protection
CEMP	Comprehensive Emergency Management Plan
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
CES	Civil Engineering Squadron
CFR	Code of Federal Regulations
CWA	Clean Water Act
DDESB	Department of Defense Explosives Safety Board
DoD	Department of Defense
DODAC	Department of Defense Ammunition Code
DOT	Department of Transportation
DRMO	Defense Reutilization and Marketing Office
EELV	Evolved Expendable Launch Vehicle
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
EPC	Environmental Protection Committee
EPCRA	Emergency Planning and Community Right-to-know Act
ERG	Emergency Response Guidebook
ERTS	Eastern Range Technical Support Contractor
ESC	Environmental Support Contractor
ESOH CAMP	Environmental Safety & Occupational Health Compliance Assessment Program
	Facility Response Plan
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FSC	Federal Supply Code
HazMart	Base Supply Hazardous Material Pharmacy
HCS	Hazard Communication Standard
HMTA	Hazardous Materials Transportation Act
HQAFSPC	Headquarters Air Force Space Command
HSWA	Hazardous and Solid Waste Amendments of 1984

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LIST OF ACRONYMS (Cont.)

IAW	In Accordance With
ID	Identification
IOMS	Infrastructure Operations and Maintenance Services Contract
IPA	Isopropyl Alcohol
J-BOSC	Joint Base Operations Support Contractor
JDMTA	Jonathan Dickinson Missile Tracking Annex
JON	Job Order Number
JOP	Joint Operating Procedure
KSC	Kennedy Space Center
LDR	Land Disposal Restrictions
LOSC	Launch Operations Support Contract
MAP	Management Action Plan
MEK	Methyl Ethyl Ketone
MMH	Monomethyl Hydrazine
MOGAS	Motor Gasoline
MR	Military Munitions Rule
MSDS	Material Safety Data Sheet
MTA	Malabar Transmitter Annex
MWR	Morale, Welfare, and Recreation
NASA	National Aeronautics and Space Administration
NEW	Net Explosive Weight
NFPA	National Fire Protection Association
NOTU	Naval Ordnance Test Unit
NSN	National Stock Number
OSHA	Occupational Safety and Health Act
PAFB	Patrick Air Force Base
PCB	Polychlorinated Biphenyl
PCW	Petroleum Contact Water
POL	Petroleum, Oil, and Lubricant
POP	Performance Oriented Packaging
PWQ	Process Waste Questionnaire
RCRA	Resource Conservation and Recovery Act of 1976
RQ	Reportable Quantity
SARA	Superfund Amendments and Reauthorization Act of 1986
SCLS	Space Coast Launch Services
SPCC	Spill Prevention Control and Countermeasures
SQG	Small Quantity Generator
STP	Sewage Treatment Plant
SW	Space Wing
SWMU	Solid Waste Management Unit
TAC	Tactical Air Command
TCA	1,1,1-Trichloroethane
TEU	Technical Escort Unit

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LIST OF ACRONYMS (Cont.)

TCE	Trichloroethylene
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
USAF	United States Air Force
UST	Underground Storage Tank
UXO	Unexploded Ordnance
WMM	Waste Military Munitions
WWTP	Wastewater Treatment Plant

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Patrick Air Force Base, FL 32925-3239
February 2009

OPLAN 19-14, Petroleum Products And Hazardous Waste Management Plan **BASIC PLAN**

REFERENCES

Air Force Manuals

AFMAN 23-110
AFMAN 10-401
USAF Project Manager's Guide for Design and Construction

Air Force Instruction

AFI 32-7042 Solid and Hazardous Waste Compliance
AFI 23-502 Recoverable and Unusable Liquid Petroleum Products
AFI 32-2001 The Fire Protection Operations and Fire Prevention Program

CAA. Clean Air Act, Public Law PL 91-604, 40 CFR 50-80

EPA has jurisdiction. Effective December 31, 1970, it has been significantly amended several times. The regulatory vehicle that sets and monitors airborne pollution hazardous to public health or natural resources. The EPA sets national ambient air-quality standards. Enforcement and issuance of discharge permits are carried out by the states.

CERCLA. Comprehensive Environmental Response, Compensation & Liability Act.

The Superfund Law, Public Law PL 96-510, 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 the release of the waste material.

CWA. Clean Water Act. Public Law PL 92-500

Found at 40 CFR 100-140 and 400-470. Effective November 18, 1972, and amended significantly since then. EPA and Army Corps of Engineers have jurisdiction. CWA regulates the discharge of nontoxic and toxic pollutants into surface waters. EPA sets guidelines, and states issue permits (NPDES, Natural Pollutant Discharge Elimination System permit) specifying types of control equipment and discharges for each facility.

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DoD Manual

4160.21-M, Chapter XI, Precious Metal Recovery Program

DoD Regulation

4145-19-1 Storage and Materials Handling

FAC (Florida Administrative Code)

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

HCS. Hazard Communication Standard

OSHA requires chemical manufacturers and importers to assess the hazards associated with the materials in their work place (29 CFR 1910-1200), and provide Material Safety Data Sheet upon request. It requires training for all personnel who use or handle hazardous materials.

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

HSWA. Hazardous and Solid Waste Amendments 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.

OSHA. Occupational Safety and Health Act, 29 CFR Part 1910.120 Personnel Training Requirements

RCRA. Resource Conservation and Recovery Act, PL 94-580

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 (CFR)

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-284 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

SARA. Superfund Amendments and Reauthorization Act

Signed into law October 17, 1986. Title III of SARA is known as the Emergency Planning and Community Right-to-know Act of 1986. It is a revision and extension of CERCLA. SARA is intended to encourage and support local and state emergency planning efforts. It provides citizens and local governments with information about potential chemical hazards in their communities. SARA calls for facilities that store hazardous materials to provide officials and citizens with data on types (flammable, corrosives, etc.); inventories (daily, yearly); and their specific locations.

45th Space Wing Operating Plans

- Comprehensive Emergency Management Plan (CEMP) Plan 10-2 Volume II
- Hazardous Material (HAZMAT) Emergency Planning and Response
- PCB Items Control Plan (OPLAN 19-16)
- 45 SW Ozone Depleting Substance (ODS) Management Plan
- 45 SW Lead Management Plan
- 45 SW Integrated Solid Waste Management Plan
- 45 SW Asbestos Management Plan

45th Space Wing Instructions

- 23-101 Precious Metals Recovery Program

TSCA. Toxic Substances Control Act. Public Law PL 94-469

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 biphenyls.

TASKED ORGANIZATIONS. See Annex B for a list of tasked organizations.

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1. GENERAL

a. Scope

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

(2) This plan applies to all 45th Space Wing (SW) personnel, contractor, and tenant organizations that generate waste on Cape Canaveral Air Force Station (CCAFS), Patrick Air Force Base (PAFB), the Florida Annexes and all downrange licensed or operated sites. Non-Department Of Defense (DoD) tenants (i.e., National Aeronautics and Space Administration (NASA), Department of State (DOS) and US Coast Guard (USCG)) are responsible for environmental compliance, waste management and disposal in accordance with (IAW) applicable regulations under their own Environmental Protection Agency (EPA) Identification Number. Commercial Contractors that are required to obtain their own the EPA Identification Number for their commercially generated waste may also be required to adhere to this plan.

(3) US Air Force (USAF) hazardous waste operations on PAFB are identified by EPA ID number FL2570024404. PAFB stores hazardous waste in excess of 90 days under a permit issued by the Florida Department of Environmental Protection (FDEP).

(4) USAF hazardous waste operations on CCAFS are identified by EPA ID number FL2800016121. CCAFS stores hazardous waste in excess of 90 days and operates a thermal treatment unit (TTU) under a permit issued by FDEP.

(5) USAF hazardous waste operations on Malabar Transmitter Annex (MTA) are identified by EPA ID number FLD981932395. USAF hazardous waste operations on Jonathan Dickinson Missile Tracking Annex (JDMTA) are identified by EPA ID number FLD982119257. Both MTA and JDMTA may operate as Conditionally Exempt Small Quantity Generators (CESQG) as long as the requirements of 40 CFR 261.5 are met.

(6) USAF hazardous waste operations on Ascension Auxiliary Air Field (AAAF) are identified by EPA ID number FL4570028452. USAF hazardous waste operations on Antigua Air Station (AAS) are identified by EPA ID number FL8590028454. Wastes generated from operations at these OCONUS locations are retrograded back to CONUS for treatment or disposal.

b. Policy

(1) In order to ensure uniformity and continuity on environmental issues, 45 CES Environmental Office will be the single point of contact with state, local and federal environmental regulatory agencies. Commercial contractors operating under a company specific EPA ID number are authorized to contact the state, local and federal environmental agencies directly after first notifying the Air Force.

(2) Each organization generating hazardous waste bears the responsibility for identifying, characterizing, segregating, containerizing, labeling, marking and minimizing their wastes IAW State and federal regulations. Each organization must also retain all records of their waste activities. The function of characterization of AF generated wastes is provided by MESOC via the Process Waste Questionnaire (PWQ) Technical Response Package (TRP) process.

(3) Organizations utilizing contracted services and contractors utilizing sub-contractors are responsible for ensuring their contractors comply with all federal, state, local and Air Force 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.

(4) Commercial contractors operating under an executed lease/license with the Air Force are required to obtain a company specific EPA ID number. Commercial contractors who obtain a company specific EPA ID number must manage and dispose of their hazardous waste under that number.

(5) 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.

(6) Environmental management and technical support for CCAFS, including tenants and 45 SW mainland sites, will be provided by the Environmental Support Contractor (ESC) as directed by 45 CES Environmental Office. PAFB environmental management will be provided by 45 CES Environmental Office. Downrange OCONUS sites will receive environmental management and technical support from Eastern Range Technical Support (ERTS) as directed by 45 CES Environmental Office. Per FDEP letter dated 29 April 1986 referencing 40 CFR 264.12, hazardous wastes from US installations overseas are legally within US jurisdiction and, therefore, cannot be considered a foreign source. Specific guidance for OCONUS downrange sites is provided in ANNEX J.

(7) Services for waste sampling, pickup, PWQ, TRP, packaging assistance and disposal of petroleum products, hazardous and controlled wastes are the responsibility of 45 SW/NASA Medical and Environmental Support Contractor (MESOC), unless otherwise specifically identified.

(8) Federal and State hazardous waste regulations and AF Instruction (AFI) 32-7042 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." The current direction from Headquarters Air Force Space Command (HQAFSPC) states that annual refresher training is required to be updated every thirteen months.

(9) Personnel must maintain and at the time of inspection by AF, 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 265.16. Training may be obtained by contractor "In-House", commercial or Government sources.

(10) 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.

(11) Polychlorinated Biphenyl (PCB) items will be managed in accordance with 40 CFR 761 and 45 SW OPLAN 19-16, PCB Items Control Plan.

(12) Asbestos management, removal and disposal shall be conducted IAW Federal, State, local regulations and 45 SW Asbestos Management Plan. Coordination with 45 CES Environmental Office and Bioenvironmental Engineering is required prior to any asbestos operations; to include disturbance, removal, or disposal.

(13) Government-owned wastes containing precious metals such as silver, gold or platinum should have the precious metals recovered IAW Air Force Manual 23-110, Vol 6, DoD Manual 4160.21-M, 45 SW Instruction 23-101, and 40 CFR 266 Subpart F. Management and disposal of precious metal bearing wastes prior to and after recovery must be IAW Federal, State and local regulations.

(14) Per 40 CFR 264.12 the US Air Force must notify both FDEP and EPA in writing four weeks prior to receipt of waste from a foreign source. For the Air Force to supply hazardous waste support to a foreign vessel the ESC office will need to be notified at least five weeks prior to the anticipated receipt of waste with the following information:

- the anticipated date of receipt,
- the nature of the waste (i.e. EPA waste codes),
- and the reason/requirement for off-loading the waste.

2. RESPONSIBILITIES

a. Environmental Safety and Occupational Health Committee

(1) The Environmental, Safety and Occupational Health Committee (ESOHC) is required by AFI 32-7005. The ESOHC meets semi-annually to discuss 45 SW environmental issues. The ESOHC membership is defined in AFI 32-7005. This committee has the important function of communicating environmental policy and environmental actions to Wing organizations. The ESOHC is responsible for Wing 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.

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

(a) Ensure that all activities in the organization implement procedures to comply with State and Federal hazardous waste laws, and 45 SW Environmental Policies and Plans.

(b) Provide organizational data to the 45 CES Environmental Office for environmental permit applications, compliance reports, and corrective response resulting from spill incident, regulatory inspections and enforcement actions.

(c) 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.

(3) The ESOHC appoints a Pollution Prevention Program Subcommittee to act for the ESOHC as needed for waste reduction, recovery, recycling, hazardous waste control, treatment, storage, transportation, and disposal.

b. 45 CES Environmental Office

(1) The office responsible for this plan.

(2) Provide technical assistance to operational activities and oversight of ESC, ERTS, CCAFS and PAFB contracts.

(3) Submits petroleum and hazardous waste reports to regulatory agencies as required by permits, State and Federal regulations.

(4) Oversees the Air Force hazardous waste training programs.

c. Aerospace Fuels Laboratory, OL DET 3 WR-ALC/AFTLH

(1) Provides chemical analyses of waste products for disposition purposes in a timely manner for all 45 SW generators as requested.

(2) Informs 45 CES Environmental Office when analytical requirements are in excess of laboratory capability.

d. Fire-Department PAFB, 45 CES/CEF

(1) Ensures fire protection equipment and base wide fire extinguishers are in working order.

(2) Responds to hazardous waste or materials spill/release incidents upon notification.

e. Bioenvironmental Engineering, 45 ADOS/SGGB

(1) For limited special circumstances and upon request, collects, prepares and coordinates sampling for analysis to an approved laboratory.

(2) As requested, and during routine surveys, identifies special personal protective equipment requirements for Air Force personnel.

f. Defense Reutilization & Marketing Office (DRMO)

(1) Markets excess and/or recyclable materials in accordance with Defense Logistics Agency (DLA) procedures and Federal, State and local regulations. Disposes of hazardous items that cannot be marketed.

(2) Upon request, obtains off-site disposal contracts IAW applicable regulations for hazardous and non-hazardous wastes and PCB items for all 45th Space Wing sites.

g. Environmental Support Contractor (ESC)

(1) Implements a Hazardous Waste Management Program for the 45th Space Wing as directed by 45 CES 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 CCAFS and other AF mainland sites. Generates, collects and consolidates technical data and prepares, revises, updates and implements hazardous waste management plans and procedures and performs the requirements of the Environmental, Safety and Occupational Health Compliance Assessment and Management Program (ESOH CAMP).

(2) On a quarterly basis, reviews and inspects all hazardous waste accumulation sites on CCAFS, PAFB and mainland annexes including tenants and contractors, to ascertain compliance with State, Federal and Air Force hazardous waste regulations and this plan. Provides written notification of inspection deficiencies to the environmental management of accumulation sites to ensure deficiencies are corrected in a timely manner; re-inspects sites to verify deficiencies have been corrected.

(3) Operates and maintains compliance at Air Force permitted hazardous waste storage facilities.

(4) 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 accumulations sites and inspections for site closures.

(5) Responds to all spills (hazardous materials, oil, fuel, etc.) at CCAFS for the purpose of information gathering and to provide technical assistance if requested. Provides all information gathered to 45 CES Environmental Office.

h. Infrastructure Operations and Maintenance Services Contractor (IOMS)

(1) Responds to all spills (hazardous materials, oil, fuel, etc.) at all 45 SW mainland sites. At CCAFS, 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 45 SW mainland locations. The organization responsible for the spill will be responsible for the management and disposal of all waste generated from the incident.

i. Medical and Environmental Support Contractor (MESC)

(1) Provides services for waste determinations, PWQ-TRPs, hazardous waste sampling, transportation, packaging assistance, and disposal of petroleum products, hazardous and controlled wastes.

(2) Provides written TRPs to the requester for all PWQs, KSC Form 26-551, within 14 working days after receipt of the PWQ. TRPs include technical assistance on matters of containerization, labeling, marking, handling and parameters for chemical analyses. See Table 1 for a list of generic TRPs.

(3) Provides proper containerization, when requested, for purposes of on base waste transportation and/or shipment to off-site disposal facilities.

(4) 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.

(5) 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.

(6) Dispositions or disposes of excess or contaminated propellants and propellant related wastes. These operations may include neutralization, treatment, reclamation, staging, off-site disposal contracting, or similar activities in accordance with current Federal, State and local regulations. Operates propellant hazardous waste accumulation areas.

(7) 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 ESC and 45 CES 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.

(8) The MESC does not support radioactive, infectious, refuse, or explosive ordnance disposal.

j. HazMart

HazMart is responsible for management and operation of the Air Force approved hazardous materials tracking system and of the hazardous materials storage and distribution facility. HazMart personnel are responsible for determining current condition 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.

k. Eastern Range Technical Support Contractor (ERTS)

(1) Implements a Hazardous Waste Management Program for the ERTS 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, provide training for all personnel managing hazardous wastes, 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 Environmental Office of all uncorrected deficiencies. Manages wastes IAW ANNEX J to this plan at downrange sites.

(2) Reviews and inspects IAW the US Air Force ESHOCAMP at all RTS operated facilities.

(3) Implements and supports this plan. Reviews and revises ANNEX J annually and provides revisions to 45 CES Environmental Office. Responds to all spills (hazardous materials, oil, fuel, etc.) at ERTS 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 Environmental Office of the release.

l. Facility Operating Organizations

(1) Each organization generating hazardous waste bears the responsibility for identifying, minimizing, packaging, labeling, marking, preparing the internal manifest, and ensuring record keeping is complete and up to date IAW 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.

(2) Problems complying with this plan or the State and Federal hazardous waste regulations should be addressed through organizational command channels to 45 CES Environmental Office as soon as possible. DO NOT DELAY IN IDENTIFYING A PROBLEM.

(3) Organizations utilizing contracted services are responsible for ensuring that their contractors comply with this plan and all applicable Federal, State, local and Air Force environmental regulations.

(4) Federal and State hazardous waste regulations and AF Instruction (AFI) 32-7042 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." The current direction from HQAFSPC states that annual refresher training is required to be updated every thirteen months. 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 265.16. Training may be obtained from contractor "In-House", commercial or Government sources.

(5) 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 ESC at 476-2310 or 853-6988 for CCAFS and PAFB **before** the 90th day.

(6) Every effort should be made to ensure that a PWQ has been completed for each waste stream prior to the generation of the waste or at any time the composition of an existing waste stream changes. The completed PWQ should be submitted to IHA-070/KSC, or emailed to PWQEnvrn@jbosc.ksc.nasa.gov. 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" (KSC Form 29-759, (Rev. 11/06))(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

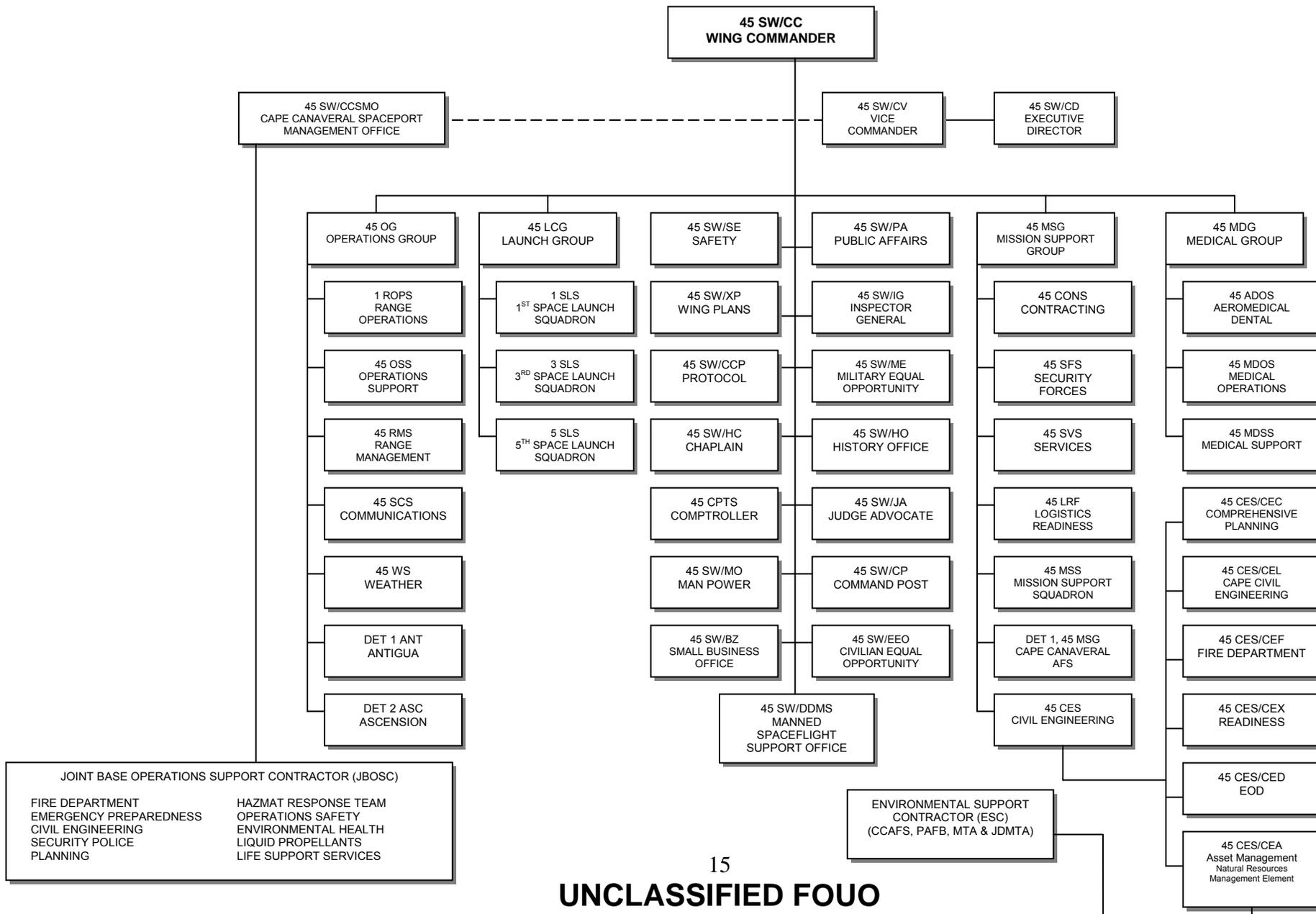
hazardous or non-hazardous), the accumulation start date will be defined as the date of the chemical analysis lab report.

m. 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.

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45 SPACE WING ORGANIZATIONAL CHART



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EMERGENCY PHONE NUMBERS PAFB ON-BASE ORGANIZATIONS

PAFB Organization	Duty Hours	After Duty Hours
Fire Department, EMERGENCY	911	911
Fire Chief (45 CES/CEF)	494-6805	494-7642
Hazardous Materials Response Team	911	911
Hospital, EMERGENCY	911	911
Law Enforcement, EMERGENCY	911	911
Law Enforcement Desk	494-2008	494-2008
Central Security Control	494-5704	494-5704
45 SW Command Post	494-7001	494-7001
45 CES Environmental Office	494-7288	494-7642
45 CES/CEX Readiness Flight	494-4224	494-7001
45 CES/CED Explosives Ordnance Disposal	494-5889	494-7001
45 ADOS/SGGB (Bioenvironmental Engineering)	494-5435	494-7001
45 CES/CECBB (Base Comprehensive Planning)	494-4427	494-7642
45 th Transportation Squadron Dispatch	494-7247/7113	494-7001
45 WS Weather Forecaster	853-8484	853-8484
45 SVS/SVMXM (Mortuary Affairs)	494-7478	494-7001
45 SW Judge Advocate	494-7357	258-3918/7316
Cell Phone Emergency Numbers	853-0911/867-7911	853-0911/867-7911

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EMERGENCY PHONE NUMBERS CCAFS ON-BASE ORGANIZATIONS

CCAFS Organization	Duty Hours	After Duty Hours
Fire Department, EMERGENCY	911	911
Fire Chief	853-9251	853-9253
Fire Dept. Hazardous Material Response Team	853-9253	853-9253
Law Enforcement, EMERGENCY	911	911
Central Security Support	853-2121	853-2121
IOMS Duty Office	853-5211	853-5211
Detachment 1, 45 MSG/CC	853-3900	853-5211
Environmental Support Contractor (ESC)	853-6951	853-5211
Emergency Preparedness	853-6861	853-5211
MESC Industrial Hygiene	857-2400	861-5211
ISC Emergency Preparedness	853-6861	853-5211
ISC Propellants	861-9291	861-5050
MESC Post-emergency Spill Cleanup Team	861-5318	853-5211
MESC Environmental Compliance and Public Health	867-7138	853-5211
Vehicles and Equipment	853-5330	853-5211
Ordnance	853-7322	853-5211
45 SW Weather Forecaster	853-8484	853-8484
45 SW Range Safety	494-8281	1-800-SKYPAGE (501-2776)
NOTU Duty Office	853-1244	853-1244
Harbor Control/Dock master	853-1244	853-1244
US Coast Guard Port Canaveral	853-7601	853-7601

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EMERGENCY PHONE NUMBERS OFF-BASE ORGANIZATIONS

Federal

Organization	Phone
Association of American Railroad Hazardous Material Systems Bureau Of Explosives (BOE)	1-800-424-9300
Center for Disease Control	1-404-639-3534
CHEMTREC	1-800-424-9300
CHLOREP, Chlorine Emergency	1-800-424-9300
Drug Information Center	1-800-222-1222
EPA Emergency Planning Hotline	1-800-535-0202
EPA RCRA Superfund Hazardous Waste/Emergency Response	1-800-424-9436
EPA Region IV On-Scene Coordinator	1-404-881-4062
National Response Team (EPA) (same as NRC)	1-800-424-8802
NIOSH National Institute of Occupational Safety and Health	1-800-356-4674
Poison Control Center	1-800-777-6476
US Department of Energy	1-615-574-5454
Us Department of Transportation	1-800-424-8802
US Fish and Wildlife Service	1-800-344-9453
Merritt Island National Wildlife Refuge	321-861-0667

State

Organization	Phone
Central District Orlando, Department of Environmental Protection	1-407-894-7555
Headquarters Tallahassee, Department of Environmental Protection	1-850-245-2118
State of Florida EPCRA Warning Point	1-800-320-0519

County

Organization	Phone
Sheriff, EMERGENCY	911
Fire Department, EMERGENCY	911
Brevard County Emergency Management	321-637-6670
Florida Marine Patrol	321-383-2740
Brevard County Sheriff	321-264-5201
Florida Highway Patrol	321-690-3900
American Red Cross	321-732-7141

List of Generic TRPs

The following table lists examples of existing waste streams found on CCAFS and PAFB and their associated Process Waste Code (PWC). The generic TRPs and associated PWCs are dynamic in nature and are subject to change. This table is to be used for guidance in determining disposal of the wastes listed in the table. It is not intended to eliminate the Process Waste Questionnaire (PWQ) process. New waste streams, which do not conform, to an established TRP require a PWQ to be completed and submitted to MESC for processing. The generic TRP must always be accompanied by a signed PWQ from the generating organization to validate the relationship between the waste stream and the TRP Waste Description.

WASTE	PWC
Waste Isopropanol Solution (>24%, FP < 73 °F)	HJ0004 ¹
Waste Isopropanol Solution (>24%, 73 °F ≤ FP ≤ 141 °F)	HJ0005
Hydrocarbon fuel contaminated with halogenated solvents (FP > 200 °F)	HJ0041
Hydrocarbon fuel contaminated with halogenated solvents (141 °F ≤ FP ≤ 200 °F)	HJ0042
Hydrocarbon fuel contaminated with halogenated solvents (73 °F ≤ FP ≤ 141 °F)	HJ0043
Waste Paint Related Materials (FP<73 °F)	HJ0055
Waste Paint Related Materials (73 °F ≤ FP ≤ 141 °F)	HJ0056
Wipes, brushes, swabs, etc. contaminated with Spent Solvents listed under F001, F002, F005	HK0009
Contaminated debris, including applicators, wipes, absorbents, hoses, sand/grit, etc. contaminant residuals include "petroleum" derived hydrocarbons such as diesel fuel, gasoline and other fuels, oils, greases or mixtures thereof.	ND0003 ⁵
Used oil, automotive	UR0001 ³
Unneeded diesel fuel	SR9001 ⁴
Unneeded gasoline, Mogas	SR9003
Intact, Spent Fluorescent tubes	TD0001 ²
Intact, Spent High Intensity Discharge Lamps (high pressure sodium, mercury vapor, metal halide)	TD0006
Used or Unused mercury batteries	TD0007

1. All codes beginning with H are codes for hazardous wastes
2. All codes beginning with T are codes for universal wastes
3. All codes beginning with U are codes for used oil
4. All codes beginning with S are codes for surplus product
5. All codes beginning with N are codes for non-hazardous waste other than oils and diesel fuel

Note: A comprehensive list of all of the TRPs can be found at
<http://jbweb01.ksc.nasa.gov/external/chs/omehs/ehs/home/wm.cfm>

3. WASTE ACCUMULATION AREAS

a. <90-Day Hazardous Waste Accumulation Sites

(1) Hazardous waste < 90-day Accumulation Sites should be approved by the Base Fire Department prior to construction and/or use. 45 CEs Environmental office and ESC must be notified prior to generator establishment of new < 90 day Accumulation Sites.

(2) The Accumulation Start Date and the words "HAZARDOUS WASTE" must be written on each hazardous waste container at <90-day accumulation sites the day the first drop of hazardous waste is placed in the drum.

(3) There is no limit to the volume of waste that can be accumulated at a <90-day hazardous waste accumulation site.

(4) Hazardous waste must be moved from the <90-day accumulation site to the on-base permitted storage facility or shipped off-site to a permitted treatment, storage, and disposal facility (TSDF) within 90 days from the accumulation start date. Notify 45 CES Environmental office or ESC immediately if there are suspected problems with meeting these requirements.

(5) Funnels are not allowed to remain in drums that are stored in a <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 <90-day accumulation sites must have the drum ring or a quick release ring securely in place around the drum.

(6) Controlling access to active portion of the site by use of fences or other barriers (i.e., locked doors) is recommended.

(7) To further control access to <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.

(8) Sites must have signs identifying the hazardous waste site manager by name and manager's phone number.

(9) "No smoking" signs are required where ignitable and reactive wastes are stored.

(10) Incompatible materials must be segregated and segregated areas should be placarded to identify waste types, i.e., Ignitable, Reactive, Corrosive.

(11) 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.

(12) A water source at an adequate volume to supply hoses and/or sprinklers is required. Emergency eyewashes and showers are recommended.

(13) 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.)

(14) 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 local police departments or fire departments should be present.

(15) Sufficient aisle space must be maintained between rows of drums to allow unobstructed movement of emergency personnel to any area of facility operations.

(16) 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 2, Recommended List of Emergency Response Equipment. Neutralizers, in sufficient quantity to neutralize acid or caustic spills, are recommended for all facilities handling acids or caustics.

(17) 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.

(18) Ensure ignitables are grounded and bonded to a ground when adding waste to containers or removing waste from containers.

(19) A copy of the current 45 SW OPLAN 19-14, Waste Petroleum Products and Hazardous Waste Management Plan with revisions must be maintained and readily available.

(20) A copy of the current 45 SW CEMP 10-2 Volume II must be maintained and readily available.

(21) PWQs, associated chemical analyses, supporting MSDSs, and the resultant TRPs must be retained by the generator for three years from the date the waste is last generated.

(22) Records for all facility personnel who manage hazardous waste accumulation site(s) must meet the requirements of 40 CFR 265.16. 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.

(23) 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 ANNEX H.

(24) A copy of any reports of spills, fires, or explosions relating to facility operations and documentation of subsequent communications and clean-up actions must be maintained and readily available. See the spill reporting format and requirements in the current 45 SW CEMP 10-2 Volume II.

(25) 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.

(26) Training records on former employees must be kept for at least three years from the date the employee last worked at the facility.

b. Hazardous Waste Satellite Accumulation Points

(1) Hazardous waste Satellite Accumulation Points should be approved by the Base Fire Department prior to construction and/or use. 45 CES Environmental Office and ESC must be notified prior to generator establishment of new Satellite Accumulation Points.

(2) A Satellite Accumulation Point has an indefinite accumulation time, but there is a maximum of only 55 gallons per waste stream of hazardous waste, or one quart of acutely hazardous waste (P listed, i.e., P078) that 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 1 quart of acutely hazardous waste.

(3) 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.

(4) 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.

(5) 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.

(6) All open top drums in 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.

(7) 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.

(8) Signs identifying the accumulation points manager and manager's phone number are required where accumulation points are located outside and are recommended for inside accumulation points where feasible.

(9) A copy of the current 45 SW OPLAN 19-14, Petroleum Products and Hazardous Waste Management, and the current 45 SW CEMP 10-2 Volume II, must be maintained and readily available.

(10) Documentation of annual hazardous waste training is required by AFI 32-7042.

(11) PWQs, associated chemical analyses, supporting MSDSs, and the resultant TRPs must be retained by the generator for three years from the date the waste was last generated.

(12) Records for all facility personnel who manage hazardous waste accumulation site(s) must meet the requirements of 40 CFR 265.16. 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.

c. Non-Hazardous Waste Accumulation Areas

(1) Non-hazardous waste accumulation sites should be approved by the Base Fire Department prior to construction and/or use. 45 CES Environmental Office and ESC must be notified of new non-hazardous waste accumulation sites.

(2) 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.

(3) All waste accumulation containers should be labeled to clearly identify the contents of the containers.

(4) Although RCRA record keeping is not required for non-hazardous waste accumulation sites, it is recommended that a copy of the current 45 SW OPLAN 19-14, Petroleum Products and Hazardous Waste Management, and the current 45 SW FRP 10-2 Volume II, be maintained and readily available.

4. PERMITTED WASTE STORAGE AND TREATMENT FACILITIES

a. Permitted Hazardous Waste Storage Facilities

(1) 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 PAFB and CCAFS. 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.

(2) The Permitted Storage Facilities can store Land Disposal Restricted (LDR) hazardous wastes for one year (See 40 CFR 268.50b). 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)).

(3) The Permitted Hazardous Waste Storage facilities at CCAFS and PAFB are operated in accordance with the current FDEP Permits by the ESC and 45 CES Environmental Office.

(4) Physical requirements for the Permitted Storage facilities are listed in the respective permit and permit application.

(5) Permitted facility standards are listed in the permit and permit application and in 40 CFR 264.

(6) 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**

(7) Permitted facilities must have a copy of the current FDEP hazardous waste permit and the site specific hazardous waste contingency plan, and this plan (OPLAN 19-14).

(8) Operating records as defined in the facility permit, 40 CFR 264.73 and ANNEX G must be kept until closure of the facility per 49 CFR 264.74.

(9) 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:

(a) Description by common name and EPA hazardous waste number(s) that apply to the waste.

(b) Physical form of the waste, i.e., liquid, solid, sludge, or contained gas.

(c) The estimated weight, or volume and density (i.e., P = pounds).

(d) The method by handling codes and date(s) of treatment (i.e., T18=open burn/open detonation), storage (i.e., S01= containers), or disposal (i.e., D81=landfill).

(10) Each facility must have signs identifying the facility manager by name and manager's phone number.

(11) "No smoking" signs are required where ignitable and reactive wastes are stored.

(12) Incompatible materials must be segregated and segregated areas should be placarded to identify waste types, i.e., Ignitable, Reactive, Corrosive.

(13) 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.

(14) A water source at an adequate volume to supply hoses and/or sprinklers and emergency showers/eyewashes is required.

(15) 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.

(16) 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.)

(17) 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.

(18) Sufficient aisle space must be maintained between rows of drums to allow unobstructed movement of emergency personnel to any area of facility operations.

(19) 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 ANNEX H.

(20) 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.

(21) Training records on former employees must be kept for at least three years from the date the employee last worked at the facility.

b. Permitted Hazardous Waste Thermal Treatment Facility

(1) The Explosive Ordnance Disposal (EOD) facility located at facility 15305 CCAFS is permitted to treat solid reactive ordnance hazardous wastes (waste code D003 only) as defined in the FDEP permit application.

(2) The treatment limit is 60 pounds Net Explosive Weight (NEW) per event. Items which are not identified in the permit or which exceed 60 pounds NEW will be treated only after FDEP issues a one time Emergency Permit. This permit application must be submitted to FDEP by 45 CES 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 Environmental Office for submittal to FDEP within the timelines established by the emergency permit.

(3) Physical requirements for the Permitted EOD thermal treatment facility are listed in the permit and permit application.

(4) 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**

(5) Permitted facilities must have a copy of the current FDEP hazardous waste permit and the site specific hazardous waste contingency plan and this plan (OPLAN 19-14).

(6) Operating records as defined in the facility permit must be kept until closure of the facility.

(7) A log must be maintained for each permitted facility. This log must include the following:

(a) Description and quantity of each hazardous waste received and treated and dates of its treatment.

(b) Weather conditions to include humidity, weather forecast, wind speed, and wind direction at each treatment event.

(c) The method by handling code of treatment (i.e., T18=open burn/open detonation).

(8) The treatment activities at this facility may only be accomplished by DoD Explosive Ordnance Disposal (EOD) personnel or civilian contractors specifically trained in accordance with EOD procedures and under the following conditions:

(a) Daylight hours

(b) Wind speeds less than or equal to 15 mph

(c) No electrical storms within 3 miles of the Open Burn Unit

(d) No forecast of a major storm

(e) No inversion forecast

(f) Maximum of 60 pounds Net Explosive Weight treated per event

(9) A sign identifying the area manager by name and manager's phone number must be posted at the satellite accumulation point.

(10) "No smoking" signs are required

(11) Fire protection to assure confinement and control of any fire resulting from the operation is required.

(12) 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.

(13) Emergency response actions are exempt from all permit requirements.

RECOMMENDED LIST OF

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EMERGENCY RESPONSE EQUIPMENT

<u>Item Description</u>	<u>Stock Number</u>
Absorbent	7930-00-269-1272
Absorbent Material, Oil and Water Apron, Disposable	7920-00-269-1272
Apron, Disposable	8415-00-222-8074
Apron, Rubber	9415-00-634-5023
Bags, w/ties, 2 mil polyethylene	8105-00-848-9631
Bleach, household, sodium hypochlorite	6810-00-598-7316
Broom, 18' push, synthetic fibers	7920-00-243-3407
Boots, Rubber	
Brush, Shop	7920-00-282-2470
Bungs, Small (Drum, Plug)	8110-00-132-9639
Bungs, Large (Drum, Plug)	8110-00-132-0740
Bung Wench, spark-proof	5120-00-244-4389
Container, Shipping	8140-01-054-6702
Coveralls, 100% cotton (small)	8405-00-131-6507
Coveralls, 100% cotton (medium)	8405-00-131-6506
Coveralls, 100% cotton (large)	8405-00-131-6509
Coveralls, one-piece plastic (24)	8415-01-092-7530
Detergent, Liquid	7930-00-598-7316
Drum, 85-gal steel, removable. head, disposal, UN1A2	8110-01-101-4055
Drum, 85-gal steel, removable head, spill recovery, UN1A2	8110-01-101-4056
Drum, 55-gal steel, closed head, poly-ethylene liner, UN6HA1	8110-00-597-2353
Drum, 55-gal steel, removable head, UN1A2	8110-00-823-8121
Drum, 30-gal steel, removable head, UN1A2	8110-00-030-7779
Drum, 5-gal steel, closed head, UN1A2	8110-00-282-2520
Drum, UN6HA1	8140-01-054-6702
Drum, UN1A1	8140-01-054-6702
<u>Item Description</u>	<u>Stock Number</u>
Drum, UN1A2	8140-00-054-6702
Drum, Overpack (85 gal), UN1A2	8140-01-101-4055
Drum, Shipping and Storage	8110-00-113-8059
Drum lifting tool	
Face Shield	4240-00-542-2048
Funnel, metal, uncovered, 1-qt	7240-00-527-9868
Funnel, Plastic, with lid, 1-qt.	7240-00-404-9793
Gloves	8415-01-033-3518
Gloves, small	8415-01-033-3517
Goggles, Plastic	4240-00-052-3776
Labels, Blank, Hazardous Waste	
Marker, Permanent, Sharpie	7520-00-312-6124
Neoprene Gloves (small)	8415-00-753-6551
Neoprene Gloves (medium)	8415-00-753-6553
Neoprene Gloves (large)	8415-00-753-6554
Pallets, hardwood, 48" x 48"	3990-00-959-0743

Pan, Dust	7920-00-224-8308
Paper, pH (10 rolls/box)	6640-00-442-9005
Pesticide Cartridges	4240-00-218-0779
Plug, Drum	8110-00-132-9640
Pump, drum, manual	4930-00-276-0087
Respirators	4240-00-268-9732
Rope, Nylon, 1/26	4020-00-968-1357
Sheeting, Plastic, Black	8135-00-579-6487
Shovel, handles square-point "D"	5120-00-224-9326
Sodium Bicarbonate (baking soda), (100 lb. bag)	6810-00--597-0092
Spigot, Drum, Self-closing	4510-00-595-1785
Spigot, Drum, level	4510-00-580-2958
Texwipes, 12" x 12"	7920-PT-X612
Towel, paper, 11 1/2"	7920-00-982-1203
Tubing, polyethylene, 1/2"	4720-00-203-3912

NOTE:

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.
4. Non-military personnel can find the above listed products through commercial vendors.

c. Uniform Hazardous Waste Manifests And Land Disposal Restriction Certifications

(1) Any waste shipped to or received from off-site facilities must be accompanied by a Uniform Hazardous Waste Manifest EPA Form 8700-22 unless the generator is a conditionally exempt small quantity generator per 40 CFR 261.5.

(2) Only personnel designated in writing by the 45 SW/CC are authorized to sign a Uniform Hazardous Waste Manifest for the 45 SW.

(3) A land disposal restriction (LDR) certification shall be completed for all land disposal restricted hazardous wastes shipped off-site. The certification must accompany the Uniform Hazardous Waste Manifest.

(4) In accordance with 40 CFR 268.9, if the waste is a characteristic hazardous waste (waste codes D001-D043), the Underlying Hazardous Constituents (UHC) as defined in 40 CFR 268.2(i) must be determined. A notification of the UHCs for the waste must be completed and accompany the Uniform Hazardous Waste Manifest.

(5) The original of each completed manifest with the appropriate signatures (signed in blocks 16, 17 and 20) must be received by 45 CES Environmental Office within 45 days after receipt of hazardous waste at the treatment, storage or disposal facility. Uniform Hazardous Waste Manifests, LDR and UHC certifications and associated reports will be maintained in the ESC Environmental office for waste generated on CCAFS and mainland annexes and in the 45 CES Environmental Office for waste generated on PAFB and OCONUS downrange sites.

(6) Copies of the Uniform Hazardous Waste Manifest and Land Disposal Restriction Certificates for commercial wastes generated on Air Force property shall be made available for review by 45 CES Environmental Office as required by executed lease/license requirements. If a lease/license has not been executed between the commercial user and the Air Force, then copies of the documents will be provided to 45 CES Environmental Office on an annual basis.

d. Training Requirements

(1) The Hazardous Waste Training Plan (ANNEX G) is part of the hazardous waste permits for PAFB and CCAFS, and compliance is required.

(2) Air Force Instruction (AFI) 32-7042, requires all personnel managing or handling hazardous waste must receive hazardous waste training annually. All personnel who are required by 40 CFR 265.16 and/or the FAC to receive hazardous waste training shall be trained no later than 6 months after assignment to hazardous waste duties. 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." The current direction from HQAFSP states that annual refresher training is required to be updated every thirteen months. 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 265.16(d) for inspection purposes. Training may be obtained by contractor "In-House", commercial or Government sources.

(3) It is recommended that all personnel who handle non-hazardous wastes or manage non-hazardous waste accumulation sites also receive training.

(4) Personnel who manage the permitted hazardous waste storage facilities or who are authorized to sign Uniform Hazardous Waste Manifests must complete DOT training IAW 49 CFR 172.704 once every 3 years. Hazardous Waste Operator training IAW OSHA (29 CFR 1910.120) is also required for permitted storage and treatment facility personnel.

(5) Training is available through the ICS Contractor by calling 867-7750. ESC is also a source for obtaining training; however, funding for such training is the

responsibility of the organization requesting the training. Personnel assigned to PAFB should contact 45 CES Environmental Office at 494-2899 to inquire about available training given at PAFB.

5. INSPECTION REQUIREMENTS

a. Hazardous Waste Permitted Facilities And <90-Day Accumulation Sites

(1) The Hazardous Waste Inspection Plan (ANNEX H) is a part of the hazardous waste permits for PAFB and CCAFS and compliance is required.

(2) The inspection checklist in ANNEX H is the only approved Hazardous Waste Site Inspection Checklist for permitted facilities and is the recommended Waste Site Inspection Checklist for <90-day accumulation sites. Inspections must be conducted and recorded weekly (once every 7 days) by trained hazardous waste personnel.

(3) Tanks used for accumulation of hazardous waste must be inspected and the inspection recorded at least once each operating day by the trained hazardous waste personnel. EPA has clarified that "each operating day" has been defined as "every day the tank is in operation (i.e., storing or treating hazardous waste) and not necessarily just on days the facility is open for business."

b. Hazardous Waste Satellite Accumulation Sites And Non-Hazardous Waste Satellite Accumulation Sites

Although documented inspections are not required for Hazardous Waste Satellite Accumulation Sites and Non-hazardous Waste Satellite 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.

6. DISPOSITION OF WASTE

a. Process Waste Questionnaires And Technical Response Packages

Waste generating organizations at PAFB and CCAFS and mainland annex shall provide a Process Waste Questionnaire (PWQ) for each waste stream prior to waste generation (Diagram 1). Provide as much information on the PWQ as possible about the waste stream, such as waste generating processes, chemical analysis, and/or Material Safety Data Sheets (MSDS) for the materials used to generate the waste. Organizations that generate characteristic waste must identify any Underlying Hazardous Constituents (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. The completed PWQ should be submitted to the organizational Hazardous Waste Environmental Coordinator (if applicable) for review and completion, if necessary. Once the Environmental

Coordinator has determined the PWQ to be complete, it must be submitted to the MESC, Mail Code: IHA-070/KSC. or Fax to 867-9390 Annt: PWQ or e-mail to KSC-PWQ-Environmental@mail.nasa.gov

(1) . 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 Technical Response Package (TRP).

(2) A Process Waste Code and handling information will be provided in writing through a TRP prepared and provided by the MESC within 14 working days after submission of each PWQ. The TRP provides a waste determination as well as information pertaining to required labels, markings, container, 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 14 working days, contact the MESC or your environmental coordinator to determine the status of the evaluation.

(3) Any questions or concerns about a particular waste stream shall be answered by the generator or the generator's Environmental Coordinator. Disagreements between the MESC and the generator or the generator's Environmental Coordinator on a particular waste stream shall be resolved by the 45 CES Environmental Office.

(4) 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.

(5) The DRMO can also be used for disposal of waste products if authorization is requested and received from 45 CES Environmental Office. The documentation required by the DRMO is found in DOD 4160.21M, Defense Reutilization and Marketing Manual and all applicable changes to that manual. Documentation for turn-in of waste products to the DRMO is the responsibility of the generating organization.

(6) No wastes or rinsates may be discharged to the sanitary sewer system without prior authorization provided by IOMS through the PWQTRP system.

(7) 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 45 CES Environmental Office.

b. Sampling And Analysis Support

(1) 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.

(2) Sampling and analysis support is requested by submitting a Sampling and Analysis Authorization Form (see Diagram 2) to MESC Sampling (Fax 867-3694) or by calling 861-8633. 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 MESC Sampling to make sampling and analysis arrangements, they will require the same information.

(3) MESC Sampling will provide a tracking number for the sampling operation. The generator or Environmental Coordinator shall retain this number for future reference.

c. Waste Pick Up Support

(a) The generator must complete the PWQ/TRP process for a waste stream prior to requesting waste pickup support.

(2) For PAFB waste pick-up contact ESC at 476-2310/853-6988. For all other locations, Waste Support Request Form (See Diagram 3) must be used to request waste pick-up support and should be submitted to the MESC by fax at 867-9466 or by mail to: IHA-361/ KSC.

(3) 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 MESC at 861-1330, 861-5319 or 861-5318. If generator has been unable to reach MESC to confirm pick up, they may contact ESC at 476-2310 or 853-6988 to ensure pick up prior to the 90th day of accumulation.

(4) Pick up support for waste located at a Satellite Accumulation Site should be requested once either 55 gallons of hazardous or 1 qt of acutely hazardous waste has been accumulated. 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 MESC and the waste must be moved within 72 hours. The date must be placed on the container once additional waste is generated. The waste generator should contact MESC waste operations by phone to confirm receipt of an emergency or urgent waste support request.

(5) Any problems that a generator or Environmental Coordinator encounters with receiving, sampling, analysis or waste pickup support should be relayed to the ESC or directly to the 45 CES Environmental Office.

(6) At the time of waste pickup, the generator or Environmental Coordinator shall provide an Internal Controlled Waste Manifest (see Diagram 4: KSC Form 26-541 and corresponding instructions) with each waste to be picked up by MESC. The internal manifest corresponds directly with the PWQ/TRP and should be filled out accurately prior to the scheduled pick of waste. The electronic version of KSC Form 26-541 may be substituted for the 4-part carbon form. However, at least 3 copies should be provided at the time of waste pick up.

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Diagram 1

PROCESS WASTE QUESTIONNAIRE				Environmental Health use ONLY					
Control Number: 06				Evaluator: _____ WPC1: _____					
Initial Date: _____				Complete Date: _____					
A. Generator PWQ Number: _____									
B. Generating Organization: _____				C. Environmental Coordinator: _____		Mail Code: _____	Phone: _____		
E-mail: _____									
D. Waste Location and Onsite Point of Contact									
Site Point of Contact: _____				Site Description: _____					
POC Phone Number: _____				Site Building Number: _____					
E. Process Information									
Generation Rate: Amount _____ Unit _____ per <input type="checkbox"/> One Time <input type="checkbox"/> Launch <input type="checkbox"/> Year <input type="checkbox"/> Other, specify: _____									
Description of Waste & Generation Process: _____									
F. Off-Specification or Outdated Chemical Products									
Manufacturer: _____				Product: _____		Container Type: _____			
Container Size: _____				Quantity: _____		Attach MSDS or complete G thru I below			
G. Waste Composition (List all constituents and give percentages of total volume - must total 100%)									
H. Chemical & Physical Characteristics									
1) Physical State: _____				12) Other Corrosive: _____					
2) PCBs: _____ ppm				13) Total Suspended Solids: _____					
3) Layers (Liquids Only): _____				14) Specific Gravity: _____					
4) Is this a Used Oil? _____				15) Viscosity: _____					
5) Is Material Pumpable? _____				16) Water Reactive: _____					
6) Color: _____				17) Free Cyanides: _____ ppm					
7) Odor Description: _____				18) Oxidizer: _____					
8) % Free Liquids: _____ %				19) Free Sulfides: _____ ppm					
9) Flash Point (F.P.)(Liquids only): _____				20) Explosive: _____					
10) Halogens Present: _____				21) Web site address for MSDS: _____					
11) pH (Aqueous only): _____				http:// _____					
I. TCLP Constituents (Attach completed analysis or fill in below)									
X	EPA Waste Code	Chemical Name	Regulatory Limit (mg/L)	Amount in Waste (mg/L)	X	EPA Waste Code	Chemical Name	Regulatory Limit (mg/L)	Amount in Waste (mg/L)
	D004	Arsenic	5.000			D025	p-Cresol	200.000	
	D005	Barium	100.000			D026	Cresol	200.000	
	D006	Cadmium	1.000			D027	1,4-Dichlorobenzene	7.500	
	D007	Chromium	5.000			D028	1,2-Dichloroethane	0.500	
	D008	Lead	5.000			D029	1,1-Dichloroethylene	0.700	
	D009	Mercury	0.200			D030	2,4-Dinitrotoluene	0.130	
	D010	Selenium	1.000			D031	Heptachlor	0.008	
	D011	Silver	5.000			D032	Hexachlorobenzene	0.130	
	D012	Endrin	0.020			D033	Hexachlorobutadiene	0.500	
	D013	Lindane	0.400			D034	Hexachloroethane	3.000	
	D014	Methoxychlor	10.000			D035	Methyl ethyl ketone	200.000	
	D015	Toxaphene	0.500			D036	Nitrobenzene	2.000	
	D016	2,4-D	10.000			D037	Pentachlorophenol	100.000	
	D017	2,4,5-TP Silvex	1.000			D038	Pyridine	5.000	
	D018	Benzene	0.500			D039	Tetrachloroethylene	0.700	
	D019	Carbon Tetrachloride	0.500			D040	Trichloroethylene	0.500	
	D020	Chlordane	0.030			D041	2,4,5-Trichlorophenol	400.000	
	D021	Chlorobenzene	100.000			D042	2,4,6-Trichlorophenol	2.000	
	D022	Chloroform	6.000			D043	Vinyl Chloride	0.200	
	D023	o-Cresol	200.000			None	Via analytical, generator knowledge of the process or MSDS, are there any TCLPs?		
	D024	m-Creso	200.000						
J. Underlying Hazardous Constituent Metals (Attach completed analysis or fill in below)									
		Antimony	1.9 mg/L WW	1.15 NWW			Nickel	3.98 mg/L WW	11 NWW
		Beryllium	0.82 mg/L WW	1.22 NWW			Thallium	1.4 mg/L WW	0.20 NWW

KSC FORM 26-551V2 (REV. 12/05) PREVIOUS EDITIONS ARE OBSOLETE

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PROCESS WASTE QUESTIONNAIRE INSTRUCTIONS

The generator is responsible for submittal of the necessary information for JBOSC Waste Management to perform the hazardous waste determination required by 40 CFR 262.11. Information may be determined from the generator's knowledge, or sampling and analysis of the waste. Material Safety Data Sheets (MSDSs), product bulletins, and product labels are valuable sources of generator's knowledge. Generator's 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, flash point, Toxicity Characteristic Leaching Procedure (TCLP), and identification of major components. Analytical information, MSDSs, and other written documentation used for generator's knowledge should be provided as attachments. For assistance in completing the form or determining sampling/analysis requirements, contact your Environmental Coordinator or JBOSC Waste Management.

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 to fulfill deficiencies, resulting in a delay of the waste evaluation.

Specific Instructions

- A. A sequential PWQ control number should be assigned by each generating organization for tracking purposes. It is recommended that the generator preface their generator PWQ tracking number with the first three characters of their waste process code (if known). For example, for Space Gateway Support, the first PWQ submitted could have a tracking number of SGS00001.
- B. The generating organization should be identified as the company or government branch who has compliance responsibility for the waste. The designated Environmental Coordinator for that organization will receive the waste evaluation upon completion by JBOSC Waste Management.
- C. Enter the name, e-mail address, mail code and phone number for the Environmental Coordinator.
- D. Enter the name of the onsite point of contact where the waste is being generated, the POC phone #, the site description (ie., Metal Working Shop, or Corrosion Control Facility), and the building number (if there is one).
- E. Enter the expected annual generation rate for the waste stream. Units of pounds (solids), gallons (liquids), or number/size of drums (ie., fifteen each 55 gal drums per year) are acceptable. Use per launch frequency if directly related to launch activity. Enter "One Time" if the waste will not recur. Enter a complete description of the waste generating process as well as a detailed description of the resulting waste.
- F. If the waste is an unused product complete this section. The generator should first consult applicable government property management instructions to determine if the material can be turned-in for re-utilization. An MSDS should be submitted to provide sufficient information to characterize off-specification or outdated chemical products. If an MSDS cannot be provided, sections G through I must be completed. If several unused chemical products require disposal, a list may be attached to the PWQ containing the required information for each product.
- G. Enter the complete waste composition. Ranges of composition are allowable. Trade names for product constituents may be used if MSDSs disclose the complete composition of the product. If not listed on the MSDS, the manufacturer may be contacted for this information.
- H. Physical and Chemical Characteristics:
 - 1) Physical State: Enter whether the waste (excluding container) is a solid, liquid, or gas.
 - 2) PCBs: Enter PCB concentration in ppm or enter "N/A" if not present.
 - 3) Layers: Enter single layer, multi-layer, bi-layer, or N/A. "Layering" may be estimated from MSDS data on water solubility or from laboratory analysis results.
 - 4) Is this a Used Oil? Enter Yes or No
 - 5) Is the Material Pumpable: Enter Yes or No
 - 6) Color: Enter the color of the waste
 - 7) Odor: Odor should be determined from MSDSs or other respiratory protection information. **Do Not Attempt to Sniff the Waste.**

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- 8) Are there Free Liquids: For fluid materials, enter the liquid content as free liquids. For semisolids, sludges, and highly viscous liquids, free liquids may be determined by analysis for "paint filter test". If the waste includes liquids which are enclosed in vials, ampoules, electronic components, or other containment, it is considered to contain free liquids.
 - 9) Flashpoint: Enter the exact flashpoint if known or a range. If there is no flashpoint, enter "None". If this is a solid material, enter "N/A". Closed Cup (CC) flash point must be specified for any waste which contains free liquids. Liquids which have no flash point or which boil and extinguish the flash point apparatus flame should be listed "> or = 200 F".
 - 10) Halogens Present: This is only required for used oil waste streams. If not a used oil, enter "N/A"
 - 11) pH: Enter the pH or a pH range for all aqueous solutions. If a solid or non-aqueous solution, enter "N/A". pH must be specified for aqueous wastes which contain free liquids.
 - 12) Other Corrosive: Other corrosives may be identified through examination of USDOT shipping descriptions for products used in the waste generating process.
 - 13) Total Suspended Solids: Total suspended solids is the solid portion of a waste that would be trapped by a fine (0.45 micron) filter.
 - 14) Specific Gravity: Enter specific gravity for liquids or specific weight (unit weight/volume) for solids.
 - 15) Viscosity: Enter Low, Medium, High or N/A (for solids or gases). Aqueous solutions are considered "low" viscosity, oily liquids are considered "medium" viscosity, and honey-like liquids are considered "high" viscosity.
 - 16) Water Reactive: Enter Yes or No. Water reactivity is defined as a material that reacts violently with water, forms potentially explosive mixtures with water, or generates toxic gases, vapors, or fumes when mixed with water.
 - 17) Free Cyanides: Enter free cyanide concentration in ppm or enter "N/A" if not present.
 - 18) Is the Material an Oxidizer: Enter Yes or No. Oxidizers may be identified through examination of USDOT shipping descriptions for products used in the waste generating process.
 - 19) Free Sulfides: Enter free sulfide concentration in ppm or enter "N/A" if not present.
 - 20) Is this Waste Explosive: Yes or No. Explosives may be identified through examination of USDOT shipping descriptions for products used in the waste generating process.
 - 21) Enter the web site address for the MSDS for this waste if applicable:
- I. Indicate the presence of TCLP constituents that exceed RCRA Regulatory levels. If the waste does not exceed the regulatory levels for any TCLP constituent then check the box for "None" at the end of the list. The presence of TCLP constituents above RCRA Regulatory levels may be determined by:
- 1) Sampling and analysis by the Toxicity Characteristic Leaching Procedure (TCLP), or
 - 2) Disclosure of all waste constituents with supporting MSDSs.
 - 3) Generator's knowledge of the process. The generator may use knowledge of the generating process to confirm that TCLP constituents are below RCRA Regulatory levels. This may include use of historical data, MSDS information, and/or thorough and complete knowledge of the waste stream composition and process. Generator knowledge must have supporting documentation.
- J. Indicate the presence of Underlying Hazardous Constituent metals (Antimony, Beryllium, Nickel and Thallium) above RCRA levels for either Wastewater or Non-wastewater, depending on the characteristics of your waste.
- ▷ Wastewaters are wastes that contain less than 1% by weight total organic carbon (TOC) and less than 1% by weight total suspended solids (TSS). [40 CFR 268.2(f)]
 - ▷ Nonwastewaters are wastes that do not meet the criteria for wastewaters.

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Diagram 2

REQUEST REF NO.:	SCHEDULE AUTHORIZATION				WORK CONTROL NO.:
REQUESTER NAME	PHONE	MAIL CODE	CHARGE NO.	PHONE	RECEIVED BY
DUE DATE/TIME	FAX	COMPANY	CONTACT	ALT PHONE	DATE AND TIME

<input type="checkbox"/> SAMPLE <input type="checkbox"/> ANALYSIS	LOCATION: BLDG/ROOM	TASK OR DESCRIPTION
NUMBER OF SAMPLES:		
COMPONENT:		
PURITY SPEC:		
PARTICLE:		
LEVEL OR CLASS:		
TYPE FITTING:		
PRESSURE:		
SYSTEM:		

<input type="checkbox"/> WASTE	WASTE DESCRIPTION
	PROCESS WASTE CODE

IF TCLP REQUIRED, SPECIFY TEST:

pH: FLASHPOINT:

VOLATILES NON-VOLATILES PESTICIDES HERBICIDES

TCLP METALS:

LEAD CADMIUM CHROMIUM MERCURY ARSENIC SELENIUM SILVER BARIUM _____

ANALYZE FOR:

CONTAINER TYPE:	TANK:	GAL	DRUM:	GAL	OTHER:	GAL
-----------------	-------	-----	-------	-----	--------	-----

CONTAINER NO.									
ASD.									

ADDITIONAL INFORMATION OR DISCREPANCIES:

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Diagram 3

Waste Support Request

Fax Request To: 867-9466

NOTE: All shaded areas must be completed. See reverse side for instructions

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

2. Pickup Priority (Check One) Emergency (24 hr) Urgent (72 hr) Routine (<15 days)

3. Waste Location (Facility Number) _____

4. Customer Name / Phone _____

5. Technical Contact On-Site / Phone _____

6. Job Order Number _____

7. Project Name _____

8. Requestor Fax Number _____ Request Date _____

9. Customer Tracking Number _____

(10) Waste Process Code	(11) Container Type	(12) Container Volume	(13) Number of Containers	(14) Accumulation Start Date	(15) Tag / Drum Number(s)

Comments

Service Order Number	Date Assigned
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WASTE SUPPORT REQUEST INSTRUCTIONS

1. **TYPE OF SUPPORT** - Other support includes labpack pickup, biomedical waste 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 or full accumulation tanks.
 - 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 fifteen 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. Phone number can include pagers.
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 pagers.
6. **JOB ORDER NUMBER** - Enter the Job Order Number associated with your fund source
7. **PROJECT NAME** - Enter the name of the project you are working under (Shuttle, Atlas, Delta, Titan) should correspond with the Job Order number.
8. **REQUESTOR FAX NUMBER / DATE OF REQUEST** - Enter the requestor's fax number here *Note this number will be used to return your assigned Service Order Number (SON) / enter date of request.
9. **CUSTOMER TRACKING NUMBER** - If your organization uses an internal tracking system, enter your company assigned number.
10. **WASTE PROCESS CODE** - Enter per Technical Response Package (TRP) issued under provisions of KHB 8800.7 OPLAN 19-14. (i.e. KSG - HAO001 - K60000)
11. **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.

12. **CONTAINER VOLUME** - Enter the volume of the container in gallons.
13. **NUMBER OF CONTAINERS** - Enter the number of containers-.
14. **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.

15. **TAG / DRUM NUMBER** - Enter the number located on bar code label - can/will be assigned at time of support.

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MANIFEST PREPARATION INSTRUCTIONS

1. Enter the date that the Waste Support Request, KSC Form 28-809, was submitted for the waste.
2. Enter the government or contractor name which generated the waste.
3. This field is for JBOSC Waste Management use only.
4. Enter the waste process code as assigned by JBOSC Waste Management on the Process Waste Questionnaire Technical Response Package (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 Job Order Number (JON) and Work Order Number (WON) to fund waste pickup and disposal. If unknown, the JON number can be obtained from the Government Environmental Program Office, and the associated WON can be obtained from JBOSC Waste Management.
8. Enter the name of the technical contact for the generating organization.
9. Enter the telephone number and the mail code of the technical contact for the generating organization.
10. Enter the size of each container to be picked up or pumped out as bulk transfer (by line item).
11. Enter the total volume of waste from all containers or from the bulk transfer in gallons.
12. Enter the D.O.T. specification number for each container or other descriptive information for each container (by line item). For a bulk transfer, indicate "TANK" under container type.
13. Enter the Accumulation Start Date (ASD) for hazardous waste, universal waste, or petroleum contact water.
14. 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 JBOSC Waste Management.
15. This field is for JBOSC Waste Management use only.
16. Enter D.O.T. basic description from the PWQ/TRP.
17. Enter the D.O.T. Labeling and RCRA Marking Requirements from the PWQ/TRP.
18. Enter the E.P.A. Hazardous Waste Number(s), if applicable, from the PWQ/TRP.
19. This field is for JBOSC Waste Management use only.
20. The generator may use this field to clarify manifest entries, if necessary. This field may also be used by JBOSC Waste Management to note any discrepancies or special handling instructions.
21. To be signed and dated by the technical contact who can certify the contents of the waste as they are identified on the manifest.
22. To be signed and dated by the transporter who picked up the waste or wastes identified on the manifest. A waste pickup tracking number will be assigned by JBOSC Waste Management.
23. To be signed by receiving facility representative upon receipt of the manifested waste at the treatment or storage facility.

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7. SPILLS/UNPLANNED OR NON-PERMITTED RELEASES OF HAZARDOUS MATERIAL OR WASTE

a. Policy

(1) All spills and unplanned or non-permitted releases of hazardous materials or of any wastes will be immediately reported to the installation fire department. This includes spills and releases from commercial operations and storage of commercial materials and wastes located on 45 SW properties, as well as spills and releases from any DoD or non-DoD organizations located on 45 SW properties. All spills will be handled IAW the current 45 SW CEMP 10-2 Volume II.

(2) All regulatory notifications concerning reportable quantities will be made by 45 CES Environmental Office excluding commercial contractors operating under an executed lease with the Air Force. 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.

b. Notification

(1) Report all spills or releases of hazardous material or waste on the installation by dialing 911 from a base phone or by dialing (321) 853-0911/867-7911 if using a cellular phone on CCAFS and (321) 494-7642 if using a cellular phone on PAFB. 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 and on Antigua AS call Fire/Security at 2222.

(2) The following information as applicable should be provided when calling in a spill or release:

- (a) Name and phone number of individual reporting spill
- (b) Physical location of the incident
- (c) For response purposes, is the incident an emergency or non emergency situation
- (d) Number of injured personnel and nature of injuries.
- (e) Substance spilled
- (f) Source of discharge
- (g) Approximate quantity of discharge
- (h) Rate material is currently discharging
- (i) Extent which spill has traveled and waters that might be affected
- (j) Cause of incident
- (k) Date and time of spill discovery.

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c. Spill Response And Cleanup

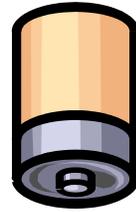
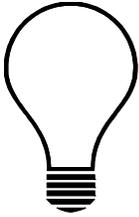
(1) **If possible without endangering yourself or the safety of others**, stop the source of the spill/release to prevent discharge of the material to surface waters, storm drains, sewer drains or soils.

ALWAYS REMEMBER - SAFETY FIRST!!!!!!!!!!

(2) 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.

d. Reports

The 45 CES Environmental Office will be the single point of contact with federal, state and local regulatory agencies and MAJCOM for reporting Air Force spill/release incidents. Commercial operations will notify 45 CES Environmental Office prior to contacting federal, state, and local regulatory agencies concerning commercial spill/release incidents on AF leased property.



UNIVERSAL WASTE TURN-IN PROCEDURES

Universal Waste

Introduction

State and Federal Regulations require that certain wastes generated in the course of operations be managed in accordance with a strict set of guidelines. The 45th SW has translated these requirements and set forth an Operations Plan to address the management and disposal of these wastes (O-Plan 19-14 – Waste Petroleum Products and Hazardous Waste Management).

This information is intended to meet the requirements of 40 CFR 273.16 to familiarize you with the specific requirements associated with the “**Universal Waste**” you handle or manage during the course of daily operations.

What is Universal Waste?

Universal Waste is a term used to describe a variety of wastes that are generated by a large percentage of the population. Both businesses and personal residences generate Universal Waste. Universal Waste often contains hazardous or potentially hazardous constituents such as the toxic metals cadmium and mercury. Universal Waste covers wastes that due to their hazardous constituents might otherwise be subject to the EPA Hazardous Waste Rules.

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 Sodium Vapor Lamps

What is the Universal Waste Rule?

The US EPA finalized the Universal Waste Rule in May of 1995. The State of Florida adopted this rule in its entirety. The federal rule covered unused pesticides, mercury-containing thermostats and spent batteries. In May of 1998 Florida expanded the rule to include other mercury containing articles (i.e. thermometers, relays and switches) and mercury-containing lamps.

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 Resource Conservation and Recovery Act (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 F.A.C. 62-737 – “The Management of Spent Mercury-Containing Lamps and Devices Destined for Recycling”.

Where do I turn in my Universal Waste?

Cape Canaveral Air Station:

The Environmental Support Contractor (ESC) operates the Universal Waste Collection Site at Facility 55118 every Tuesday and Thursday between the hours of 1300 and 1400.

Patrick Air Force Base

The HazMart Bldg 984 will accept mercury-containing lamps on Tuesdays and Thursdays between the hours of 0800 and 1200. For turn-in of Universal Waste batteries please call the ESC at 476-2310/853-6988. In most cases the batteries will be picked up at your facility and delivered to the Hazardous Waste Storage Facility.

How do I properly handle Universal Waste?

Once generated, Universal Waste should be containerized, labeled and dated. And, as soon as possible, the container should be transported to the turn-in facility.

Waste that has not been containerized and labeled will not be accepted at the Turn-in Facilities.

For specific instructions on containers and labeling please see the Technical Response Package (TRP) for the particular Universal Waste generated. Copies of the TRP's can be provided to you by your Environmental POC or you can pick them up at the Turn-in Facility.

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.

What do I do in the event of an Emergency or Release?

If there is a release of Universal Waste and it is within your 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 45 SW FRP 10-2 Volume II.

Who do I call if I have questions?

If you have any questions concerning Universal Waste you may contact the following offices:

Cape Canaveral Air Force Station:

ESC – Hazardous Waste Group
(321) 853-6988 or (321) 476-2310
45 CES Environmental Office (321) 494-2899

Patrick Air Force Base:

45 CES Environmental Office (321) 494-2899
ESC – Hazardous Waste Group
(321) 476-2310 or (321) 853-6988

WASTE PROCESS CODE TABLE

Waste Description	Type	TRP Code	Special Turn-In Instructions
Spent Straight Fluorescent Lamps	Universal	TD0001	Place label on the end of the box and write the number of bulbs in the corner.
Spent Plastic Coated Fluorescent Lamps	Universal	TD0002	Place label on the end of the box and write the number of bulbs in the corner.
Spent U-Tube Fluorescent Lamps	Universal	TD0003	Place label on the end of the box and write the number of bulbs in the corner.
Spent Compact Modular (Pinned) or Circle Light Fluorescent Lamps	Universal	TD0004	Place label on the end of the box and write the number of bulbs in the corner.
Spent Integral Compact Fluorescent Lamps	Universal	TD0005	Place label on the end of the box and write the number of bulbs in the corner.
Spent High Intensity Discharge (HID) Lamps (High Pressure Sodium)	Universal	TD0006	Place label on the end of the box and write the number of bulbs in the corner.
Low Pressure Sodium Lamps	Universal	TD0018	Place label on the end of the box and write the number of bulbs in the corner.
Used or Out-of-Shelf Life Mercury Batteries	Universal	TD0007	Seal in plastic bag or cover the terminals with tape.
Used or Out-of-Shelf Life Ni-Cad Batteries (Vented Wet Cell)	Universal	TD0008	Seal in plastic bag or cover the terminals with tape.
Used or Out-of-Shelf Life Ni-Cad Batteries (Sealed Wet Cell)	Universal	TD0009	Seal in plastic bag or cover the terminals with tape.
Used or Out-of-Shelf Life Ni-Cad Batteries (Dry Cell)	Universal	TD0010	Seal in plastic bag or cover the terminals with tape.
Mercury Containing Devices (Switches, Thermometers)	Universal	TD0011	Seal in plastic bag.
Unbroken Mercury Thermostats	Universal	TD0013	Seal in plastic bag.
Used or Out-of-Shelf Life Lithium Batteries	Universal	TD0016	Seal in plastic bag or cover the terminals with tape.
Used or Out-of-Shelf Life Silver Zinc Batteries	Precious Metal Recovery	ZZ0009	Seal in plastic bag or cover the terminals with tape.
Crushed/Broken HID or Fluorescent Lamps	Hazardous	TD0019	Seal in plastic bag.
Waste Aerosol Cans	Hazardous	HG0001	N/A
Waste Pepper Spray Aerosol Cans	Hazardous	HG0005	N/A

These TRP's are also available through the MESCS Waste World Online Internet page at <http://jbweb01.ksc.nasa.gov/external/chs/omehs/ehs/home/wm.cfm> or <http://mescs.ksc.nasa.gov/>. If you have any questions concerning these or other TRP's please contact MESCS at 867-8642. If you have questions concerning the turn-in procedure or if you need assistance with a special turn-in time or date, please contact the Environmental Support Contractor (ESC) at 476-2310 or 853-6988.

AGENCY AND ORGANIZATION IDENTIFICATIONS

GENERATING ORGANIZATION IDENTIFICATIONS

CAF	Air Force
CAJ	AJT
CBA	Boeing (IUS)
CCD	United Technologies, Chemical Systems Division
CCL	Aerospace Fuels Laboratory
CCR	Core Engineering
CCS	Computer Science Raytheon
CGD	Lockheed Martin at CX36
CGV	Genesis VII
CIN	Indyne
CLM	Lockheed Missile Systems Co.
CMA	Boeing
CMG	Maytag
CMM	Lockheed Martin
CMS	Military Sealift Command
CNV	Navy (NOTU)
CPG	Palisades Geophysical Institute
CSG	Space Gateway Support (JBOSC)
CSL	Space Coast Launch Services
CSW	Seven Worldwide
CSX	Space Gateway Support (JBOSC) short time subcontractors (managed by environmental planning)
CVT	SpecPro Inc. (formerly Vista Technologies)
GCG	Coast Guard
JSG	Space Gateway Support (Jonathan Dickson)
ODC	Dyncorp (Department of State Airwing)
PAF	Air Force – PAFB
PCS	Computer Science Raytheon – PAFB
POS	Ostrum Painting
PSG	Space Gateway Support-PAFB
PTE	CMT, Inc
PUP	Maytag

8. WASTE MANAGEMENT PROCEDURES

a. Waste Management Policy

(1) 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 45 SW Waste Container and Containment Management Plan, which is located in ANNEX D of this document.

(2) It is the responsibility of the generator to submit a Process Waste Questionnaires (PWQ), identifying all wastes generated. This will be accomplished prior to generation of the waste whenever possible. The Technical Response Package (TRP) issued by MESC 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.

(3) 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.

b. Hazardous Waste Storage Or Accumulation Tanks

(1) For existing tanks used to store hazardous waste that do not have secondary containment meeting the requirements of 40 CFR 265.193 the owner or operator must obtain and keep on file a written certification by a qualified registered professional engineer that attests to the tank systems integrity. This certification must determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the waste to be stored to ensure that it will not collapse, rupture, or fail in any way. Minimum certification requirements are found in 40 CFR 265.191(b).

(2) IAW 40 CFR 265.190(b) tank systems, including sumps, serving as part of a secondary containment system designed to collect or contain releases of hazardous waste are exempt from the requirements found in 40 CFR 265.191 to assess the tank system's integrity.

(3) Tanks used for accumulation of hazardous waste must be inspected and the inspection recorded at least once each operating day by trained hazardous waste personnel. EPA has clarified that "each operating day" has been defined as "every day the tank is in operation (i.e., storing or treating hazardous waste) and not necessarily just on days the facility is open for business."

c. Tanks Used For The Accumulation Of New, Used Or Waste Petroleum Products

(1) Aboveground storage tanks (AST's) must be supported on a well-drained stable foundation that prevents movement, rolling or settling of the tank and is designed (elevated) to minimize corrosion of the tank bottom.

(2) Regulated AST's must have a secondary containment system. The containment system should be impervious to the types of pollutants stored in the tanks and be capable of holding 110 percent of the largest tank's volume.

(3) AST's used for new, used or waste (non-hazardous) petroleum products must comply with FAC Chapter 62-762.

(4) Underground storage tanks (UST's) used for new, used or waste (non-hazardous) petroleum products must comply with 40 CFR 280 and FAC Chapter 62-761.

d. Policy Regarding Waste Aerosols And Paint Containers

(1) Aerosol Cans

(a) General Requirements

1. On CCAFS 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 "lights cage" at Facility 55118. For information regarding drop-off of containers contact ESC (476-2310 or 853-6988). If generation rates are higher, a hazardous waste satellite accumulation area (SAA) should be established. Generator must contact ESC to establish a hazardous waste accumulation site.

2. At PAFB 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 ESC at (476-2310 or 853-6988) for establishment of a hazardous waste satellite accumulation area and for assistance with disposal.

3. 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.

4. Waste aerosol cans may be accumulated in step-cans that meet the requirements described above.

5. Waste aerosol cans generated in the field can be brought back to the shop and managed in a 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.*)

(b) <90 Day Sites Accumulation Requirements

1. Accumulate aerosol cans in accordance with all <90 day area storage requirements.

2. Request pick up support by 75th day of accumulation.

(c) Satellite Accumulation Area Requirements

1. Accumulate aerosol cans in accordance with all SAA requirements.

2. Accumulation containers will be labeled with the words “Waste Aerosol Cans Only”.

3. 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.

(d) Flammable Storage Locker Accumulation Requirements

1. Only applicable in areas where the accumulation rate is extremely low and aerosol cans are the only waste stream generated.

2. Waste aerosol cans will be stored in a separated shelf in the locker.

3. The shelf within the Flammable Storage Locker used to collect waste aerosols will be labeled with the words “Waste Aerosol Cans Only”.

4. Generators will contact ESC (476-2310 or 853-6988) for the appropriate turn in location and will be responsible for transportation to this site.

(2) Empty Paint Containers

(a) Containers (i.e., 1 and 5-gallon containers) must be free from all liquids prior to disposing of these containers into a dumpster.

(b) 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.

(c) 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.

e. Decontamination Of Decommissioned Or Unused Equipment

(1) 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.

(2) This section addresses equipment that is being taken out of service, to be turned into DRMO, disposed of, sold, or transferred to another area where it will be reutilized.

(a) Prior to turn-in to DRMO all DRMS requirements must be met, including the removal of all hazardous components (i.e., batteries, fluids, filters, and contaminants). Contact DRMO at 853-2245 for additional information.

(b) 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 OPLAN.

(c) Prior to the sale or recycling of any government owned hazardous commodities or equipment which contains hazardous commodities/components please contact 45 CES Environmental Office at 494-2899.

(d) 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 OPLAN. 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.

(3) 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.

f. Pollution Prevention Summary

(1) The USAF is committed to environmental leadership and effectively promoting the national policy of Pollution Prevention (P2). The USAF P2 program, as outlined in AFI 32-7080, involves a proactive and dynamic management approach that emphasizes prevention through source reduction rather than "end-of-pipe" treatment. This dynamic approach must be fully integrated into day-to-day USAF operations and ultimately result in the selection of practices that eliminate or reduce wastes through a hierarchy of actions: first and foremost, reduce/eliminate the use of hazardous materials, thereby reducing/eliminating the generation of waste streams (source reduction); second, reuse generated waste and recycle waste that is not reusable (recycling); and third, employ end-of-pipe treatment. Disposal is only used as a last resort for waste streams that cannot be eliminated, reduced, or recycled.

(2) The P2 practices (options) selected should be those that are both technically and economically feasible and that avoid the cross-media transfer of pollutants. To ensure that each installation establishes strong cross-functional P2 management programs that fulfill the concepts of the PPA, as well as DoD and USAF regulations, the *Air Force Installation Pollution Prevention Program Guide* (July 1997) was developed. This guide provides USAF personnel with a comprehensive methodology on how to implement USAF P2 Policy and establish effective programs at their installations. The guide lists specific USAF goals that have been established for selected P2 program components: ozone-depleting substances (ODSs), U.S. Environmental Protection Agency (EPA) 17s, hazardous waste, municipal solid waste (MSW), affirmative procurement, pesticides/herbicides, energy conservation, and Toxic Release Inventory (TRI) chemicals. These program components are to be continually monitored and measured to ensure that goals are achieved. Success will be measured against the baselines identified in the USAF P2 Program Components and Goals Table.

USAF P2 Program Components and Goals Table

Goal Area	Baseline Year	Goal
ODSs	1992	100% Reduction of purchases by 1 April 1993
EPA 17s	1992	50% Reduction in purchases by 31 December 1996
Hazardous Waste	1992	25% Reduction by 31 December 1996 50% Reduction by 31 December 1999
MSW	1992	30% Reduction by 31 December 1996 50% Reduction by 31 December 1997
	1997	10% Diversion by 31 December 1999 40% Diversion by 31 December 2005
Affirmative Procurement	None	100% of products purchased each year in each of EPA's "Guideline Item" categories shall contain recycled material
Energy Conservation	1985	10% Reduction by 31 December 1995 20% Reduction by 31 December 2000 30% Reduction by 31 December 2005
EPCRA/TRI chemicals	1994	50% Reduction by 31 December 1999
Pesticides/Herbicides	1993	50% Reduction by 30 September 2000

(3) USAF P2 Policy mandates each installation, including those outside the United States, to develop and execute a P2 Management Action Plan (MAP). The P2 MAP outlines the management actions necessary to implement and maintain a successful P2 program and describes the P2 options that will be implemented to reach the USAF P2 goals. It also outlines the process required to implement P2 at the installation, the program for funding P2 projects, and the actions required to execute the program. The P2 MAP is based on recurring opportunity assessments (OAs), changes in P2 technologies, and regulatory requirements. As such, the P2 MAP is a dynamic document and will be revised at least annually.

(4) The P2 MAP is divided into three sections: Process, Program, and Execution. The Process Section describes the steps the installation has taken to develop and implement a P2 program, as well as those steps necessary to modify and measure program success. The Process Section is divided into eight subsections, one for each of the following elements of the P2 process: Policy, Baseline, Requirements, Options, Solutions, Program, Execution, and Metrics and Reporting. The relationship among these elements will be further discussed in the text. The Program Section lists the costs, benefits, and Return on Investment ROI for proposed P2 projects in each goal area. The Execution Section lists all the actions necessary for implementing each project. Appendix A of the P2 MAP presents the narratives and detailed cost analyses for recommended options. Appendix B contains a copy of the Generic Refrigerant Management Plan. Appendix C contains a reference copy of a Model Pesticide Management Plan for both Patrick AFB and CCAFS. Appendix D contains all OA's completed since publication of the P2 MAP.

EDWARD L. BOLTON, JR.
Brigadier General, USAF
Commander

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- B. Tasked Organizations
- C. Hazardous Waste Site Locations
- D. Waste Container Management Plan
- E. Waste Minimization Plan
- F. Waste Analysis Plan
- G. Training Plan
- H. Inspection Plan
- J. Petroleum Products and Hazardous Waste Management Plan for Ascension Auxiliary Air Field and for Antigua Air Station
- K. Hazardous Waste Site Location Maps
- L. Military Munitions Rule Information
- Z. Distribution

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ANNEX A

LIST OF FIGURES/TABLES/DIAGRAMS

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ANNEX B

TASKED ORGANIZATIONS

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ANNEX B RESPONSIBLE ORGANIZATIONS

Aerospace Fuels Laboratory, OL DET 3 WR-ALC/AFTLH	853-5441
AF Quality Assurance Branch, 45 RMS/RMQ	853-7515
Base Supply, LOGOPS	494-6909
Bioenvironmental Engineering, 45 AMOS/SGGB	494-5435
Contracting, 45 CONS/LGCB	494-7573
CUBE/LGRTB	494-6557
Defense Reutilization & Marketing Office (DRMO)	853-2232
Director of Safety, 45 SW/SE	494-2114
Environmental Flight, 45 CES/CEV	494-7288
Environmental Support Contractor (SpecPro Inc.)	853-6576
Fire Department, 45 CES/CEF	494-7642
Medical and Environmental Support Contract	867-8640
Launch Operations Support Contractor	853-6558
Range Squadron, 45 RANS/CC	853-8306
Eastern Range Technical Services (ERTS, CSR)	494-6375
Resources, 45 CES/CER	494-2234

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ANNEX C

HAZARDOUS WASTE LOCATIONS

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ANNEX C HAZARDOUS WASTE LOCATIONS

1. Due to the large size, complexity and ever-changing operations of the 45th Space Wing, the locations and operators of the hazardous waste accumulation sites are always subject to change.
2. A list of sites in use for Patrick Air Force Base (PAFB) is provided in Table 1 and a list of sites in use at Cape Canaveral Air Force Station (CCAFS) is provided in Table 2. Up-to-date lists of hazardous waste sites for CCAFS and PAFB are available at the Environmental Support Contractor's office at CCAFS.

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**TABLE 1
USAF PATRICK AFB HAZARDOUS WASTE LOCATIONS**

Facility #	Location	Phone	Permitted	90 Day	Satellite
313	Machines Shop/Paint Booth	494-9981			X
313	Heavy Equipment and Vehicle Maintenance	494-1755			X
313	920 th Avionics	494-7980			X
331	Auto Skills Center	494-2537			X
339	NGA	494-7343			X
511	Body Shop	494-7630			X
533	OT-30	302-3543			X
605	920 th Structures	494-6331			X
630	C-130 ISO Dock	494-6331			X
630	920 th Wheel and Tire	494-4122			X
632	920 th Engine Shop	494-2530			X
647	920 th Fuels	494-8407			X
676	Fuel Truck Maintenance	494-6066			X
690	CE Paint Shop	494-4355			X
691	920 TH AGE Shop J-BOSC Ops	494-4705			X
750	920 th Flightline	494-4035			X
751	920 th HH60 Inspection Dock	494-8759			X
751	NASA Aircraft Operations	494-5606			X
822	Mobility	494-4915			X
947	TSDf	494-2899	X		
948	TSDf	494-2899		X	
961	Mount Shop	494-5928			X
981	SLRS Electric Shop	494-7130			X
981	PMEL	494-7528			X
984	HAZMART	494-9663		X	X
986	SLRS DRU Shop	494-9981			X
989	AFTAC – CC033	494-3870			X
992	FAST Lab (AFTAC)	494-3870			X
1060	Housing Maintenance	783-3561			X
1350	Power Pro – New	494-4477			X
1361	Satellite Pharmacy	494-3988			X
1380	Main Clinic Pharmacy	494-8290			X
1475	Golf Course Maintenance	494-7506			X

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**TABLE 2
USAF CAPE CANAVERAL AIR FORCE STATION HAZARDOUS WASTE LOCATIONS**

Facility #	Location/Organization	Phone	Permitted	90 Day	Satellite
AIR FORCE					
00006	Malabar Annex	494-4477			X
15305	Explosive Ordnance Disposal	494-5889			X
54500	45 CES/CEVR	853-0964		X	
54800	Air Force Chemistry Lab	853-5441			X
54800	Air Force Chemistry Lab (Outside)	853-5441		X	
AFTAC					
1777	Core Lab Satellite	494-3870			X
1777	Core Lab	494-3870		X	
BOEING					
1731	Hangar M	853-6261			X
1731	Hangar M (Battery Lab)	853-6261			X
28401	Complex 17 Blockhouse	853-6261			X
36009	HPF	853-6261			X
45601	Area 57 (Delta III)	853-6261			X
50803	Area 57 (Delta II)	853-6261			X
55810	NPF	853-6261			X
56616	Area 55	853-6261		X	
56624	Area 55 (Wash Rack)	853-6261			X
56632	Delta Operations	853-6261			X
56638	Area 55 (Sandblast)	853-6261			X
60501	Little M	853-6261			X
60530	Hangar AO	853-6261			X
60550	Hangar AM Skills Training Room 114A	853-6261			X
BOEING-DELTA IV					
38200	Calibration lab	730-4794			X
43407	Complex 37	730-4794			X
ESC/SpecPro					
44200	Permitted Hazardous Waste Storage Facility	853-6573	X		
44205	Permitted Hazardous Waste Storage Facility	853-6576	X		
44210	TSDF – 90-Day			X	
55118	Lights Cage	853-6576		X	
HALLMARK PHOENIX					
1744	Hangar U	853-5231			X
INDYNE					
1605	Motion Picture Lab	853-7071			X
LOCKHEED MARTIN-GPS					
55893	Hazardous Material Locker	853-0221			X

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Facility #	Location	Phone	Permitted	90 Day	Satellite
LOCKHEED MARTIN-NOTU					
1117	Vehicle Maintenance	853-9777			X
3106	SLC 46 (Maintenance Building)	853-9777			X
3106	SLC 46 Blast Yard	853-9777			X
62640	Equipment Maintenance	853-9777			X
62820	Hangar AG	853-9777			X
85203	Old LOX Plant	853-9777			X
LOCKHEED MARTIN- TSF					
1721	Hangar J	730-6219			X
49735	Hangar J/K Compound	730-6219		X	
NAVY					
1118	ELB	476-3809			X
62706	Hangar Y	476-3809		X	
85625	NOTU (DASO)	476-3809		X	
SCLS					
5401	Complex 11	476-3217		X	
49927	POL	853-2255		X	
55820	DPF	853-2907		X	
60705	Launch Communications	853-9416			X
70010	SPIF	853-5418		X	
IOMS					
1714	Hangar I	853-3090		X	
1724	Physical Standards Lab	853-9412			X
28002	JDMTA	853-1147			X
44648	Corrosion Control	867-5520			X
49536	Hangar Little U	853-5231			X
54731	RWWTF Laboratory	476-2320			X
ICS FUELS					
77611	FSA #1 Fuels Active	853-6983		X	
77800	HSF	853-6983		X	
80520	FSA #1 Oxidizer	853-6983		X	
80520	FSA #1 Tank	853-6983			
80700	FSA #1 Fuels	853-6983		X	
SRLSC					
24404	Complex 18 Blast Yard	494-9981			X

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ANNEX D

WASTE CONTAINER MANAGEMENT PLAN

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OPLAN 19-14 WASTE CONTAINER MANAGEMENT PLAN ANNEX D

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1. CONTAINER MANAGEMENT POLICY

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

b. It is the responsibility of the generator of a hazardous or controlled waste to insure that the waste is placed in a US DOT approved shipping containers, marked, labeled, and stored in compliance with the requirements of 40 CFR 262.30-32 & 34, 49 CFR 172.304 & Subpart E, and 49 CFR 173.24. This requirement applies when accumulation of waste products begins.

c. Containers will be properly stored and fire and safety precautions will be taken in accordance with AFMAN 23-10, DoDR 4145.19-1 and AFOSH Standards 91-43, 91-66 and 91-68.

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

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

f. Generators need to 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 wastes are placed in an overpack the generator must insure proper labeling of the overpack.

2. MANAGEMENT OF WASTE CONTAINERS

a. Prior to waste generation, each generator will submit a PWQ to the Medical and Environmental Support Contractor (MESC) for characterization and waste disposal determination. The MESC 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 Department of Transportation (DOT) drum types can be found in Table 1(Appendix 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 wastes (e.g. used oil) should be stored in a separate area from containers or

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drums used to store hazardous wastes (e.g. solvents, paint) in order to avoid contaminating the non-hazardous or controlled wastes with hazardous wastes. If separate storage areas are not feasible, drum locks can be used to restrict access.

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.

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

e. Container bungs should 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 that are in a permitted facilities or <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 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. DOT specifications require usage of a specific packaging for each type waste. Modifications will make a drum non-specification and, therefore, not usable for shipment to off-site disposal facilities.

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 bung 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 is required when flammable liquids are added to or removed from a container (AFOSH Standard 91-43). Electrical grounding may be

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removed from sealed, full containers of flammable liquids while in storage waiting for disposal.

I. 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 insure 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 Hazardous Waste Accumulation Sites, 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. 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".

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

f. 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.

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

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4. MANAGEMENT OF CONTAINMENT AREAS

a. Containment areas where hazardous waste containers are accumulated or stored should be routinely inspected in accordance with Annex H 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 Hazardous Waste Accumulation.

(1) Hazardous waste accumulation tanks must comply with 40 CFR, Part 265, Subparts C (Preparedness and Prevention), D (Contingency Plan and Emergency Procedures), J (Tank Systems except 265.177(c) and 265.200), and CC (Air Emissions Standards).

(2) The date accumulation began and the words HAZARDOUS WASTES must be marked on the tank.

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

(1) Underground storage tanks used for new or used petroleum products must comply with 40 CFR 280 and FAC Chapter 62-761. For those USTs that are exempt from these regulations, every effort should be made to meet the requirements set forth in these statutes to minimize the potential of release of a pollutant to the environment.

(2) Aboveground storage tanks used for new or used petroleum products must comply with FAC Chapter 62-762. For those ASTs which are exempt from these regulations, every effort should be made to meet the requirements set forth in these statutes to minimize the potential of release of a pollutant to the environment.

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c. Tanks holding used oil for recycling must be labeled "USED OIL".

d. 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.

e. Tanks holding petroleum contact water (PCW) must be labeled "PETROLEUM CONTACT WATER" per FAC Chapter 62-740.

6. MANAGEMENT/DISPOSAL OF EMPTY CONTAINERS

a. To dispose of empty drums contact ESC at 476-2310/853-6988. All containers must meet the definition of RCRA empty (40 CFR 261.7) prior to coordinating disposal through ESC. Contact ESC 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.

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APPENDIX 1
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 3/4" 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.

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45th Space Wing

Patrick Air Force Base, Florida 32925-3239

February 2009

OPLAN 19-14

ANNEX E

WASTE MINIMIZATION PLAN

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OPLAN 19-14 WASTE MINIMIZATION PLAN ANNEX E

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OPLAN 19-14 ANNEX E WASTE MINIMIZATION PLAN

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 USAF 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 (IAW) RCRA and other applicable regulations.

b. This plan applies to all waste generators on Cape Canaveral Air Force Station (CCAFS), Patrick Air Force Base (PAFB) 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 IAW RCRA 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 PWQ-TRP process (see OPLAN 19-14 Section 6).

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 IAW 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.

f. 45th Space Wing organizations and contractors can request funding for waste minimization equipment through 45 CES Environmental Office.

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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. An effective reduction program must be based on accurate and current information on 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: 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)

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- (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; 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 includes 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 process 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

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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 insure 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 just involves improvements in inventory control, operation, and maintenance. One important factor is to keep the employees informed and involved at 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 (i.e., 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.

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TABLE 1
FACILITY ASSESSMENT BACKGROUND INFORMATION

Production Process Information

- Process flow diagrams and plant layout
- Sewer layout diagrams
- Purchasing records
- Material 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

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General Information

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

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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

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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 Material 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) 45 SW Hazardous Material Management Process shall ensure procedures are established to regulate selection and use of all hazardous materials.
- (8) 45 CONS shall require contractors to use non-hazardous materials instead of hazardous materials as much as possible.
- (9) DRMO 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 IAW 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 gasses; 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.

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c. Hazardous Materials Use

(1) Hazard Communication Standard Training IAW OSHA (29 Code of Federal Regulations (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) Do not dispose or make up more of a chemical than can be used in a work period.

(4) 45 ADOS/SGGB will monitor all base organizations to ensure proper storage and use of hazardous materials.

(5) 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 DRMO as a hazardous material for reutilization or sale. Materials turned in to DRMO must be accompanied with a Form DD 1348-1 and a Material Safety Data Sheet.

(b) Partially used or hazardous materials in poor containers shall be disposed of IAW 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 the Resource Conservation and Recovery Act (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) Unused batteries may be turned in to the Defense Reutilization and Marketing Office (DRMO). Contact DRMO at 853-2245 for turn-in procedures.

(3) DRMO will also 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 DRMO at 853-2245 for turn-in procedures.

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(4) Disposal for all other used batteries should follow the specific PWQ-TRP for the type of battery being generated by organizations working on 45 SW installations.

(5) Spent automotive batteries generated by base housing and dormitory residents should be taken by the member to an authorized automotive battery dealer or to the Housing Maintenance Contractor as household hazardous waste.

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

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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 fume. Therefore, all batteries should be handled using the personal protective equipment.

(3) Magnesium-Carbon Batteries

(a) 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.

(b) 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 Material 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 the solid, zinc is a skin irritant. Ammonium chloride is also a skin irritant. Therefore, leaking batteries should be handled using the 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.

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(b) One of the designated precious metals, silver has considerable potential for recovery and should be processed IAW the DoD precious metals recovery program. Reference DoD Manual 4160.21-M, AFMAN 23-110, VOL 6, and 45 SW Instruction 23-101.

(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 in 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 (LiSO₂)

(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, lightweight, 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 as "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.

(d) There is a new type of Li-SO₂ (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

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five days). Upon completion of the five days discharge cycle, these batteries can be disposed of with general refuse/trash. 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. USED SOLVENT ELIMINATION PROGRAM

a. The Department of Defense has developed a Used Solvent Elimination (USE) program to encourage the elimination of hazardous wastes from the use of hazardous solvents.

b. Substitution of a hazardous waste generating type of solvent with a non-waste generating type of solvent is highly encouraged. There are a number of biodegradable cleaning solvents available which can effectively replace organic solvents.

c. Solvent Recovery

(1) Where solvent substitution is not feasible, recycling of used solvents is encouraged. Equipment is available which can reclaim many types of solvents.

(2) Solvent recovery saves on material costs as well as disposal costs and associated potential liability.

(3) Solvents destined for recycling should be segregated from other wastes and solvents so that a reusable product can be more easily obtained.

d. Cloth rags/wipes used as solvent applicators or as wipes during solvent degreasing/cleaning operations must be laundered for re-use. Laundering facilities must meet all applicable environmental regulations. Please contact 45 CES Environmental Office to make arrangements to be included in the 45 SW rag laundering program. Paper wipes used with solvents must be collected and characterized through the PWQ-TRP process prior to disposal.

6. PRECIOUS METALS RECOVERY PROGRAM

a. The following regulations pertain to precious metals recovery.

(1) Title 40 Code of Federal Regulations (CFR) 266.70 (Subpart F)

(2) DoD Manual 4160.21-M. Chapter XVII

(3) AFMAN 23-110, Vol 6

(4) 45 SW Instruction 23-101

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b. Precious metals recovery in the Department of Defense is handled through the Defense Logistics Agency whose local office is the installation Defense Reutilization and Marketing Office (DRMO), 853-2245.

c. The office of primary responsibility for the 45th Space Wing Precious Metals Recovery Program is 45 LRF/CC. The Precious Metals Recovery Monitor is Base Supply, 494-4313.

d. Wastes containing hazardous levels of silver are commonly found in X-ray facilities (hospitals, dental clinics) and photographic developers, fixers and film.

(1) Waste accumulation is exempt from all RCRA requirements IAW 40 CFR Part 266.70.

(2) Records must be kept IAW 40 CFR Part 266.70, for recyclable materials utilized for precious metals recovery. The records must document the volume of precious metals recoverable waste on hand at the beginning (1 January) of the calendar year (CY), the volume of waste generated during the CY, and the volume of waste recycled during the CY. At least 75% of the volume of waste on hand at the beginning of the CY (1 January) must be recycled during the CY (40 CFR 261.1(c)(8)).

(3) Precious metals recovery is required (DoD 4160.21M) for wastes containing recoverable precious metals (silver containing hypo solution for film processing). Recovery Processing units do not always remove sufficient levels of silver to render effluent a non-hazardous waste (less than 5 ppm silver). Collection and testing of the effluent from a silver recovery unit is required. Effluent with analysis results above 5.0 ppm silver will either be run through the silver recovery unit again (if feasible) or managed as hazardous waste (if handled as hazardous waste all applicable requirements must be met by generator). If the effluent analysis results are below 5.0 ppm silver, the 45 CES Environmental Office will make the determination if the effluent can be released to the sanitary sewer. If recovery processing is accomplished on-site by the generator, the hypo solution does not need to be managed as a hazardous waste prior to processing.

e. All silver harvested from processing units and other recoverable precious metals including gold, platinum, palladium, iridium, osmium, rhodium or ruthenium must be turned-in to the DRMO.

7. PROPELLANT WASTES

a. Some propellants such as hydrazine, monomethyl hydrazine (MMH) and nitrogen tetroxide may be listed as hazardous wastes if and when they are discarded or intended to be discarded. Solid propellants and aerazine 50 are not a listed hazardous waste; however, if they exhibit a characteristic of hazardous waste such as ignitability,

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corrosivity or reactivity and they are intended for disposal, they are regulated as a hazardous waste.

b. Liquid propellants may be reused or reprocessed when in relatively pure form under the Propellants Recovery Program (PRP). These commodities should be identified to the PRP program coordinator (LO-N2/861-1493) for evaluation in advance of operations to ensure that appropriate specification containers are provided for collection and recovery. The PRP program coordinator may suggest segregation or handling practices that optimize the potential for reuse. Propellants that are unsuitable for reuse or recovery due to contamination must be evaluated for disposal requirements per the PWQ / TRP process. It is 45th Space Wing policy that hazardous waste generation be reduced or eliminated wherever possible.

c. AF owned solid propellants intended for disposal should be disposed of through 45 CES/CED, Explosive Ordnance Disposal Flight. Contact EOD at 494-7550. Commercial contractors are required to arrange permitted disposal off-site for non-AF owned solid propellants.

d. 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.

e. 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 a regulated hazardous waste. Therefore, the use of excessive volumes of rinsate or the use of halogenated solvent such as Freon for the first three rinses is discouraged. The use of Freon or other halogenated solvents is strongly discouraged for any rinse of propellant related equipment as there is currently no acceptable disposal procedure for this type of waste.

f. 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.

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8. 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 AFI 32-7042.

(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) Air Force Technical Order 42B-1-25.

(4) 45 SW Operation Plan 19-16.

(5) 45 SW FRP 10-2 Volume II.

(6) Air Force Instructions 32-7042 and 23-502.

c. Disposition of fuels.

(1) Reference Technical Order 42B-1-23

(2) 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).

(3) 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.

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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 279.10(b)(1)(ii). The presumption may only be rebutted by documenting that halogens are present from a non-hazardous waste source (ref. Section F., Process Waste Questionnaire). 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 DRMO or recycled through other channels.

(10) Oil filters must be hot drained of liquids prior to collection or crushing for recycling. Contact 45 CES Environmental Office at 494-9268 for information on

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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) can be discarded in normal refuse unless the oil is 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 MSDS for unused oil should be used to determine which method of disposal to use for oily rags and spill cleanup material.

(12) Base housing personnel may take used lubricating oils from their vehicles to the MWR Automotive Skills Center on Tuesday, Wednesday or Thursday from 1100 to 2100 and on Friday or Saturday from 0800 to 1700. Used oils should be in closed containers and be free from halogenated solvents. Do not leave containers of used oil unattended. Contact shop personnel for proper disposal.

e. Petroleum Contact Water (PCW)

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

- (a) Condensate from Petroleum USTs and 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 FAC Chapter 62-770,
- (f) Aboveground petroleum tank seal leakage water,
- (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,

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- (b) Bilge water,
- (c) Separated solids from petroleum tank cleaning operations,
- (d) Groundwater contaminated with hazardous constituents other than PCW,

Wastewaters regulated or permitted under other applicable Department rules or standards (i.e. 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 PWQ/TRP process as described in Section 6.a. of this OPLAN 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:

(a) Container or tank must be clearly labeled with the words "Petroleum Contact Water" (Using KSC Form 28-1088 'Petroleum Contact Water' label satisfies this requirement),

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

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

(d) PCW may not be stored onsite for more than 180 days, therefore 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.

9. ANTIFREEZE

a. Ethylene glycol, commonly called antifreeze is widely used in the cooling system of liquid cooled internal combustion engines. It exhibits properties that are excellent in the protection against overheating, freezing, corrosion, sealing, and sludge buildup. It is compatible with system hoses, gaskets and other internal engine parts.

b. The main use and supply of ethylene glycol is Vehicle Maintenance. Antifreeze is diluted and used in the cooling systems of motor vehicles, heavy equipment, portable generators and pump station diesel engines.

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c. Ethylene glycol is a colorless liquid also known as 1,2 ethanediol, glycol, ethylene alcohol and glycol alcohol. Ethylene glycol has a flash point of 240° F and is not considered combustible. Specific gravity is between 1.128 and 1.131 and pH is between 8.5 and 9.5.

d. Used ethylene glycol may contain hazardous levels of lead or cadmium. Therefore, antifreeze should be collected and analyzed for TCLP metals and volatile organics. Once the analysis is received the generator must complete the PWQTRP process.

e. PAFB and CCAFS currently have an antifreeze recycling program for antifreeze waste that does not fail the TCLP metals analysis. Antifreeze that fails the TCLP metals analysis must be managed as hazardous waste. Contact ESC for assistance with hazardous waste antifreeze.

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

a. In 1995 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 CCAFS and PAFB 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 as hazardous waste. Lamps shall not be purposely crushed or broken.

c. The disposal of spent fluorescent and HID lamps will be handled by the ESC (476-2310/853-6988) on CCAFS and through the HAZMART on PAFB (494-9663). LPS lamps at both CCAFS and PAFB are handled through ESC.

11. LEAD SECURITY SEALS

Lead security seals used by Quality Assurance personnel must be collected and turned-in to DRMO for recycling.

12. DENTAL AMALGAM WASTE

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a. Dental amalgam, which is used for filling cavities in teeth, contains silver, mercury and tin with low concentrations of copper and sometimes zinc, and must be disposed as a hazardous waste when discarded unless it is recycled/reclaimed.

b. The sources of dental amalgam waste include excess/unused amalgam scrap, amalgam retrieved from drain traps and amalgam contained in extracted teeth

c. The Florida Department of Environmental Health/Florida Department of Environmental Protection (FDOH/FDEP) and the USAF Dental Investigation Service both identify best management practices for dental amalgam waste. The FDOH/FDEP requirements found in the *Best Management Practices for Amalgam Waste* dated October 2001 are the most stringent and, therefore, are the minimum requirements that must be followed.

d. 40 CFR 261.2(c) allows generators to recycle wastes that meet the definition of scrap metal. Dental amalgam waste meets the definition of scrap metal found in 40 CFR 261.1(c) (6) and, therefore, can be recycled/reclaimed.

e. 40 CFR 261.6(a) (3) (ii) excludes scrap metal that is sent for recycling/reclamation from the Resource Conservation and Recovery Act (RCRA) hazardous waste regulations. Use of the 40 CFR 261.6(a) (3) (ii) scrap metal exclusion relieves the generator of the burdensome requirements of managing the waste as a hazardous waste.

f. Dental amalgam waste generated at the PAFB Dental Clinic will be managed as scrap metal using the 40 CFR 261.6(a) (3) (ii) scrap metal exclusion.

g. The 40 CFR 261.6(a) (3) (ii) scrap metal exclusion requires that written records be retained for a minimum of three years. These written records must include the name and address of the Dental Clinic, the amount of scrap dental amalgam shipped, the date of the shipment and the name and address of the reclamation facility. Dental Clinic personnel will maintain these written records.

h. Recycling the scrap dental amalgam will be accomplished by using the amalgam waste recycling services provided by Dental Recycling North America Inc. (DRNA). DRNA offers a complete scrap dental amalgam recycling program for all dental amalgam wastes, including amalgam scrap (contact and non-contact), spent amalgam capsules, extracted teeth with amalgam fillings, and scrap dental amalgam retrieved from drain traps.

i. The scrap dental amalgam will be collected by the Dental Clinic personnel in DRNA supplied containers. To meet the Occupational Safety and Health Administration (OSHA) bloodborne pathogens decontamination requirements, extracted teeth containing amalgam are disinfected in 1:10 bleach to water solution prior to being placed into the container. Vacuum traps and chair-side traps are cleaned by standard line cleaning procedures and allowed to stand overnight prior to placing into the

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container. Before sealing the container for shipping, Red Z fluid control solidifier must be added to minimize any remaining liquids in the container. Ensure the container is closed tightly and placed into a plastic bag that is sealed. Then place the container into the reusable shipping box in which the container was originally received. A signed Shipping Certificate must be placed inside the shipping box, and the box securely taped closed. Dental Clinic personnel will then contact DRNA. DRNA will arrange for United Parcel Service (UPS) to provide the shipping label and pick-up from the PAFB Dental Clinic for shipment to DRNA's recycling facility. Instructions are included with each container purchased from DRNA. **Do not discard the original shipping box, as it must be used for shipping the filled containers back to DRNA.**

13. LEAD FOIL WASTE FROM DENTAL X-RAYS

a. Intra-oral dental x-ray films are packaged with a sheet of lead foil to protect the film from backscatter and secondary irradiation. The lead foil from the intra-oral dental x-ray films must be managed and disposed as a hazardous waste when discarded unless it is recycled/reclaimed.

b. Per EPA Faxback 11742, the lead foil contained in the dental x-ray films meets the definition of scrap metal in 40 CFR 261.1(c) (6) and is excluded from RCRA hazardous waste regulation if recycled per 40 CFR 261.6(a) (3) (ii).

c. Lead foil waste generated from the intra-oral dental x-ray films used at the PAFB Dental Clinic will be managed as scrap metal using the 40 CFR 261.6(a) (3) (ii) scrap metal exclusion.

d. The 40 CFR 261.6(a)(3)(ii) scrap metal exclusion requires that written records be retained for a minimum of three years and must include the name and address of the Dental Clinic, the amount of scrap lead foil shipped, the date of the shipment and the name and address of the reclamation facility. Dental Clinic personnel will maintain these written records.

e. The scrap lead foil will be collected by the Dental Clinic personnel in DRNA supplied containers. Once the container is filled, place the container into the reusable shipping box in which the container was originally received. A signed Shipping Certificate must be placed inside the shipping box, and the box securely taped closed. Dental Clinic personnel will then contact DRNA. DRNA will arrange for United Parcel Service (UPS) to provide the shipping label and pick-up from the PAFB Dental Clinic for shipment to DRNA's recycling facility. Instructions are included with each container purchased from DRNA. **Do NOT discard the original shipping box, as it must be used for shipping the filled containers back to DRNA.**

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45th Space Wing

Patrick Air Force Base, Florida 32925-3239

February 2009

OPLAN 19-14

ANNEX F

WASTE ANALYSIS PLAN

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OPLAN 19-14 WASTE ANALYSIS PLAN ANNEX F

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ANNEX F WASTE ANALYSIS PLAN

1. GENERAL

a. Owners, operators and support personnel are required, per 29 CFR 1910, to understand the hazardous properties of the materials they handle.

b. Personnel who manage and/or handle hazardous waste are required to be trained as to the hazards of the waste generated by their operations.

c. 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, Part 264.13, Federal Hazardous Waste Regulations.

d. A Waste Analysis Plan is required to be maintained for each of the permitted hazardous waste facilities at PAFB and CCAFS.

2. REQUIREMENTS

a. The generator must provide process knowledge and/or a detailed chemical and physical analysis, of a representative sample of the waste. 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) and the Environmental Protection Agency (EPA).

b. 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 accurate and up to date.

c. The rationale for selecting waste analysis parameters should follow those outlined in 40 CFR 262.11. Knowledge of the process generating the waste is an essential part of making the appropriate parameter selection. Please contact the ESC at 476-2310 or 853-6988 for specific guidelines.

3. SAMPLING METHODS Appendix I to 40 CFR 261 provides Representative Sampling Methods. These sampling methods are used to obtain a sample considered by the EPA to be representative of the waste. The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials

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to be sampled. Samples will be collected using the sampling protocols listed below or an equivalent sampling method.

- a. Extremely viscous liquid – ASTM Standard D-140-70.
- b. Crushed or powdered material – ASTM Standard D-346-75.
- c. Soil or rock-like material – ASTM Standard D-420-69.
- d. Soil-like material – ASTM Standard D-1452-65.
- e. Fly Ash-like material – ASTM Standard D-2234-76.
- f. Containerized liquid wastes – “COLIWASA”, reference SW-846, “Test Methods for Evaluating Solid Waste Physical/Chemical Methods”, U.S. EPA, Third Edition, Nov 86. USEPA – “Samplers and Sampling Procedures for Hazardous Waste Streams.” EPA 600/2-80-018. Sampling Procedures Manual KSC 4-0-108 Appendix 10.0, Waste Sampling.

NOTE: ALL HAZARDOUS WASTE REQUIRING SAMPLING MUST BE SAMPLED IAW EPA 600/2-80-018 AND MUST HAVE RECORDS OF THE CHAIN OF CUSTODY.

- g. Liquid waste in pits, ponds, lagoons and similar reservoirs— Pond Samples, described in Test Methods for the Evaluation of Solid Wastes Physical/Chemical Methods. USEPA –“Samplers and Sampling Procedures for Hazardous Waste Streams,” EPA 600/2-80-018.

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4. PROCESS WASTE QUESTIONNAIRES (PWQ)

a. The waste management/disposal process begins with the identification of waste by the generators submission of a Process Waste Questionnaire (KSC Form 26-551V2 (Revision 09-06)) to MESC-Mail Code IHA 070 or Fax to 867-9390 Annt: PWQ or e-mail to KSC-PWQEnvironmental@mail.nasa.gov prior to generation of a new waste stream. In response to the submitted PWQ, The Medical and Environmental Support Contractor (MESC) prepares a Technical Response Package (TRP) specific to that process waste. The TRP should be developed and provided to the generator within 14 working days of receipt of an appropriately completed PWQ. Each individual waste is assigned a process code number, which should be used in all references to that waste. The response package details the DOT/EPA/45 SW requirements for that waste to include container size and type, marking and labeling, ID numbers, and other information needed by the generator to make support requests, fill out manifests, and provide for appropriate compliance and on-site handling. The generator, as needed, requests sampling and pickup through the appropriate scheduling offices referencing the process code, job order number (JON), technical contact and phone number (reference Section 6 of this plan).

b. The PWQ/TRP system provides a comprehensive survey and identification of waste (hazardous and non-hazardous) generating processes at 45 SW. It establishes, in conjunction with the manifest, a support system that can be used to follow a waste item from generation to final disposal. This system is required to obtain support for disposal of most wastes.

c. On the Process Waste Questionnaire, the manager of each process from which chemical waste is generated must:

(1) Identify the location and nature of the industrial operation from which the waste is produced.

(2) Identify the chemical composition of the virgin chemicals used in the operation. Clarification of trade name constituents may be available from the JBOSC or 45 ADOS/SGGB. When these constituents cannot be identified from available literature, a chemical analysis will be required.

(3) Identify the constituents of the process waste.

Identify the quantity of waste produced, the on-site (generator facility) waste staging capability, and the frequency of support that will be requested from the MESC.

(4) Identify any anticipated changes in the process that could potentially alter the chemical character or the volume of the waste.

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(5) Make recommendations for reducing the volume of process wastes, providing better segregation of waste stream at their point of origin, and for improving on-site waste staging capability.

d. After the initial sampling and analysis requirements have been met and the generator has received his/her TRP, further sampling and analysis should be minimized. A greater emphasis will be placed upon generator certification of waste characteristics.

e. The generator should keep copies of the PWQ and TRP as well as all waste analyses on file.

f. If the DRMO disposal contractor is used to accomplish disposal, DRMS Form 1930, "Hazardous Waste Profile Sheet" must be completed to document the generator's waste determination.

5. FREQUENCY OF REPETITIVE ANALYSES

a. Frequency of analysis to ensure accuracy is dependent on the characteristics of the specific waste stream, the specific components in the waste stream and the recommendation of the Joint Base Operations Support Contractor. Wastes of uncertain composition will be sampled and analyzed prior to every pickup. In accordance with AFI 32-7042, sample and analyze each high volume HW stream, more than three 55-gallon drums per year, at least annually or whenever processes, materials, or materials manufacturers change. Sample and analyze each low volume HW stream, three 55-gallon drums or less per year; at least every 3 years or whenever processes, materials, or materials manufacturers change. Frequencies of analyses increases under any of the following conditions:

(1) The owner or operator is notified or has reason to believe that the process or operation generating the hazardous waste has changed.

(2) The hazardous waste received at the off-base disposal site does not match the waste designated on the accompanying manifest or shipping paper.

(3) When receiving hazardous waste from an off site facility, the owner or operator must inspect and, if necessary, analyze each hazardous waste to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

6. PROCEDURES

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a. When sampling is required, the Waste Generator telephones the appropriate scheduler requesting sampling or completes a Schedule Authorization Form. He identifies himself, his organization, his job order number (JON), the accumulation start date (if applicable), the process code and quantity of wastes requiring sampling.

b. The Precision Cleaning and Sampling Services Contractor will be dispatched to take sample(s) by EPA protocol and deliver sample(s) for analysis by methods identified in this attachment as required. The drums will be tagged after drawing samples and the drum number annotated on the analysis sheet. Chain of Custody is maintained per EPA requirements.

c. Analytical results are returned to the waste generator. The generator will determine if the waste is hazardous and complete a PWQ if he does not already have one for this waste stream.

7. ANALYTICAL TEST METHODS:

a. Laboratory analysis of hazardous wastes are normally performed by the Aerospace Fuels Laboratory. This Air Force Logistics Command Laboratory, OL, DET 3 WR-ALC/AFTLH, telephone 853-5441, is located in Building 54800, Cape Canaveral Air Station. Analyses may be conducted by other authorized laboratories. Laboratory analysis is used to determine proper waste management. Subsequent analyses, therefore, will only be required for Quality Control purposes with methods as specified in EPA SW-846, Test Methods for Evaluating Solid Wastes. The Current requirements are to use the Toxic Characteristic Leaching Procedure (TCLP) Test Method 1311, 40 CFR 261, Appendix 2 to determine regulatory compliance with 40 CFR 261.24. Analysis for Underlying Hazardous Constituents (UHCs) may also be required.

b. All methods for analyses of waste which may be hazardous wastes within the definition of Section 3001 of the Resource Conservation and Recovery Act are performed per EPA SW 846 Test Methods for Evaluating Solid Waste and TCLP Test Method 1311. These methods satisfy the requirement of 40 CFR Part 261, Identification and Listing of Hazardous Waste for determining the reactivity, corrosivity, ignitability, and composition of the waste and the mobility of toxic species present in the waste. The specific purpose of the analysis is to determine if the waste meets the definition of a hazardous waste and then to characterize it for proper handling, manifesting and disposal.

c. Test Procedures will follow Test Method 1311 Toxic Characteristic Leaching Procedures (TCLP).

(1) Characteristic of Ignitability. SW-846, Method 1010 or Method 1020.

(2) Characteristics of corrosivity. SW 846, Method 9040.

(3) Characteristics of Reactivity. SW-846, Chapter 7, Section 7.3.2.1.

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(4) Toxicity Characteristic Wastes.

- (a) Test Method 1311 TCLP defines the extraction procedure.
- (b) After extraction the extract is tested for Toxicity Characteristic for the contaminants listed in Table 1 of 40 CFR 261.24.

(5) HALOGENATED METHANES, ETHANES, AND AROMATICS

- | | |
|---------------------------|----------------------------|
| (a) Trichloroethylene | SW-846 Method 5030 |
| (b) Carbon tetrachloride | SW-846 Method 5030 |
| (c) Vinyl chloride | SW-846 Method 5030 |
| (d) 1,1,1-trichloroethane | SW-846 Method 8260 |
| (e) 1,2-dichloroethane | SW-846 Method 5030 |
| (f) Benzene | SW-846 Method 5030 |
| (g) Ethylene dibromide | EPA 600/4-88039 Method 504 |
| (h) Tetrachloroethylene | SW-846 Method 5030 |

- (6) Other tests and observations follow detail of TCLP Test Method 1311 Standard Methods for Examination of Water and Wastewater, 15th edition.

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TCLP Maximum Concentration of Contaminants Toxic for Toxicity Characteristic Rule

SW-846 ANALYTICAL WASTE		MAXIMUM CONCENTRATION		
TEST METHOD	CONTAMINANT	(Milligrams per liter)		CODES
7060	Arsenic	5.0		D004
7080	Barium	100.0		D005
7130	Cadmium	1.0		D006
7190	Chromium	5.0		D007
7420	Lead	5.0		D008
7470	Mercury	0.2		D009
7740	Selenium	1.0		D010
7760	Silver	5.0		D011
3510	Endrin	0.02		D012
3510	Lindane	0.4		D013
3510	Methoxychlor	10.0		D014
3510	Toxaphene	0.5		D015
3510	2,4-D	10.0		D016
3510	2,4,5-TP (silvex)	1.0		D017
5030	Benzene	0.50		D018
5030	Carbon tetrachloride	0.50		D019
3510	Chlordane	0.03		D020
5030	Chlorobenzene	100.0		D021
5030	Chloroform	6.0		D022
3510	*o-Cresol	200.0		D023
3510	*m-Cresol	200.0		D024
3510	*p-Cresol	200.0		D025
3510	*Total Cresol	200.0		D026
3510	1,4-Dichlorobenzene	7.5		D027
5030	1,2-Dichlorethane	0.50		D028
5030	1,1-Dichloroethylene	0.70		D029
3510	**2,4-Dinitrotoluene	0.13		D030
3510	Heptachlor (and its epoxide)	0.008		D031
3510	**Hexachlorobenzene	0.13		D032
3510	Hexachlorobutadiene	0.5		D033
3510	Hexachloroethane	3.0		D034
5030	Methyl Ethyl Ketone	200.0		D035
3510	Nitrobenzene	2.0		D036
3510	Pentachlorophenol	100.0		D037
3510	**Pyridine	5.0		D038
5030	Tetrachloroethylene	0.7		D039
5030	Trichloroethylene	0.5		D040
3510	2,4,5-Trichlorophenol	400.0		D041
3510	2,4,6-Trichlorophenol	2.0		D042
5030	Vinyl chloride	0.20		D043

*If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (DO26) concentration is used. The regulatory level for total cresol is 200.0 mg/l.

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

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(7) If an unknown waste is received for analysis or if a waste from off site requires an analysis verification, an infrared scan will identify major organic components. If the sample is essentially water or has a water layer, the sample would be first extracted and the extract subjected to the infrared scan for identification of major organic components. Complete analysis would follow.

8. EXPLOSIVE ORDNANCE

a. Prior to thermal treatment chemical analysis is not normally required.

b. After thermal treatment:

(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.

9. LAND DISPOSAL RESTRICTIONS (LDR)

a. Background

(1) The Resource Conservation and Recovery Act (RCRA) was passed in 1976 to address the problem of safely disposing of enormous volumes of municipal and industrial solid waste. RCRA is continuously evolving as Congress amends it to reflect changing needs. The Hazardous and Solid Waste Amendments of 1984 (HSWA) significantly expanded both the scope and requirements of RCRA.

(2) One provision of HSWA requires the USEPA to evaluate all hazardous wastes to determine if land disposal of each is protective of human health and the environment. Congress imposed a strict schedule according to which USEPA must get a treatment standard for each hazardous waste. If a deadline is not met, the waste is prohibited from land disposal. These required treatment levels, or methods of treatment, substantially reduce the toxicity of the wastes, or the likelihood that hazardous constituents of the wastes will migrate from a land disposal unit. Once a treatment standard is established, a hazardous waste must meet all applicable treatment standards before it can be land disposed.

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(3) HSWA defines land disposal to include, but not be limited to, placement of wastes in a landfill, surface impoundment land treatment facility, injection well, waste pile, salt dome or bed, underground mine or cave, and concrete vault or bunker.

b. To carry out the HSWA requirement for evaluation of all hazardous wastes, the USEPA implemented the land disposal restriction (LDR) program. Congress set a five phase schedule by which the USEPA must establish treatment standards for all RCRA listed and characteristic hazardous waste.

c. The LDR program applies to generators; transporters; and treatment, storage and disposal facilities. All interim status and permitted facilities are subject to the restrictions regardless of existing permit conditions.

d. CCAFS and PAFB 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 MESC 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 the ESC (476-2310 or 853-6988) for CCAFS manifests and to 45 CES Environmental Office (494-2899) for PAFB generated manifests. All manifests and certificates shall be retained, for inspection purposes, indefinitely.

10. FREE LIQUIDS IN LANDFILL-DIRECTED CONTAINERIZED OR BULK WASTE

a. On February 25, 1982, the EPA proposed a paint filter test for landfill operators to use to determine the presence of free liquids in sludges, semisolids, slurries, and other wastes that are commonly received in containers. The test is for demonstrating the presence or absence of free liquids in both containerized and bulk waste (in conjunction with 264.314 and 265.314).

b. The finalized testing procedure calls for a 100 ml (or 100 gram, depending on the material's viscosity) sample of the waste to be placed in a conical paint filter (mesh number 60) for five minutes. Three options have been provided by the EPA for support of the filter: 1) The paint filter alone can be supported by a ringstand, 2) the paint filter can be supported by a fluted glass funnel, 3) the paint filter can be supported by a glass funnel with an open mouth that allows at least one inch of the filter mesh to protrude. Regardless of which option is used, a beaker or cylinder is to be placed below the funnel to capture any liquid that may pass through the filter. As specified by the EPA, "if after five minutes any amount of liquid passes through the filter, the waste is considered to contain free liquids."

c. This paint filter test will be used to implement the ban on the placement of bulk liquid hazardous wastes, and free liquids contained in hazardous wastes, in any permitted or interim status landfill (40 CFR 264.314 (b)).

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d. Effective Date: May 8, 1985.

e. Sections of 40 CFR affected are: 260.11; 264.13, 73, 314; 265.3, 73, 302, 314.

f. Further Information: Consult EPA Publication SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," Third Edition, July 1982, as amended by Update I, II, IIA, IIB, III, and IIA which is available from the US Government Printing Office or online at www.epa.gov/epaoswer/hazwaste/test/sw846.htm.

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45th Space Wing

Patrick Air Force Base, Florida 32925-3239

February 2009

OPLAN 19-14

ANNEX G

TRAINING PLAN

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OPLAN 19-14 TRAINING PLAN ANNEX G

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ANNEX G TRAINING PLAN

1. POLICY:

a. For hazardous waste generators and personnel working in hazardous waste TSD facilities and hazardous waste accumulation sites, Hazardous Waste Training is required by the EPA, OSHA, Florida Department of Environmental Protection (FDEP), and AFI – 32-7042. Hazardous waste training should inform personnel on 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 RCRA must receive hazardous waste training within 6 months of the date they are assigned to hazardous waste duties, per 40 CFR 265.16

c. No new employee will 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 be retrained annually.

e. Training programs will be reviewed annually.

f. Training courses will be offered on the installation at a minimum of semiannually.

2. REFERENCES

a. 40 CFR 264.16, Personnel Training, Hazardous Waste Management.

b. FRP 10-2, Volume I.

c. FRP 10-2, Volume II, 45th Space Wing Hazardous Material (HAZMAT) Emergency Planning and Response.

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

e. FRP 10-2, Volume II, Annex C and Annex D Spill Prevention Control and Countermeasure (SPCC) Plans for CCAFS and PAFB (respectively).

f. AFI 32-7042, Solid and Hazardous Waste Compliance.

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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 Appendix 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 to 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 265.16. 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.

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- (b) Documentation
 - (1) The Inspection Log.
 - (2) Follow-up.
- (4) Facility Support Procedures.
 - (a) MESC Services
 - (b) ESC
 - (c) Installation Environmental Compliance.
 - (d) Safety.
 - (e) Fire Department.
- (5) Records and Reports.
 - (a) Manifests.
 - (b) Training Records.
 - (c) Inspection Logs.
- (6) Packaging of Hazardous Wastes.

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Appendix 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 265.16.

The Accumulation Site Managers 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 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: _____

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OPLAN 19-14

ANNEX H

INSPECTION PLAN

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OPLAN 19-14 INSPECTION PLAN ANNEX H

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INSPECTION PLAN ANNEX H

1. PURPOSE

a. An Inspection Plan is required by the EPA 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 OPLAN.

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

c. The Inspection Plan provides specific frequencies for inspections. These include the inspection of waste in storage, safety and emergency equipment, security devices, monitoring equipment, and operating and structural 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 265.195 - Inspections.

3. POLICY

a. All RCRA storage and treatment facilities and <90-day accumulation facilities will have a written inspection plan (45 SW OPLAN 19-14, Annex H). Facility inspections must include loading and unloading areas.

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

c. 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.

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4. RECORDS

a. All RCRA storage and treatment facilities and <90 day accumulation facilities will have a copy of this Inspection Plan (45 SW OPLAN 19-14, Annex H) readily available.

b. The operator must record the periodic prescribed inspections on an inspection log (Appendix 1). At a minimum, inspections will be performed and recorded once every 7 days and will include the date and time of the inspection, the legibly printed name of the inspector, the inspectors 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.

Tanks used to accumulate hazardous waste must be inspected by the operator at least once each operating day. EPA has clarified that "each operating day" has been defined as "every day the tank is in operation (i.e., storing or treating hazardous waste) and not necessarily just on days the facility is open for business." The inspection must be recorded on an inspection log, for an example of a tank inspection log, see Appendix 2.

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APPENDIX 1 HAZARDOUS WASTE WEEKLY INSPECTION CHECKLIST

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 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 drums are in designated area..... | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| 15. Make sure Contingency Plan, Management Plans and emergency phone numbers are available..... | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| 16. Number of containers in storage..... | _____ | _____ | _____ | _____ | _____ | _____ | _____ |

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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APPENDIX 2 TANKS INSPECTION CHECKLIST

{NOTE: HAZARDOUS WASTE SHALL NOT BE ACCUMULATED IN THE TANKS FOR GREATER THAN 80 DAYS (TIME WHEN THE FIRST AMOUNT OF HAZARDOUS WASTE IS PLACED INTO THE TANKS UNTIL IT IS REMOVED)}

TANK ID NUMBER →	T1	T2	T3	**T8	**T9
ESTIMATED AMOUNT OF HAZARDOUS WASTE IN TANKS (GALLONS)					
VERIFY NO LEAKAGE FROM TANKS INTO REVETMENT OR FROM REVETMENT INTO OUTSIDE AREAS					
VERIFY HIGH LEVEL ALARM IS FUNCTIONAL FOR TANK BEING FILLED					
VERIFY ALL TANKS CONTAINING WASTE ARE LABELED AND HAVE ACCUMULATION START DATE ON THEM					
RECORD ACCUMULATION START DATE					
VISUALLY VERIFY NO SIGN OF DAMAGE OR CORROSION ON TANKS					
VISUALLY VERIFY WASTE LINE HAS NO DAMAGE, LEAKS, OR CORROSION					
VERIFY EYEWASH AND SHOWER FUNCTION PROPERLY					
VERIFY EMERGENCY SPILL EQUIPMENT IN PLACE					
DATE WASTE MUST BE REMOVED BY:					
COMMENTS:					

NOTE: IF LEAKS OF ANY TYPE ARE NOTED DURING DAILY INSPECTION, IMMEDIATELY CALL "911".

IF THE SITUATION WARRANTS CLEAN-UP OR IF POSSIBLE ENVIRONMENTAL CONTAMINATION COULD OCCUR, 45 SW FRP 10-2 VOLUME II WILL IMMEDIATELY BE IMPLEMENTED.

**INDUSTRIAL RINSE WATER (NON-HAZARDOUS) ONLY

VERIFY COMPLETION: **NAME:** _____
SIGN: _____
DATE: _____

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Patrick Air Force Base, Florida 32925-3239

February 2009

OPLAN 19-14

ANNEX J

PETROLEUM PRODUCTS AND HAZARDOUS WASTE

MANAGEMENT PLAN FOR

ASCENSION AUXILLARY AIR FIELD

AND ANTIGUA AIR STATION

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OPLAN 19-14

ANNEX J

WASTE PETROLEUM PRODUCTS AND HAZARDOUS WASTE MANAGEMENT PLAN

FOR

ANTIGUA AIR STATION AND ASCENSION AUXILIARY AIR FIELD

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1. PURPOSE

The purpose of this plan is to supplement 45th Space Wing (SW) OPLAN 19-14 in order to implement environmental controls for the generation, storage, reuse, and disposal of petroleum products, hazardous materials and hazardous wastes at Antigua Air Station (AS) and Ascension Auxiliary Air Field (AAF). The plan addresses policy, responsibilities, storage site requirements and maintenance, emergency procedures, contingency plans, security, training, and closure.

2. POLICY

a. All policies stated in 45th SW OPLAN 19-14 apply to this Annex.

b. All handling of petroleum products, hazardous materials and hazardous waste generated downrange must comply with host government and Air 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.

c. Actions that affect the environment of the host nation must also comply to Air Force Instruction 32-7061, Environmental Impact Analysis Process.

d. Hazardous wastes generated must be identified by an installation specific Environmental Protection Agency (EPA) Identification Number (ID). Antigua AS's EPA ID number is FL8590028454 and Ascension AAFs EPA ID number is FL4570028452.

e. Hazardous wastes shipped from the downrange stations 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. DRMO contractors are the normal means of transportation within the U.S. and have transporter EPA ID numbers.

f. Waste/excess materials from downrange stations may be processed and dispositioned by the Defense Reutilization and Marketing Office (DRMO). Waste that requires off-site disposal should not be transported to 45 SW mainland sites until the DRMO contracted transport/disposal contractor is in place and prepared to meet the shipment from downrange. Wastes from downrange may not be stored on 45 SW mainland sites without prior approval from 45 CES Environmental Office. Approval may also be required from the installation Fire Protective Services and Safety Office where the waste is to be stored.

g. Site specific Spill Prevention, Control and Counter Measure Plans are available for downrange stations. CEMP 10-2 Annex G is for Ascension Auxiliary Airfield and CEMP 10-2 Annex H is for Antigua Air Station.

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h. Polychlorinated Biphenyl (PCB) items will be disposed of only through DRMO. Disposal procedures are described in the PCB Items Control Plan, 45th SW OPLAN 19-16.

i. Asbestos removal and disposal shall be accomplished in accordance with the Environmental Protection Agency (EPA) and Host Regulations. Any removal and disposal must be coordinated with 45 CES Environmental Office prior to removal. Properly packaged asbestos waste will be turned over to DRMO for final disposal in CONUS.

j. Air Force environmental policy includes the goal of reducing hazardous waste generation. Preferred options include; cessation of waste generation; reuse; or treatment to render the waste non-hazardous. Recovery of petroleum waste products for combustion in powerhouses is preferred over off-site disposal. Suggestions for waste reduction are solicited.

k. All used oil that is not recycled or reclaimed by an oil recovery unit on site will be stored in drums and turned-in to DRMO. Shipment of the used oil will be coordinated by the DRMO.

l. Storage of petroleum products, hazardous materials and hazardous waste should be on a curbed impermeable surface with secondary containment that is capable of holding at least 110 percent of largest container's total capacity. The storage area should be protected from the elements. The base commander or Eastern Range Technical Services Contract (ERTSC) contractor; Computer Sciences Raytheon (CSR) must identify equipment or facility requirements to the Range Facilities, 45 CES Environmental Office.

m. Any chemical producing an acutely hazardous waste will be reported to 45 CES Environmental Office, 45th ADOS/SGGB, and ERTSC before its use.

n. Air Force employee Personal Protective Equipment requirements are determined by supervisory coordination with the Bioenvironmental Engineering Office, 45th ADOS/SGGB, in accordance with AFOSHSTD 91-501, Personal Protective Equipment. Fire suppression systems as determined by the installation Fire Department will be used. Eyewash and showers as identified in AFOSH Standard 127-32 should also be available. Managers and supervisors of the accumulation and storage areas are responsible for availability, maintenance, and use of all protective equipment.

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3. RESPONSIBILITIES

The following personnel will perform duties listed in addition to those specified in OPLAN 19-14.

a. Base Commander

The senior Air Force representative assigned to the station, or his designee, will provide staff surveillance and monitor contractor and user activities covered by this plan to ensure the best interests of the Air Force.

b. Station Manager

(1) Ensure that this plan will be implemented and correctly followed. The Station Manager's office will approve any additional support items needed by this plan.

(2) Notify all occupants on the station annually of their responsibilities covered by this plan. This notification can be an administrative bulletin distributed to all occupants and/or posted on bulletin boards.

(3) Designate personnel to manage the hazardous material/waste and petroleum products at each generating site.

(4) Ensure that personnel receive the proper training in order to implement this plan.

(5) Provide recommendations for revisions to this plan annually.

c. Eastern Range Technical Services Contractor (ERTSC) Environmental Technician

(1) Inspect each area that has petroleum products and/or hazardous materials/waste and ensure that these areas/activities are in compliance with this plan.

(2) Ensure personnel receive training on the procedures for handling, storing, and disposing of all wastes and shall document such training.

(3) Ensure proper collection, segregation, packaging, labeling, and disposal of wastes.

(4) Maintain a current status of all areas on the station that generate, handle, store, and dispose hazardous materials, hazardous wastes or petroleum products. A list of all areas including quantity and type of waste stored will be maintained and available at all times.

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(5) Prepare and review, Hazardous Waste Profile Sheet, DRMS Form 1930 (Appendix 1), for each waste stream annually and maintain a file copy on station. The ERTSC Environmental Services at Patrick Air Force Base will forward the completed Hazardous Waste Profile sheets to DRMO.

(6) Inspect storage areas weekly and document the inspection on Inspection Checklist (Appendix 2) for spills/leaks which could contaminate the environment in or around the station.

(7) Implement waste minimization programs.

d. 45 CES Environmental Office

(1) Responsible for the downrange environmental program including contractor compliance with this plan.

(2) Ensure that this plan is revised and updated annually.

(3) Review this plan to ensure that all changes in the host government's environmental policy are incorporated.

(4) Review Hazardous Waste Profile Sheet (DRMS-1930) annually to see if recycling/reuse could be incorporated at the station.

e. Eastern Range Technical Services Contractor (ERTSC) Environmental Services

(1) Oversee the Hazardous Waste Management Programs for Antigua Air Station and Ascension Auxiliary Air Field. Collect and consolidate technical data and prepare, revise and update hazardous waste management procedures. Review facility adequacy. Provide training for personnel managing hazardous wastes. Coordinate with other agencies/contractors to insure 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.

(2) Provide 45 CES Environmental Office with the host government's environmental regulation and policies.

(3) Perform an annual environmental audit reviewing facility adequacy, spills control measures, waste minimization efforts, recycling, reuse programs, disposal procedures, and other environmental practices.

(4) Advise 45 CES Environmental Office of any changes in the environmental policy of the host government.

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(5) Obtain coordination/approval from host for USAF activities as needed.

(6) Reviews plans for construction or modification of hazardous waste treatment, storage, or disposal facilities.

(7) Maintains the installation hazardous waste stream inventory.

f. 45 ADOS/SGGB, Bioenvironmental Engineering

(1) When requested, collects, prepares, and arranges for the transport of hazardous waste samples to an approved laboratory for analysis and interprets analytical results.

(2) When requested, review and/or approve Chemical/Hazardous Material Request/Authorization (AF Form 3952) and provides Material Safety Data Sheets (MSDS) and other chemical hazard information needed.

(3) As requested, and during routine surveys, identifies special personal protective equipment (PPE) requirements for Air Force personnel.

g. Defense Reutilization and Marketing Office (DRMO)

(1) 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 salability.

(2) Markets excess and/or reusable materials in accordance with Defense Logistics Agency (DLA) procedures and federal, state and local regulations.

(3) Obtains contracts for offsite disposal of PCB items in accordance with (IAW) federal and state regulations.

(4) Obtains offsite disposal contracts IAW applicable regulations for hazardous and non-hazardous wastes for all Down Range sites upon request.

(5) Provides technical assistance for the turn-in disposition of retrograde materials and wastes.

h. Eastern Range Technical Services Contractor

(1) Each organization generating hazardous waste bears the responsibility for identifying, minimizing, packaging, labeling, preparing the turn in documents, and administering, 45 SW OPLAN 19-14 and other applicable regulations regarding their wastes.

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- (2) The generator is responsible for sample request and turn-in documents.
- (3) Ensure record keeping is complete and up-to-date.
- (4) Ensure personal protective equipment is used as needed for safety.
- (5) Identify facility and equipment requirements to 45 CES/CECD.

4. SITE REQUIREMENTS AND MAINTENANCE

a. Accumulation/storage sites for material/waste must conform to the following requirements:

- (1) Containers should be located on impervious surfaces.
- (2) Sites should be curbed for containment. 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.
- (3) Signs will be posted identifying the site, name and telephone number of the person responsible for the site, and the type of waste being stored.
- (4) "No Smoking" signs will be posted at facilities containing flammables, combustibles or reactive and a portable fire extinguisher will be present. The installation Fire Department will provide and inspect required equipment.
- (5) All containers will be marked with contents.
- (6) Containers will be UN approved performance oriented packaging (POP), compatible with waste to be stored, and in good structural condition.
- (7) Neutralizers in sufficient quantity will be available at all facilities handling acids or caustics.
- (8) Oil-dry material (absorbents) will be present in sufficient quantities at all solvent and petroleum product sites.
- (9) Aisle space between rows of drums will be maintained at all times.
- (10) All personnel working with hazardous materials/petroleum products must know location of Emergency Response Equipment (spill kit).
- (11) Intrinsically safe telephone, alarm or two-way radio systems must be immediately accessible during operations.

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(12) Emergency tie-down equipment will be made available for each site as necessary for protection against severe storm and high wind conditions.

(13) Proper electrical grounding will be used whenever filling or emptying ignitable containers.

(14) Hazardous Waste Profile Sheets (DRMS-1930, Appendix 1) for established waste streams will be submitted by 1 December each year to 45 CES Environmental Office, and DRMO. New waste streams generated during the year will require a profile sheet to be submitted to DRMO at the first time of generation and then, once established as a waste stream, by 1 December each year. Provide the analysis or MSDS used to make the waste determination. This generation forecast will be used for:

- Planning for disposition of wastes
- Determining recycling uses on installation
- Determine a basis for DRMO sale/disposal
- Hazardous waste reduction/minimization planning
- Budgeting for disposal

(15) All containers should be marked with the DOT classification as soon as it is determined.

b. Maintenance of the site will include:

(1) Removal of dirt, leaves, trash, rainwater, and other items within the site and sump area.

(2) Inspection of pad weekly to determine if the pad is clean, structurally sound, and that no containers are leaking. Inspections should be documented on the Inspection Checklist (Appendix 2), and kept in an operating record at the facility.

(3) Assure that unit oil/water separators are properly serviced. Dirt must be removed periodically. Oil must be pumped out on a regular schedule and disposed of properly.

5. CONTINGENCY PLAN AND EMERGENCY PROCEDURES

A site specific Spill Prevention, Control, and Countermeasure Plan is used in the event of a spill and outlines the proper procedures for notification, reporting, containment, and cleanup of spills. All spill incidents will be reported to ERTSC Environmental Services Office at (321) 494-5210 immediately. Environmental Spill Response and Incident Report forms can be found in FRD 10-2, Annex G for Ascension Auxiliary Station and Annex H for Antigua Air Station. In addition, forms can be obtained from the ERTSC Environmental Services office.

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6. TRAINING

a. All personnel handling hazardous wastes must receive hazardous waste training no later than six months after assignment to hazardous waste duties and at least once every 12 months thereafter. A new hazardous waste operator must work under direction of a trained operator until hazardous waste training is received.

b. Training can be a combination of on-the-job and classroom instruction. All training must be documented and the Station Training Coordinator and ERTSC Environmental Services will document training and keep records.

c. The training program must include: information on the characteristics of the wastes handled; emergency plan implementation; facility use, maintenance and inspection; generator responsibilities; waste accumulation and management; personnel protection, safety on the site and any other relevant material dealing with the wastes handled.

d. The ERTSC Environmental Services Section will provide hazardous waste training. Personnel are not required to take the Air Force training but are responsible for having documented hazardous waste training IAW 40 CFR 265.16.

7. DISPOSITION AND DISPOSAL

a. Waste generators should recycle or reuse in lieu of disposal when possible.

(1) Generators of used oil will, whenever possible, collect and recycle the oil to the power plant. Generators of used oil will collect and recycle the oil through the on-station recycling equipment. ERTSC Environmental Services will arrange for sampling and analysis of used oil that is questionable, or oil that may be contaminated, prior to attempted recovery of the used oil through the oil recycling equipment. It is essential that used petroleum products be segregated from all other wastes including contamination from halogenated solvents, antifreeze, grease, water and debris.

(2) Waste paint and degreasing solvents should be recycled through a distillation unit. The units are easy to use and will distill from five to 100 gallons. The use of water-based paints and biodegradable solvents are preferred over petroleum-based products. Water based products can usually be disposed of on-site.

(3) All corrosives should be neutralized with the proper neutralizing agent before disposal. Questions concerning the proper neutralization procedure to be used should be directed to ERTSC Environmental Services.

(4) Proper selection of materials, venting control and proper management/treatment of wastes can reduce the volume and/or toxicity of wastes. See OPLAN 19-14 Annex E, Waste Minimization Plan for specific instructions.

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b. The area selected for final disposal of wastes must be coordinated with the Environmental Technician, ERTSC Environmental Services, Deputy Station Manager, Facilities Support Station Manager, Base Commander, the Host Government, and 45 CES Environmental Office.

(1) Any hazardous waste or waste petroleum product not able to be treated or recycled on the island should be disposed of through the PAFB DRMO office. Any shipment of waste will be coordinated with DRMO, MTG/CC, 45 CES Environmental Office, and ERTSC.

(2) Arrangements should be made prior to shipment for wastes to be met by and immediately off-loaded onto a licensed transport vehicle in accordance with EPA and International Maritime Dangerous Goods (IMDG) regulations. No wastes from Downrange will be stored on CCAFS prior to off-site disposal without prior approval from 45 CES Environmental Office.

(3) All non-usable empty containers that previously contained non-hazardous material or wastes should be crushed and disposed of at a landfill location designated by the Base Commander.

(4) Procedures for cleaning of drums in poor condition, which previously contained hazardous materials/wastes, will be evaluated on a case-by-case basis by ERTSC Environmental or 45 CES Environmental Office.

(5) Out-of-service batteries will be turned-in to the DRMO for recycling or hazardous waste disposal. Automotive batteries should be shipped with acid remaining in them. Battery caps must be kept on the batteries and all terminals will be insulated prior to packaging and shipping. Batteries that are cracked or missing caps must be drained and the acid neutralized. ERTSC Environmental Services will provide direction on proper neutralization methods and determine if neutralized acid is a hazardous waste.

(6) Any hazardous waste or waste petroleum product not able to be treated or recycled on the island should be disposed of through the PAFB DRMO office. Any shipment of waste will be coordinated with DRMO, MTG/CC, 45 CES Environmental Office, and ERTSC.

(7) Arrangements should be made prior to shipment for wastes to be met by and immediately off-loaded onto a licensed transport vehicle in accordance with EPA and International Maritime Dangerous Goods (IMDG) regulations. No wastes from Downrange will be stored on CCAFS prior to off-site disposal without prior approval from 45 CES Environmental Office.

8. DRMO TURN-IN PROCEDURES

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a. The Defense Reutilization and Marketing Service provides hazardous waste/material resale, disposition or disposal services to the downrange stations under DLA authority when these materials/wastes are properly reported to the DRMO. ERTSC personnel will notify DRMO at Cape Canaveral Air Force Station when hazardous waste is generated and ready for disposal.

b. DRMO procedures require that the DRMO determine whether or not an item has Reutilization/Transfer/Donation (R/T/D) or Sales potential prior to ultimate disposal. The procedures require reporting to DRMO of eligible material for disposition via a Form DD 1348-1a. The DRMO will then determine the R/T/D or Sales potential and make a disposition evaluation.

c. Hazardous Waste Profile Sheets (DRMS form 1930) are required by the DRMO only once a year, by 1 December, for existing continuous waste streams. A profile sheet should be provided to the DRMO the first time the waste stream is generated and annually, thereafter, on 1 December only for waste streams that will continue to be generated.

d. DRMO will arrange for ultimate disposal of Hazardous waste (HW) utilizing the services of a DLA Contractor. It is the responsibility of the Generating Activity to turn the HW in to the DRMO on a properly filled out DD Form 1348-1a with supporting documentation (MSDS, Waste Profile Sheet, Analysis, etc.) as outlined in DoD 4160.21 M, and DRMO 6030.1. The DRMO Contracting Officer Representative (COR) will assist the Generator in determining the Reutilization/Transfer/Donation (R/T/D) Sales potential of hazardous materials (HM) prior to turn in. HM with R/T/D/Sales potential will be turned in to the DRMO using the same turn in procedures already in place for non-hazardous property. All HM/HW to be turned-in to the DRMO must be inspected by the Station ERTSC Environmental Technician prior to being packaged for shipment. The DRMO Contractor will be responsible for preparing hazardous waste for shipment (packaging, labeling, manifesting, placard, etc.). The ERTSC Environmental Section and Transportation Officer will prepare Customs declarations for retrograde waste and provide documentation to DRMO.

e. Transportation costs for Disposal Contractor personnel to and from the downrange stations will be borne by the Air Force. Transportation cost for DRMO COR will be borne by DRMS. Clearances required for travel to the downrange stations will be arranged for by Air Force/Downrange personnel. The DRMO will coordinate the shipment of hazardous waste with Air Force Base Transportation and Downrange Supply.

9. 9. CLOSURE

a. Within a year after a site is no longer used for the storage of petroleum products or hazardous wastes, removal of any remaining material and decontamination of area is required. The 45 CES Environmental Office will be notified prior to closure of the site.

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This action will be followed up with a written document to 45 CES Environmental Office to certify that the site is clean.

b. Antigua AS hazardous waste storage area is facility number 24968. The facility is a concrete pad approximately 800 square feet surrounded by a chain link fence w/gates and covered with an aluminum roof. The maximum storage capacity of the facility, assuming isle space requirements are ignored and drums are double stacked, is about 400, 55-gallon drums or approximately 240,000 pounds. Under normal conditions 5,000-15,000 pounds of hazardous waste are stored in the facility prior to a shipment.

c. Ascension Hazardous Waste Storage Area is facility number 23210. The facility is a concrete pad approximately 3600 square feet surrounded by a chain link fence w/gates and covered with an aluminum roof. The maximum storage capacity of the facility, assuming isle space requirements are ignored and drums are double stacked, is about 1800, 55-gallon drums or approximately 1,000,000 pounds. Under normal conditions 10,000-15,000 pounds of hazardous waste are stored in the facility prior to a shipment.

d. The following is an outline of steps to be taken to achieve closure of the facilities:

(1) Drain all sumps, pumps and process equipment of all hazardous wastes into appropriate containers. Decontaminated equipment or characterize for disposal. Label all containers clearly to identify contents.

(2) Characterize and profile all waste streams in storage.

(3) Inspect storage area pad and surrounding areas for discoloration or other evidence of releases especially stressed or dead vegetation.

(4) Review spill records for spill history in the area.

(5) Decontaminate pad and or surrounding areas as required. This could include sweeping, pressure water washing, scrubbing or soil excavation. Characterize and manage all residues and PPE from the decontamination operations.

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(6) Sample for the contaminants of concern if necessary to verify decontamination efforts were successful.

(7) Prepare appropriate paperwork and transfer all hazardous waste decontamination residues and PPE, if required by characterization, to DRMO for transport and disposal.

(8) There is no scheduled closure date for the downrange hazardous waste storage areas at this time.

e. Petroleum Tank Closure:

(1) Drain all tanks, pipes, sumps, pumps and process equipment of all petroleum products into appropriate containers. Label all containers clearly to identify contents.

(2) Transfer all drummed petroleum products to an area where they can be reused or disposed of properly.

(3) 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 will be characterized and disposed of appropriately.

(4) If the tank is still in useable condition and can be used at another facility for storage of the 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.

(5) Sample area, if necessary, to determine if there is any residual contamination remaining.

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INSTRUCTIONS FOR DRMS FORM 1930 (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 DoDAAC + 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 if 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). Bilayered 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.

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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", "naphthalene", "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 268.45 standards*", then you must indicate any UHCs present in the waste *if they are present above the levels specified in part 268.45*.

- *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, MSDS, 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

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Appendix 2

HAZARDOUS WASTE WEEKLY INSPECTION CHECKLIST

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 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 drums are in designated area..... | | | | | | | | |
| 15. Make sure Contingency Plan, Management Plans and emergency phone numbers are available..... | | | | | | | | |
| 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.

Attachment 2

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Appendix 3

FACILITIES HANDLING PETROLEUM PRODUCTS, HAZARDOUS MATERIALS OR HAZARDOUS WASTE ANTIGUA AIR STATION

NAME OF FACILITY	FACILITY NUMBER	TYPE OF WASTE	GALLONS/ YEAR	DISPOSITION
POV Service Rack	24819	Lube Oil Antifreeze Lead Acid Batteries Oil / Fuel Filters	110	Recycle-R & D Disposal D Recycle-R Recycle-D
Vehicle Maintenance Paint / Body Paint Shop	24826	Paints Thinners	80 20	Disposal-D Disposal-D
Auto Maintenance Shop	24903	Lube Oil Degreasing Solvents	1,500 200	Recycle-R & D Disposal-D
Old Power Plant	24904	Fuel Oil	165	Recycle D
Power Plant East Source	35235	Fuel Oil Lube Oil	500 1,500	Recycle-R Recycle-R
Power Plant West Source	35213	Fuel Oil Lube Oil	500 1,500	Recycle-R Recycle-R
Maintenance Facility	35185	Lube Oil Solvents	200 100	Recycle-R Recycle-D
Bottled Gas Storage	24942	Oxygen, Argon, Nitrogen, Refrigerants, Propane, Various Calibration Gasses Acetylene	100 Cylinders	Storage-S
Hazardous Waste Storage Facility	24968	POLs Solvents Paint Related Corrosive Other Spent Lamps	2,000 200 500 50 50 800 lb	Disposal-D Disposal-D Disposal-D Disposal-D Disposal-D Recycle-R
Hazardous Materials Storage	Prefabs on Seavan Pad 24977	Corrosive Oxidizers Paints Putties Solvents	100 100 150 25 100	Storage-S Storage-S Storage-S Storage-S Storage-S
Warehouse 10	25037	POLs	5500	Storage-S
Latex Paint Storage Facility	25039	Paints	450	Storage-S
Radar Hazardous Materials Storage	34527	POLs Solvents	100 50	Storage-S Storage-S
TAA-8Apedestal	35230	POLs Solvents	100 50	Disposal-R&D Disposal-D
Pesticide Storage	Prefab	Various Pesticides	30	Storage-S

NOTES: D = Disposal or recycle through DRMO
R = Recycle on-site to use for energy recovery in heat or power plant or recycling facility
S = Storage for future use on facility
STP = Dispose of through sewage treatment plant

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Appendix 3 (Continued) FACILITIES HANDLING PETROLEUM PRODUCTS, HAZARDOUS MATERIALS OR HAZARDOUS WASTE ASENSION AAF

NAME OF FACILITY	FACILITY NUMBER	TYPE OF WASTE	GALLONS/ YEAR	DISPOSITION
Bottled Gas Storage	12009	Oxygen, Refrigerants, Oxygen, Sulphur Hex, Acetylene, Oxygen, Propane, Nitrogen, Argon, Acetylene, and Specialty Gas For Calibrating Equipment	200 Cylinders	Storage-S
Power Plant (Old)	12060	Lube Oil Paints	500 150	Storage-S Storage-S
Pesticide Storage Facility	12084	Various Pesticides	30	Storage-S
Auto Maintenance Shop	12150	Lube Oil Degreasing Solvents Lead Acid Batteries Oil / Fuel Filters	1,000 240	Recycle-R & D Disposal-D Recycle-D Recycle-D
Heavy Equipment Vehicle Maintenance Shop	12153	Lube Oil Batteries	500	Recycle-R & D Recycle-D
Paint Spray/Vehicle shop	12182	Paint Solvents	100	Disposal-D
Hazardous Materials Warehouse	12306	Lubricants	1,000	Stored-S
Hazardous Materials Storage Facility	12332	Lubricants Corrosives	5,000 100	Disposal-D Disposal-D
Power Plant	12350	Lube Oil Degreasing Solvents Spent Acid Solution	1,600 150 1,600	Recycle-R & D Disposal-D Disposal-D
Paint/Hazardous Material Prefab Storage Buildings	12356	Paints Thinner Corrosives Oxidizers Sealants/Putties	1,200 300 500 200 50	Storage-S Storage-S Storage-S Storage-S Storage-S
Bottled Gas Storage	16554	Sulphur Hex	20 Cylinders	Storage-S
Sandblast/Paint Facility	20606	Paints Thinners	1800 200	Disposal-D Disposal-D
Hazardous Waste Facility	23210	Paint Related Materials POLs Solvents Corrosive Spent Lamps Other	400 50 200 50 1,200 lb 100	Disposal-D Disposal-R & D Disposal-D Disposal-D Recycle-D Disposal-D
Vehicle Service Pad	24229	Lube Oil Degreasing Solvents	120 60	Recycle-R&D Disposal-D
Age Shop (Air Field)	24230	Lubricants Fluids	220 110	Disposal-R & D Disposal-D

NOTES: D = Disposal or recycle through DRMO
R = Recycle on-site to use for energy recovery in heat or power plant
S = Storage for later use on facility
STP = Dispose of through sewage treatment plant

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45th Space Wing
Patrick Air Force Base, Florida 32925-3239
February 2009

Appendix 4
WASTE ANALYSIS PLAN
Oplan 19-14
Supplement for
Antigua Air Station and Ascension Auxiliary Air Field

1. GENERAL: A Waste Analysis Plan is required in accordance with Air Force regulations for use by Down range operations support personnel. Support personnel are required to understand the hazards of the materials they work and how to manage the waste generated from processes.

2. REQUIREMENTS:

a. 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, the Environmental Services Dept. and the DRMO.

b. Analysis parameters for wastes are determined by using MSDS from products that make up the waste and by determining what the most likely contaminants may be based on the waste generating process.

3. SAMPLING METHODS: The sampling methods used to obtain representative samples of waste meets the requirements of EPA sampling protocol. Sampling methods vary based on the type of sample taken. Reference the FDEP approved sampling plan for Wiltech for the additional information.

a. Extremely viscous liquid - ASTM Standard D-140-88.

b. Crushed or powdered material - ASTM Standard D-346-78.

c. Soil or rock-like material - ASTM Standard D-420-87.

d. Soil-like material - ASTM Standard D-1452-80.

e. Fly ash-like material - ASTM Standard D-2234-89.

f. 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.

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4. PROCEDURES:

a. The Environmental Technicians interview 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. Frequency of analysis to ensure accuracy is dependent on the characteristics of the specific waste stream, the specific components in the waste stream and the recommendation of the Joint Base Operations Support Contractor. Wastes of uncertain composition will be sampled and analyzed prior to every pickup. In accordance with AFI 32-7042 , sample and analyze each high volume HW stream, more than three 55-gallon drums per year, at least annually or whenever processes, materials, or materials manufacturers change. Sample and analyze each low volume HW stream, three 55-gallon drums or less per year; at least every 3 years or whenever processes, materials, or materials manufacturers change. Frequencies of analyses increases under any of the following conditions; the owner or operator is notified or has reason to believe that the process or operation generating the hazardous waste has changed, the hazardous waste received at the off-base disposal site does not match the waste designated on the accompanying manifest or shipping paper.

b. The Environmental Technician will review shop processes at least quarterly when hazardous waste inspections are performed. Any changes in processes or waste streams will be noted at that time. Information on suitable non-hazardous or less hazardous substitutes will be updated during the inspection.

c. The Environmental Technician will sample drums of waste once they enter the Hazardous Waste Storage facility. Sample dates may be noted on the drum(s). The drum contents will be written on the drum. When the analysis results are completed the words "Hazardous Waste" are written on the drum along with a brief description of the analysis and why the drum is hazardous, i.e., Spent MOGAS contaminated with 400ppm lead, flash point 70 degrees Fahrenheit.

5. ANALYTICAL TEST METHODS: The Air Force Aerospace Fuels Laboratory located at Cape Canaveral Air Force Station will most likely perform the analysis under current methodology and applicable quality control criteria for the various test methods. Phone number 853-5441.

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CONTAINERS, PRESERVATIVES AND HOLDING TIMES

Parameter	Sample Volume	Container Type	Preservative	Holding Time
	<u>Solid</u>	<u>Liquid</u>	<u>Liquid</u>	
EPA 601, 8010	5g GV	2-40 ml GV	HCl, Cool 4C	14 days
EPA 602, 8020	5g GV	2-40 ml GV	HCl, Cool 4C	14 days
EPA 8021	5g GV	2-40 ml GV	HCl, Cool 4C	14 days
EPA 8240	5g GV	2-40 ml GV	HCl, Cool 4C	14 days
EPA 8260	5g GV	2-40 ml GV	HCl, Cool 4C	14 days
EPA 608, 8080	10g G	1000 ml G	Cool 4C	7 days ext/40 days
EPA 610, 8100	10g G	1000 ml G	Cool 4C	7 days ext/40 days
EPA 614, 8140	10g G	1000 ml G	Cool 4C	7 days ext/40 days
EPA 625, 8270	10g G	1000 ml G	Cool 4C	7 days ext/40 days
EPA 8015	5g GV	2-40 ml GV	Cool 4C	14 days
EPA 504, 8011	5g GV	2-40 ml GV	Cool 4C	14 days
TCLP Metals	100g G	500 ml G,P	None	180 days, 28 Hg
TCLP Volatiles	50g GV	2-40 ml GV	Cool 4C	14 days
TCLP Semivolatiles	100g G	1000 ml G	None	14 days
TCLP Pest/Herb	100g G	1000 ml G	None	14 days

G = Glass , cleaned to protocol A

H₂SO₄ = Sulfuric Acid

P = Plastic, cleaned to protocol A

HCl = Hydrochloric Acid

GV = Glass vials with Teflon septa

ZnOAc = Zinc Acetate

ml = milliliters

NaOH = Sodium Hydroxide

g = grams

HNO₃ = Nitric Acid

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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 (40CFR 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. The following chart 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.

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TOXICITY CHARACTERISTIC LEACHING PROCEDURE

<u>METALS</u>	<u>(mg/L)</u>	<u>VOLATILES</u>	<u>(mg/L)</u>	<u>SEMIVOLATILES</u>	<u>(mg/L)</u>
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	0.5
Silver	5.0	Methyl ethyl ketone	200.0	Hexachloroethane	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

<u>PESTICIDES</u>	<u>mg/L</u>	<u>HERBICIDES</u>	<u>(mg/L)</u>
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	0.008		
<i>(and its epoxide)</i>			

*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.

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45th Space Wing

Patrick Air Force Base, Florida 32925-3239

February 2009

OPLAN 19-14

ANNEX K

HAZARDOUS WASTE LOCATIONS SITE MAPS

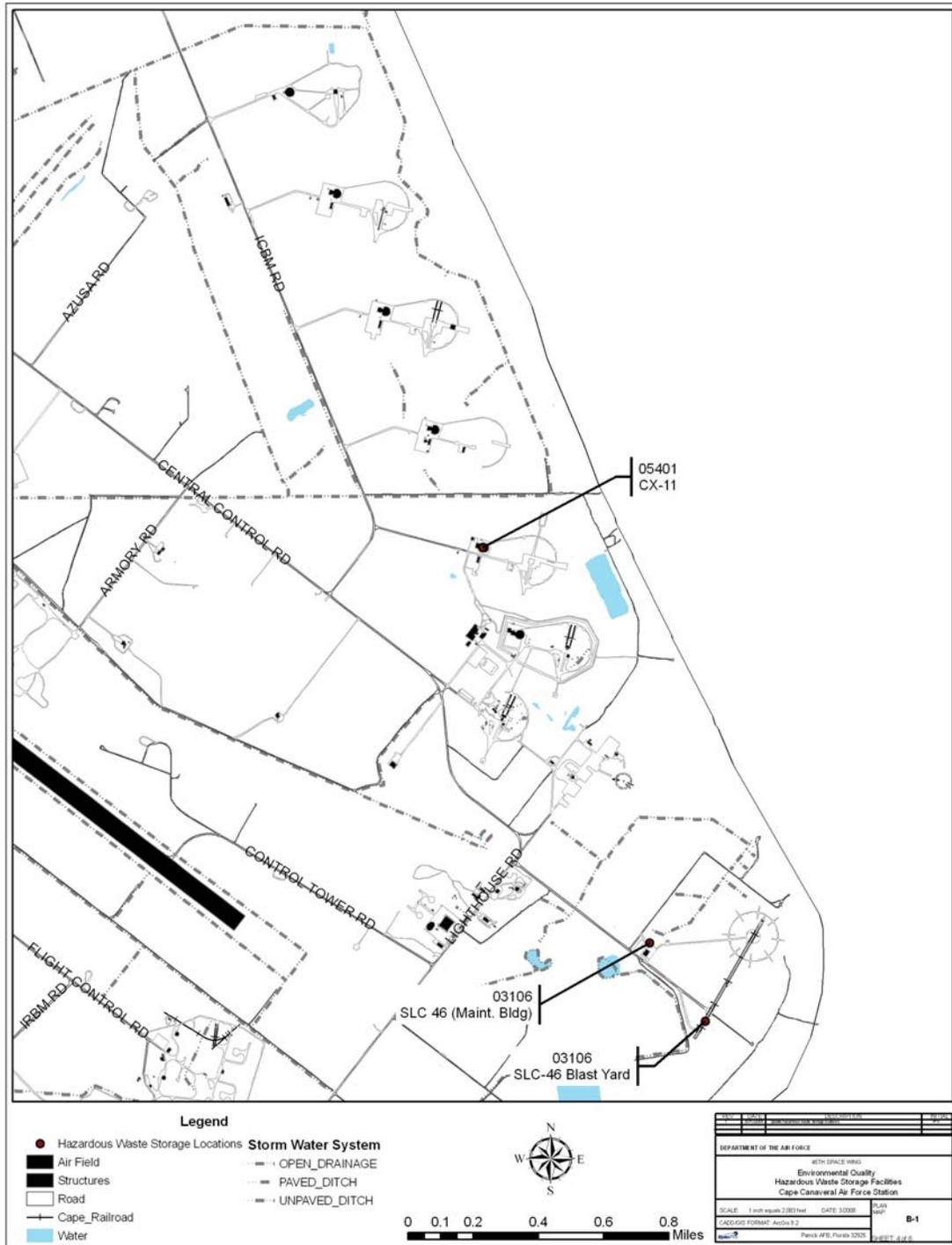
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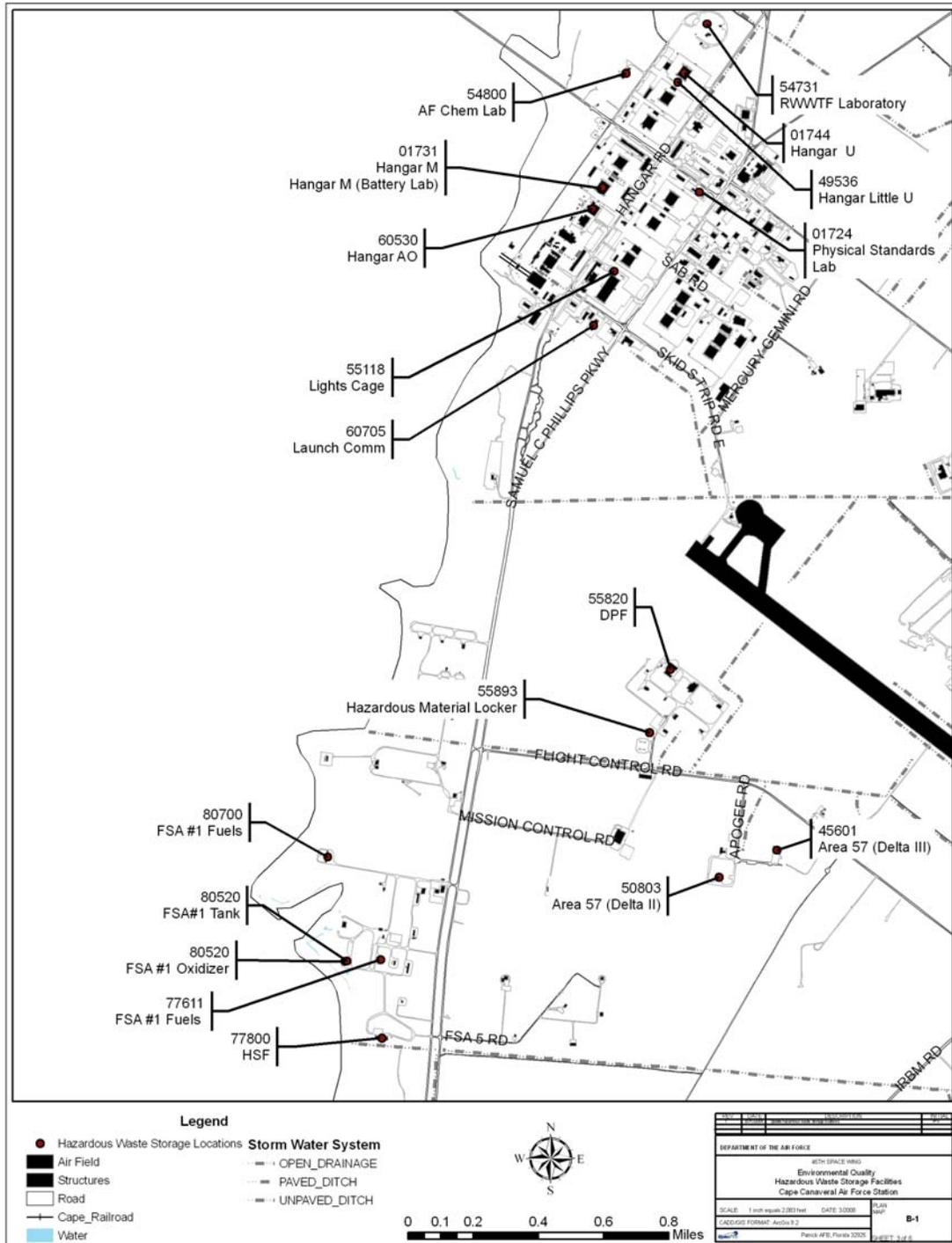
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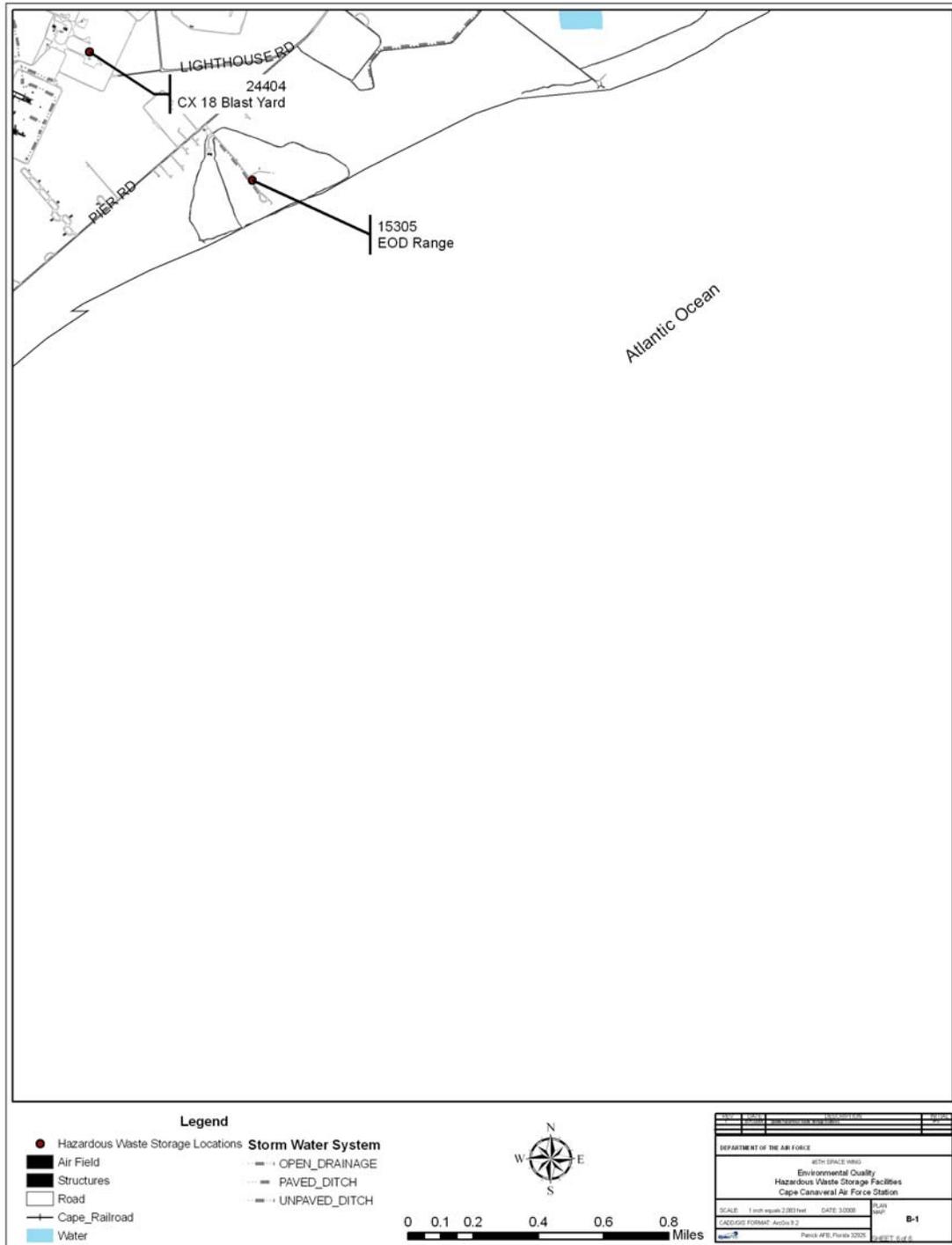


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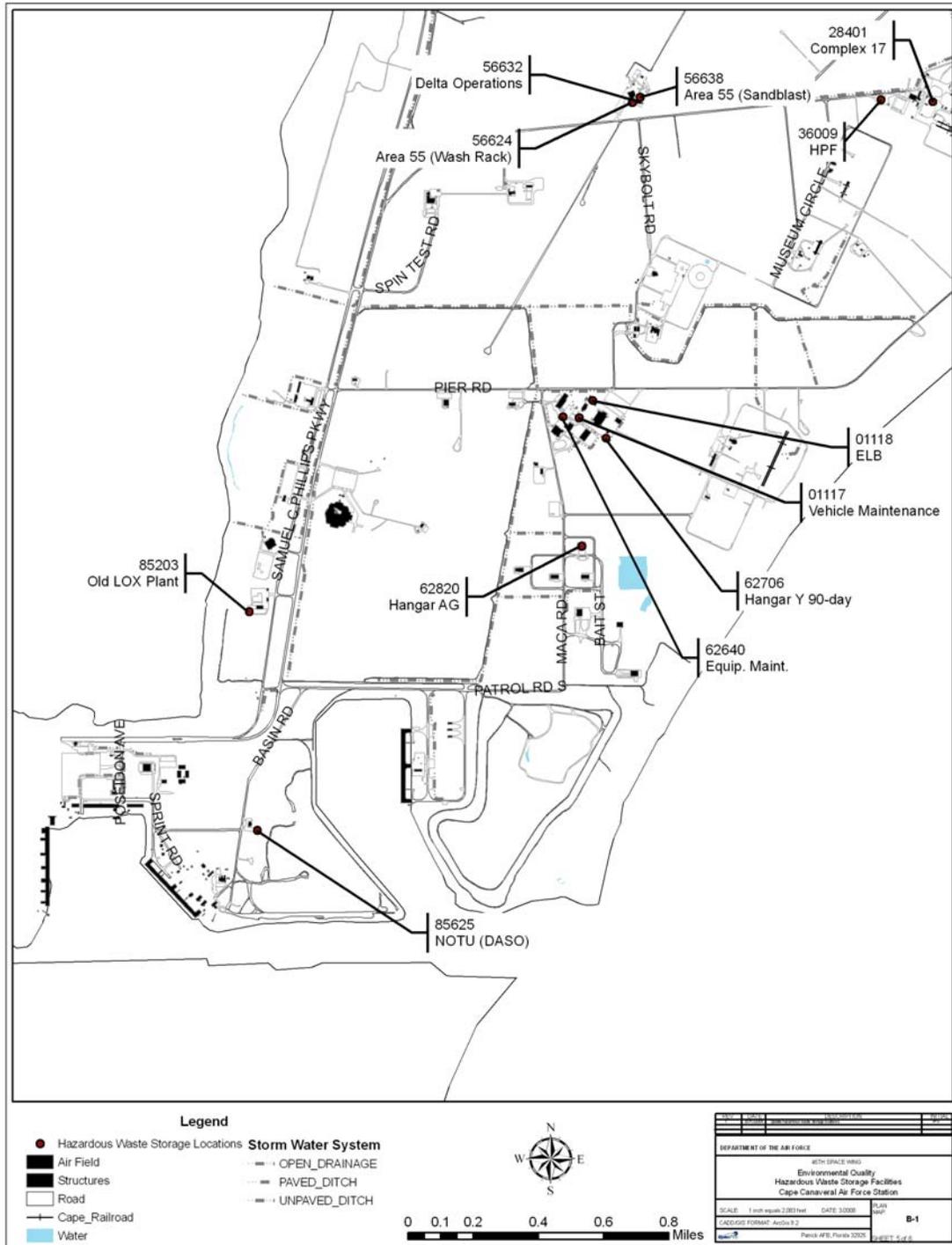
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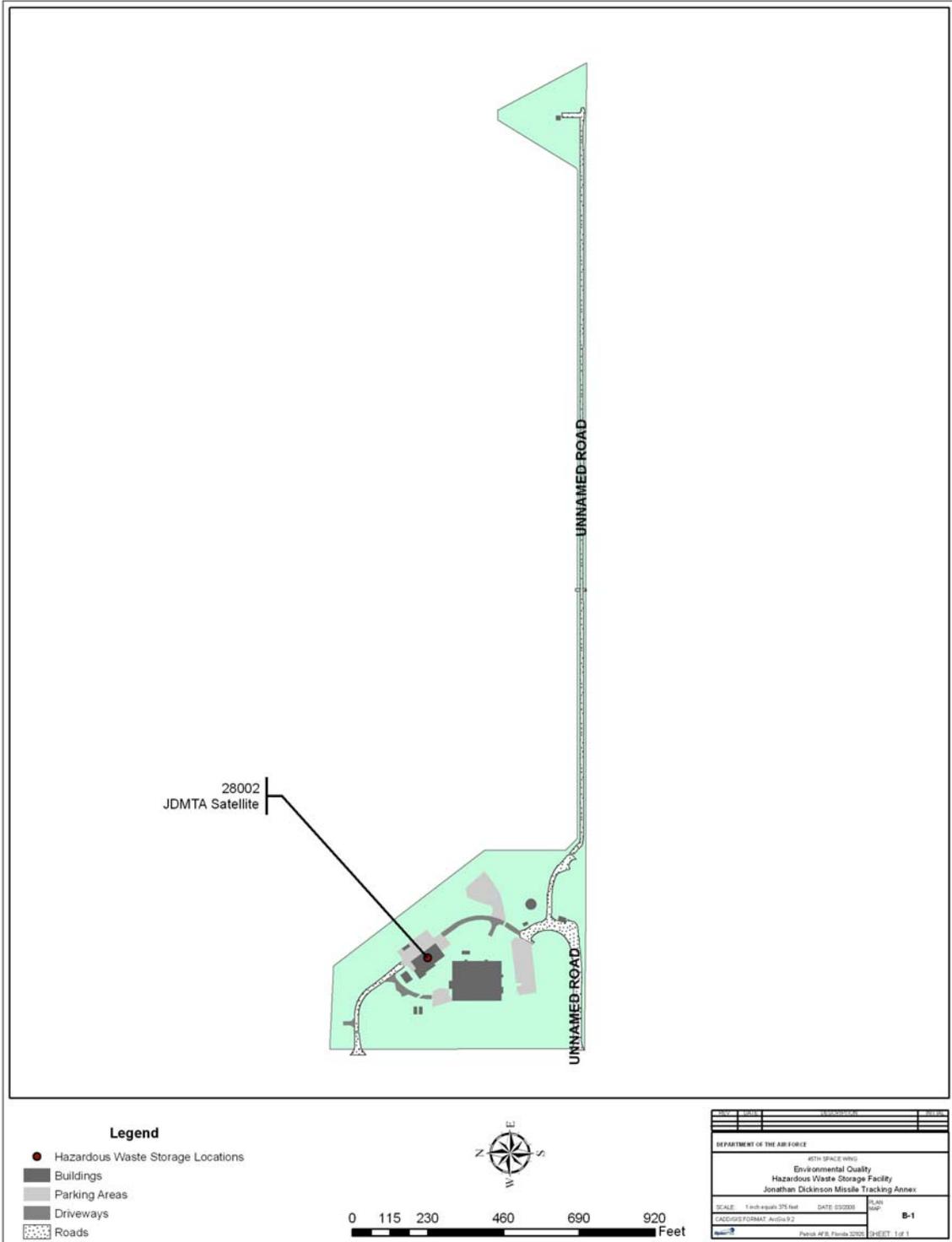


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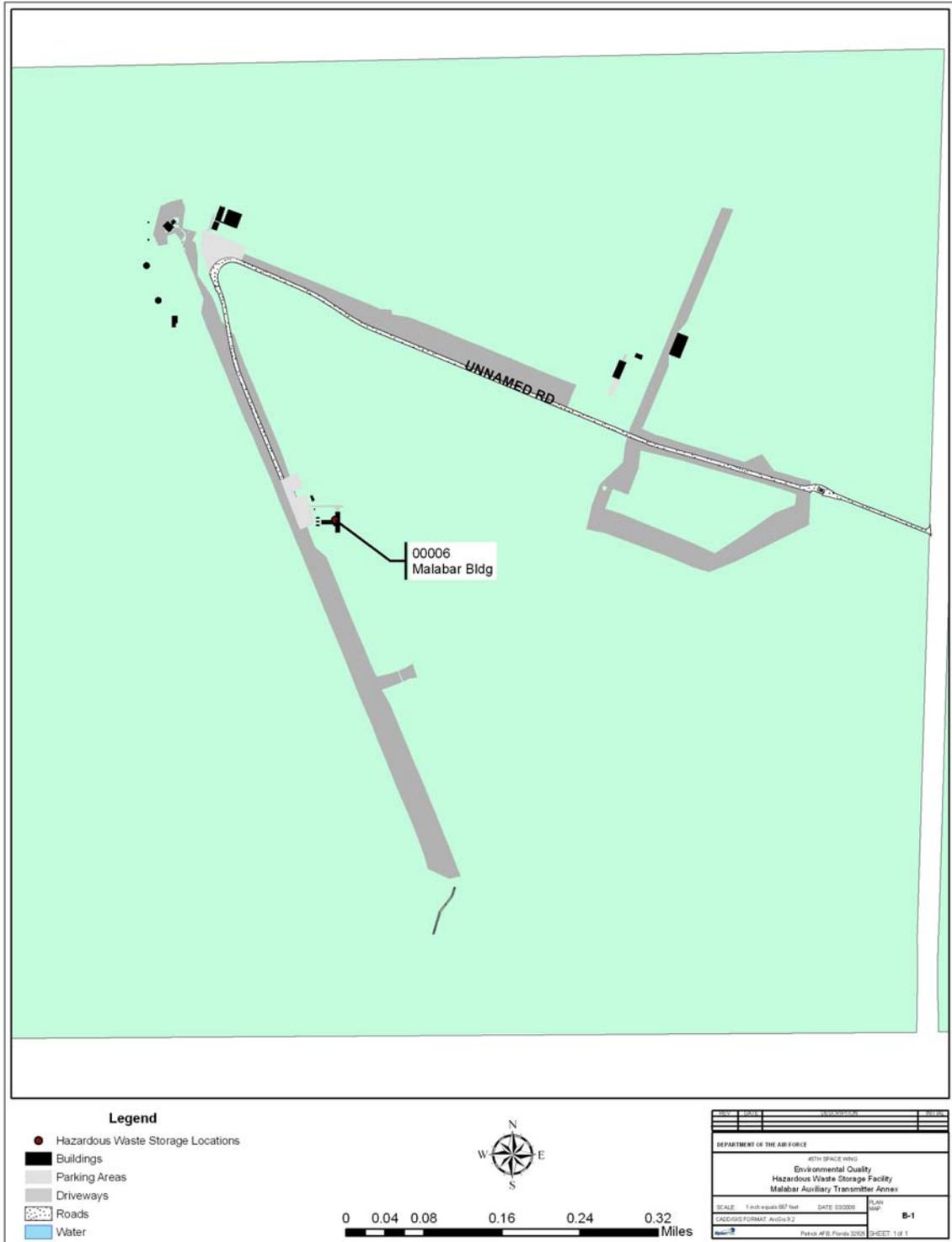
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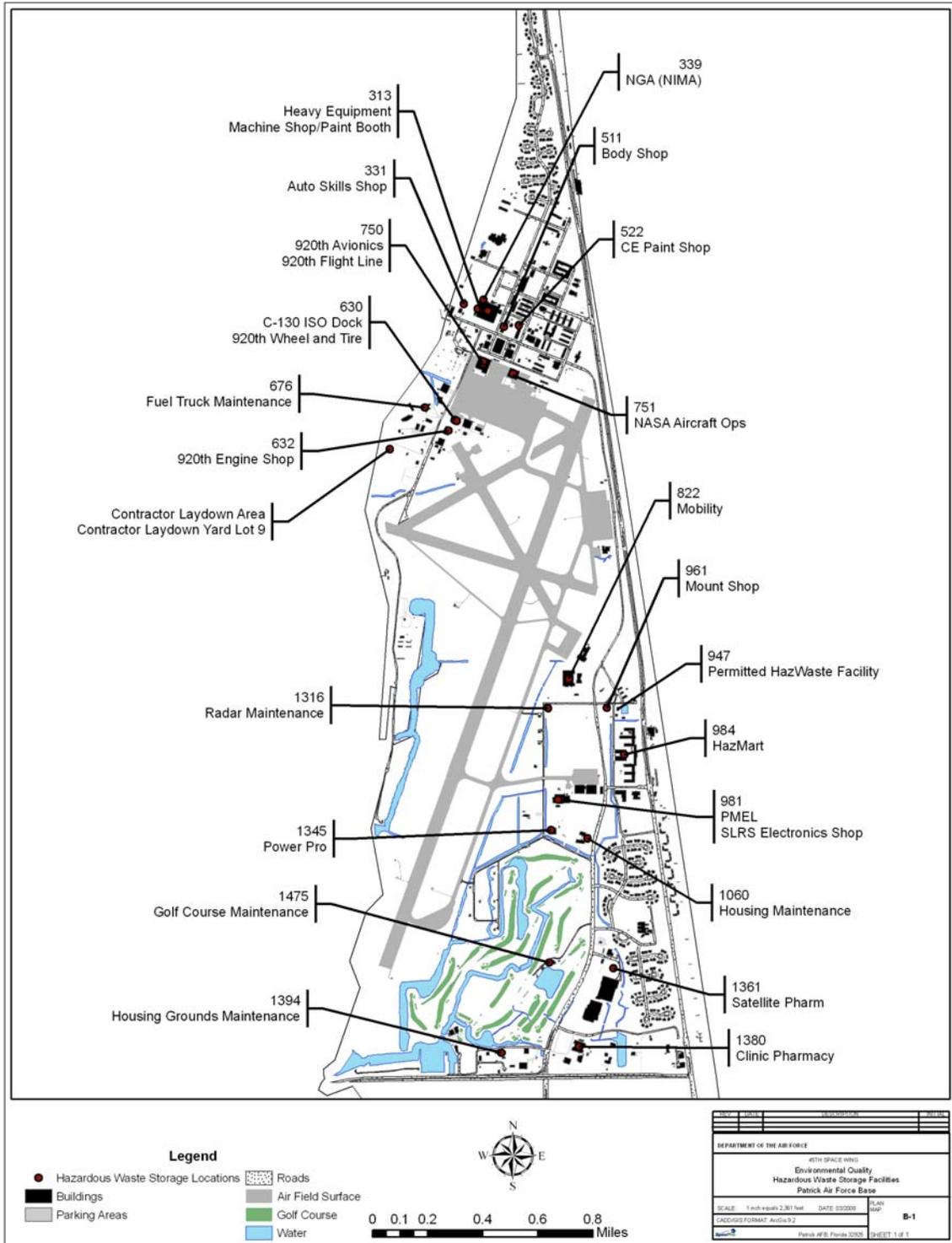
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45th Space Wing
Patrick Air Force Base, Florida 32925-3239
February 2009

OPLAN 19-14

ANNEX L

MUNITIONS RULE

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OPLAN 19-14 MUNITIONS RULE ANNEX L

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OPLAN 19-14 ANNEX L MUNITIONS RULE

1. GENERAL

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

b. The 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 DOD, States, tribal governments, and interested stakeholders to promulgate the Military Munitions Rule (MR). The MR 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 MR requirements have been codified in 40 CFR as follows:

- 260.10 – definitions for - Explosives or munitions emergency, Explosives or munitions emergency response, Explosives or munitions emergency response specialist, and Military munitions
- 262.10(i) – exempts personnel responding to an explosives or munitions emergency from RCRA generator requirements
- 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
- 263.10(e) – exempts responses to explosives or munitions emergencies from RCRA transporter requirements
- 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
- 264.1(g)(8)(iv) – provides the requirement for military emergency response specialists to retain records of emergency response operations for three years
- 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
- 266.201 – definitions for - Active range, Chemical agents and munitions, Inactive range, Military, Military range, and Unexploded ordnance (UXO)

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- 266.202 (a)(1)(i) – provides that munitions used during military training exercises are not regulated under RCRA
- 266.202 (a)(1)(ii) – excludes from RCRA regulations all munitions used in weapons research, development, testing, and evaluation programs
- 266.202 (a)(1)(iii) – provides that range clearance activities accomplished on active or inactive ranges are not regulated under RCRA
- 266.202 (a)(2) – excludes from RCRA regulations the materials recovery activities of repairing, reusing, recycling, reclaiming, disassembling, or reconfiguring unused military munitions
- 266.202(b) – provides when unused military munitions become solid waste
- 266.202(c) – provides when used or fired military munitions become solid waste
- 266.202(d) – provides requirements for military munitions that land off range
- 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
- 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 (IAW) 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 MR 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, MR, and the DoD Policy requirements for management of WMM and EOD emergency responses.

b. Explosive Safety Standards

WMM must be managed per the MR, 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.

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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. EELV and NASA Ordnance Waste Storage And Disposal

(1) A HQ AFSPC SE/JA letter dated 9 May 2002 approved the storage of both EELV commercial space launch ordnance and NASA ordnance and the treatment of NASA ordnance waste on CCAFS. The letter held that the AF benefits from the services EELV and NASA provide. Therefore, both EELV 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 on CCAFS in the permitted Thermal Treatment Unit (TTU), however, EELV ordnance waste is not authorized to be treated on CCAFS due to lease language that specifically excludes use of AF RCRA permitted facilities (para 10.12 of lease agreements).

(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 CCAFS IAW Subpart M of 40 CFR 266. 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 Department of Defense Explosive Safety Board (DDESB) standards. In order to ensure timely disposal, the time limit for storage of the EELV 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 EELV contractors. Additionally, the EELV 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:

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

- Training of military personnel on the destruction of unused propellant, emergency destruction and combat disposal,
- Test and Evaluation of munitions, weapons, or weapons systems,
- Range Clearance Activities at active or inactive ranges, which must take place on the range
- Resource Recovery and Recycling of unused munitions to include demilitarization.

b. When Unused Military Munitions Are Solid Waste

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

- Abandoned by being disposed of by burying, landfilling, burning, detonating (except intended use), incinerating, dumping at sea, or treating prior to disposal,
- Removed from storage in a military magazine or storage area for the purpose of disposal or treatment prior to disposal,
- Damaged or deteriorated to the point that it cannot be put into serviceable condition and cannot be recycled or used for other purposes,
- 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 IAW the Subpart M conditional exemption for storage of WMM.

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4. TRANSPORTING

a. Transportation Of Waste Military Munitions

The MR 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 MR 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 IAW 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:

- 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,
- 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,

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- Inventory the WMM at least annually and maintain a record of the inventory and any findings for at least three years,
- 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,
- Limit access to the stored WMM to appropriately trained and authorized personnel,
- 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:

- The type of WMM stored by nomenclature, Lot Number, Federal Supply Code (FSC), National Stock Number (NSN), DoD Ammunition Code (DODAC), and condition code,
- The quantity of each type of WMM stored,
- The date each military munition, by type, was identified as waste,
- The last storage date for each WMM by type,
- The storage location(s) used to store the WMM,
- The disposition of and date of action for the WMM by type,
- If applicable, the sending and receiving sites for WMM that are 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 MR 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 MR added definitions to 40

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CFR 260.10 that help clarify 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.

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(2) For a Level 2 response on CCAFS, 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 PAFB, a DD Form 626 and 836 should be completed prior to transporting the ordnance item to CCAFS for treatment. If the ordnance item is less than 60 lbs net explosive weight (NEW), the ordnance can be treated at the CCAFS TTU under the existing permit (use facility log to document the event) and contact with CEV is not required. CEV must call FDEP for an emergency permit when the ordnance item to be treated is more than 60 lbs NEW. CEV 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 CCAFS for treatment. If the ordnance item is less than 60 lbs NEW, the ordnance item can be treated at the CCAFS TTU under the existing permit (use facility log to document event) and contact with CEV is not required. CEV must call FDEP for an emergency permit when the DoD ordnance item to be treated is more than 60 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:

- Type of munitions or explosive involved,
- Manner and location of proposed disposal, treatment, storage,
- Manner in which the munitions or explosive will be transported; if required,
- The EPA or State may require additional information, e.g., an after action disposition report.

d. Recording Keeping Requirements

The MR 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:

- Date and time of response,
- Names and grade of individuals who respond,
- Type and description of the munitions addressed,
- Disposition of the munitions,
- A written copy of the emergency permit, if issued, and all related documents.

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45th Space Wing

Patrick Air Force Base, Florida 32925-3239

February 2009

OPLAN 19-14

ANNEX Z

DISTRIBUTION LIST

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ANNEX Z TO 45 SW OPLAN 19-14, Waste Petroleum Products and Hazardous Waste Management Plan

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