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MCAS EL TORO
SSIC # 5090.3

Final

Marine Corps Air Station El Toro
Hazardous Material/Hazardous Waste
Management Plan

August 1994



Prepared for:

Southwest Division Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, CA 92132-5190

Prepared by:

Science Applications International Corporation
Engineering Sciences Division
10260 Campus Point Drive
San Diego, CA 92121

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**FINAL HAZARDOUS MATERIAL AND WASTE
MANAGEMENT PLAN.**

DATED 08/01/1994

**(APPENDIX H: STATE AND LOCAL
REQUIREMENTS)**

**IS ENTERED IN THE DATABASE AND FILED AS
ADMINISTRATIVE RECORD NUMBER:**

NO. M60050.001593

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(APPENDIX I: PHOTOGRAPHS)

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ACRONYMS AND ABBREVIATIONS

AB Bul	Air Base Bulletin
ABO	Air Base Order
AST	Aboveground Storage Tank
BRAC	Base Realignment and Closure
CAS	Chemical Abstract System
CCR	California Code of Regulations
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CNO	Chief of Naval Operations
CWC	California Waste Code
DOD	Department of Defense
DOT	Department of Transportation
DRMO	Defense Reutilization and Marketing Office
DTSC	California Department of Toxic Substances Control
EPA	Environmental Protection Agency
EPCRA	Environmental Protection and Community Right-to-Know Act
HAZCOM	Hazard Communication Standard
HAZMIN	Hazardous waste Minimization
HM/HW	Hazardous Material/Hazardous Waste
HM	Hazardous Material
HMTA	Hazardous Materials Transportation Act
HW	Hazardous Waste
LDR	Land Disposal Restriction
LEPC	Local Emergency Planning Committee
MCAS	Marine Corps Air Station
MCX	Marine Corps Exchange
MCO	Marine Corps Order
MSDS	Material Safety Data Sheet
NCP	National Oil and Hazardous Substance Contingency Plan
NEESA	Naval Energy and Environmental Support Activity
NPDES	National Pollutant Discharge Elimination System
NRC	National Response Center
OPNAVINST	CNO Instruction
ORM	Other Regulated Materials
OSHA	Occupational Safety and Health Act
PCB	Polychlorinated Biphenyls
POL	Petroleum, Oils and Lubricants
RCRA	Resource Conservation and Recovery Act
RMPP	Risk Management and Prevention Program
RQ	Reportable Quantity
SARA	Superfund Amendments and Reauthorization Act
SERC	State Emergency Response Commission
SIC	Subject Identification Code

ACRONYMS AND ABBREVIATIONS, CONTINUED

SPCC	Spill Control and Countermeasures Plan
SPC	Spill Contingency Plan
TAFDS	Tactical Airfield Fuel Dispensing Systems
TPQ	Threshold Planning Quantity
TRI	Toxic Release Inventory
TSD	Treatment, Storage and Disposal Facility
UST	Underground Storage Tank

1.0 AUTHORITY

DOD Directive 4160.21 and MCO P5090.2 require all Marine Corps facilities that generate hazardous waste to have a Hazardous Waste Management Plan. The plan shall identify hazardous waste generated and handled by the facility, determine applicable federal, state and local requirements, and describe how to comply with these requirements. The plan shall be kept up-to-date to reflect changes in hazardous waste generation and applicable state and federal regulations and is applicable to all activity personnel. Guidance for preparation of the Hazardous Waste Management Plan is provided by the Environmental Compliance and Protection Manual (MCO P5090.2) and the Hazardous Waste Management Planning Guide (NEESA 20.2-029B).

This plan also incorporates guidance on the management of hazardous materials, with a separate section on the management of petroleum, oils and lubricants. The management of radioactive wastes, medical and infectious wastes, and ordnances is not addressed. Management plans for PCBs and pesticides are presented separately.

2.0 INTRODUCTION

2.1 Site Information

EPA Identification Number: CA 6170023208
Generator's Name: Marine Corps Air Station El Toro
Mailing Address: Facilities Management Division Code - 1JG
Santa Ana, California 92079-5001
Site Address: Same as above
Telephone Number: 714/726-2772
Contact Name: Capt. D. G. Clark II
SIC Code: 9711 (National Security)

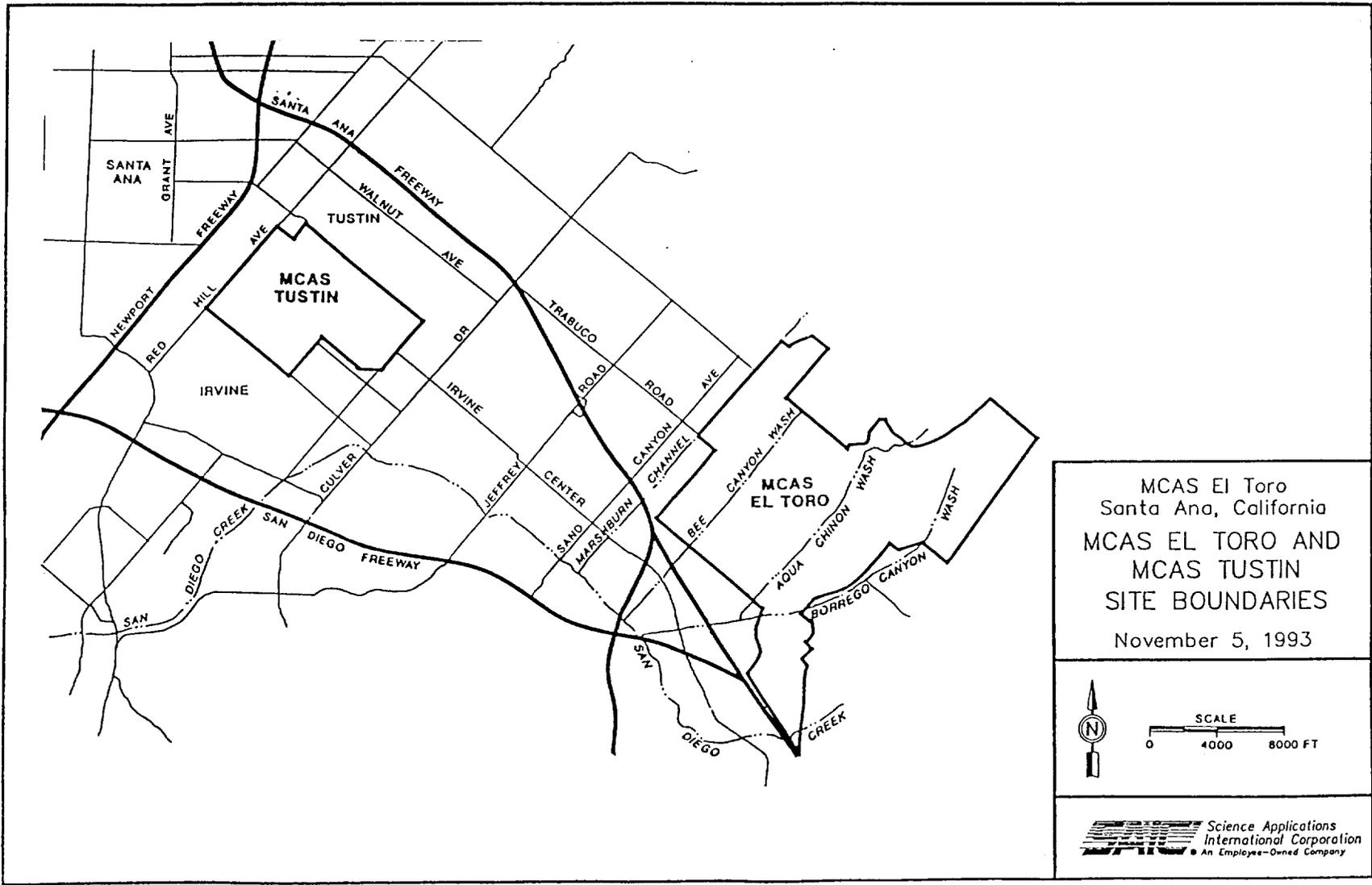
2.2 Site Description

The Marine Corps Air Station (MCAS) El Toro, California, is located within Orange County, along the eastern boundary of the city of Irvine. The Station is easily accessible from Interstate 5, and is located just east of the major interchange of Interstates 5 and 405. MCAS El Toro lies 8 miles southeast of the city of Santa Ana and 7 miles southeast of MCAS Tustin. The location of MCAS El Toro is shown in Figure 2-1.

MCAS El Toro comprises 4,738 acres, or approximately 7.4 square miles. MCAS El Toro has a total of 1,240 structures and facilities located on the station including several long runways, numerous aircraft maintenance buildings, and aircraft parking aprons. MCAS El Toro's facilities also include 16 hangars.

The mission of MCAS El Toro is "to maintain and operate facilities and provide services and material to support the operations of aviation activities and units of the operating forces of the Marine Corps, Navy, and other activities as designated by the Commandment of the Marine Corps (CMC), in coordination with the Chief of Naval Operations (CNO)."

Figure 2-1
 Site Location Map
 MCAS El Toro



Implementation of the mission activities requires the handling of hazardous materials and generates hazardous waste. The aircraft and equipment operation and maintenance activities require storage and use of hazardous materials such as fuel, solvents, batteries, paints, and photoprocessing chemicals. Maintenance operations generate waste solvents from cleaning and degreasing of vehicle parts, jet fuel and hydraulic fluid samples, and waste rags contaminated with oils and solvents. Absorbent materials used to contain and clean up spills of oil, hydraulic fluid, jet fuel, and solvents are swept up and stored in 55-gallon drums and handled as hazardous wastes. Wastes are also generated as product shelf life expires or containers become damaged. Other processes that generate minor amounts of hazardous waste include paint removal, draining of antifreeze from engines, use of paint thinner, spray painting, cleanup of spills, cleaning out of tank bottoms, and cleaning of metallic fuel filters.

MCAS El Toro generated 4.3 million pounds of hazardous waste in 1992 and is classified as a "Large Quantity Generator" of hazardous waste. As a generator of hazardous waste, MCAS El Toro is responsible for compliance with all laws regulating the generation, storage, treatment, and disposal of hazardous waste. This Hazardous Material/Hazardous Waste Management Plan is designed to provide guidance on the handling, storage, and disposal of hazardous wastes and hazardous materials.

2.3 Organization of the Hazardous Material/Hazardous Waste Management Plan

MCAS El Toro's Hazardous Material/Hazardous Waste Management (HM/HW) Plan is organized as follows:

- Section 1 - Authority: quotes MCO P5090.2 series and states the requirement for a plan.
- Section 2 - Introduction: describes MCAS El Toro and outlines the Hazardous Material/Hazardous Waste Management Plan.

- Section 3 - Definitions: gives the definitions of terms used in hazardous material/hazardous waste management.
- Section 4 - Regulations: lists the regulations governing MCAS El Toro.
- Section 5 - Specific Responsibilities: lists the hazardous waste management responsibilities for MCAS El Toro personnel.
- Section 6 - Hazardous Waste Generated: provides an inventory of hazardous wastes generated, accumulation sites, and lists of generators.
- Section 7 - Requirements for Generators: describes the operating procedures for collection, containerization, labeling, marking, temporary storage, and transfer of hazardous waste.
- Section 8 - Storage Requirements: describes requirements for the temporary and permitted storage facilities.
- Section 9 - Disposal Requirements: describes the transportation for disposal and disposal requirements for MCAS El Toro.
- Section 10 - Training Requirements: lists the required hazardous material/hazardous waste management training for MCAS El Toro personnel.
- Section 11 - Reporting Requirements and Recordkeeping: lists record keeping and reporting requirements for hazardous wastes.
- Section 12 - Waste Analysis Requirements: reviews regulatory requirements to satisfy permit and Land Disposal Restriction (LDR) waste analysis requirements and references the Waste Analysis Plan.

- Section 13 - Contingency Plan: references the Oil and Hazardous Substance SPCC and SCP for contingency action in the event of a release of a hazardous material or hazardous waste.
- Section 14 - On-Site Treatment of Hazardous Wastes: describes the tiered permitting of treatment required by AB 1772.
- Section 15 - Waste Minimization Techniques and Guidance: summarizes hazardous waste minimization (HAZMIN) techniques being implemented at MCAS El Toro and references the Hazardous Waste Minimization Plan.
- Section 16 - Management of Hazardous Materials: summarizes handling and storage procedures and community right-to-know requirements.
- Section 17 - Management of Petroleum, Oils and Lubricants: reviews management requirements for POLs.
- Section 18 - Closure Plan: references the plan for officially closing down the MCAS El Toro Hazardous Waste Storage Facility, when eventually required. The Closure Plan was previously prepared for the EPA Part B permit application and is referenced in this chapter. References closure of MCAS El Toro under Base Realignment and Closure (BRAC).
- Section 19 - Resources: provides names and addresses of local and state agencies.

3.0 DEFINITIONS OF TERMS

Acutely Hazardous Material

An acutely hazardous material in California is the same as an extremely hazardous material under federal law and is listed in Appendix A to 40 CFR 355. Under EPCRA §302 any facility that handles amounts of extremely hazardous substance in excess of the threshold planning quantity listed in 40 CFR §355, Appendix A must notify the State Emergency Response Commission and local Emergency Planning Committee. In addition, state law (AB 3777) requires a Risk Management and Prevention Program to be submitted, upon request, to the local administering agency.

Corrosivity. A material is corrosive if a representative sample of the material has any of the following properties as listed in 40 CFR 261.22:

1. It is aqueous and has a pH less than or equal to 2 or equal or greater than 12.5, or
2. It is a liquid that corrodes steel at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55 degrees C (130 degrees F).

Corrosive wastes are assigned EPA Hazardous Waste Number D002.

Excess Hazardous Materials (EHM). Ready-for-issue excess material classified as hazardous material and no longer needed by the generating activity.

Generator. Any person whose act or process produces hazardous waste identified or listed in 40 CFR 261.

Hazard Communication (HAZCOM). A phrase and acronym derived from 29 CFR 1920.1200, the OSHA Hazard Communication Standard, that, when used as a noun or an adjective, means

a requirement or requirements related to the standard. The performance elements of the standard involve the following: a list of hazardous chemicals, MSDSs, labels and other forms of warning, personnel training, non-routine tasks, contractor employers and employees, personnel accessibility to the list of chemicals and MSDSs, and a HAZCOM program plan.

Hazardous Material. Any material which (a) is designated by the U.S. Secretary of Transportation as posing a potential threat while being transported in commerce and is listed in 49 CFR 172.101; (b) meets the definition of a hazardous waste as defined by 40 CFR 261 Subparts A, B, C or D; or (c) requires a Material Data Safety Sheet (MSDS) per 29 CFR 1910.1200.

Hazardous Substance. A material included in a specific list of chemicals designated by the EPA in 40 CFR 302 which pose a threat to the environment when discharged or spilled. Hazardous substances are regulated only when they are discharged in certain quantities (called reportable quantities). Reportable quantities are identified in 40 CFR 302. If less than the reportable quantity is released, spill clean up, but no report, is required. Additionally, all materials meeting the definition of a hazardous waste have been defined by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 as hazardous substances with a reportable quantity as defined in 40 CFR 302.

Hazardous Waste. A discarded hazardous substance or material defined as hazardous under RCRA according to a characteristic of reactivity, ignitability, corrosivity or toxicity or is listed as a hazardous waste in 40 CFR 261 or 22 CCR 66261.3. Hazardous waste does not include excess hazardous materials with expired shelf life unless determined as such by the Defense Reutilization and Marketing Office (DRMO).

Hazardous Waste Manifest. A shipping document which must originate with and be signed by the hazardous waste generator before the hazardous waste may be transported or offered for transportation off the installation. The generator must provide specific information on the

manifest (40 CFR 262) and designate one permitted Treatment, Storage, and Disposal (TSD) facility to handle the waste.

Hazardous Waste Minimization (HAZMIN). Hazardous waste minimization is a source reduction and environmentally sound recycling. It comprises:

1. Avoiding hazardous waste generation by minimizing and controlling hazardous material acquisition and use, substitution of hazardous materials with nonhazardous equivalents, and by applying best management, engineering, and equipment to Navy processes and procedures.
2. Recycling hazardous waste to return it to a ready-for-use state.
3. Treating hazardous waste to reduce the volume or to reduce it to a nonhazardous state.

Ignitability. A material is ignitable if a representative sample of the material has any of the following properties as listed in 40 CFR 261.21:

1. It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume, and has a closed-cup flash point less than 60 degrees C (140 degrees F);
2. It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture, or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard;
3. It is an ignitable compressed gas; or
4. It is an oxidizer.

Ignitable wastes are assigned EPA Hazardous Waste Number D001.

Oil. Any petroleum-based fluid or semisolid. Oil includes crude oil and liquid fuels (gasoline, kerosene, diesel, and all light and heavy fuel oil(s), lube oil, all waste oils, oil sludge, and oil refuse). Oil also includes synthetic-based lubricating and transmission products. In some instances, oil mixed with other wastes other than dredged spoil is defined as oil; in other instances oil mixed with other wastes is defined as HW.

Oil/Water Separator. A wastewater pretreatment device or fuel-recovery device that is installed to remove oil from water before the water is released to the environment.

Reactivity. A material is reactive if a representative sample of the material has any of the following properties as listed in 40 CFR 261.23:

1. It is normally unstable and readily undergoes violent changes without detonating;
2. It reacts violently with water;
3. It forms a potentially explosive mixture with water;
4. It generates toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment, when mixed with water;
5. It is a cyanide- or sulfide-bearing waste which, 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 the environment;
6. It is capable of detonation or explosive reaction if it is subjected to a strong initiating source, or is heated under confinement;
7. It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure; or

8. It is a forbidden explosive, or a Class A or Class B explosive as defined in 49 CFR 173.53 or 173.88.

Reactive wastes are assigned EPA Hazardous Waste Number D003.

Toxicity. A waste exhibits the characteristics of toxicity if the extract from a representative sample of the material contains any of the 39 contaminants in 40 CFR 261.24, Table I, at a concentration equal to or greater than the respective value given in the table. A solid waste that exhibits the characteristics of toxicity, but is not a listed waste, has the EPA hazardous waste number specified in the table which corresponds to the toxic contaminant causing it to be hazardous.

Material Safety Data Sheet (MSDS). A Material Safety Data Sheet, OSHA form 174 or an equivalent form containing the identical data elements, must be used by manufacturers of chemical products to communicate to users the chemical, physical, and hazardous properties of their product to comply with the OSHA Hazard Communication Standard, 29 CFR 1910.1200. The completed form identifies key information on the product: name, address, and emergency contact for the manufacturer; the identity of hazardous ingredients; physical/chemical characteristics; fire and explosion hazard data; reactivity data; health hazard data; precautions for safe handling and use; and control measures. It should be emphasized that OSHA form 20 or DD-1813 forms are considered obsolete and should not be used for supplying MSDS information.

Recycled Material. A material that can be utilized in place of a raw or source material in manufacturing a product. See 40 CFR 261.

4.0 LAWS AND REGULATIONS ON HAZARDOUS MATERIAL/HAZARDOUS WASTE MANAGEMENT

In accordance with federal regulations and Commandant of Marine Corps policy, MCAS El Toro is required to comply with the laws and regulations pertaining to the management of hazardous wastes, hazardous materials and petroleum, oil and lubricants. Federal and state laws and their requirements are shown in Table 4-1. The local regulatory agencies are the Orange County Environmental Health Department and the city of Irvine, whose requirements follow those of the state of California. Copies of state and local requirements are provided in Appendix H. Marine Corps orders relevant to this plan are MCO P5090.2 Chapter 9 on management of hazardous materials/hazardous waste and Chapter 12 on petroleum, oil and lubricant management and MCO 5100.8 which implements OSHA requirements relative to HM/HW management. This Hazardous Material/Hazardous Waste Management Plan describes the operating procedures required at MCAS El Toro to comply with these laws and regulations.

TABLE 4-1
 FEDERAL AND STATE REQUIREMENTS FOR THE MANAGEMENT OF HAZARDOUS WASTES, MATERIALS AND PETROLEUM OILS
 AND LUBRICANTS

Subject	Federal Authority	State Authority	General Requirements
HAZARDOUS WASTE MANAGEMENT			
General Requirements for Generators	RCRA; 40 CFR 261.1 - 261.31, 262.10 - 262.42, 265.170 - 265.177, 265.190 - 265.199	HWCL; 22 CCR 66261.1 - 66261.126; 66262.10 - 66262.42; 66265.170 - 66265.177; 66265.190 - 66265.199	<ul style="list-style-type: none"> ● must determine if wastes are hazardous (including RCRA, non-RCRA, and extremely hazardous wastes; and special waste) ● must manage recyclable materials properly ● must manage contaminated containers properly ● must obtain an EPA ID number ● must not offer hazardous wastes to transporters or to off-site TSD facilities that do not have an EPA ID number ● must use manifests for wastes offered for off-site transportation ● must package wastes in accordance with DOT requirements prior to offering for off-site transportation ● must label wastes in accordance with DOT requirements prior to offering for off-site transportation ● must mark wastes in accordance with DOT requirements prior to offering for off-site transportation ● must ensure that transport vehicles are properly placarded ● may accumulate hazardous waste on-site for 90 days or less without a permit provided that: <ul style="list-style-type: none"> - more than 5,000 gallons or 45,000 lbs. (whichever is greater) of hazardous waste is not stored on site in a tank (except certain portable tanks) - container use, management, and inspections meet specified requirements - existing tank systems meet integrity assessment requirements - new tanks meet specified design and installation requirements - tank systems meet specified containment and release detection requirements - tank systems meet specified operating, inspection, and spill/leak response requirements, including certification of major repairs - containers and tanks are properly dated and marked as "Hazardous Waste" - personnel training, preparedness and prevention, contingency plan, and emergency procedure requirements are met (see below) - closure is conducted in a manner that meets the requirements of 22 CCR 66265.111 and 66265.114 ● may accumulate as much as 55 gallons of hazardous waste or 1 quart of acutely hazardous waste in containers at or near any point of initial generation without complying with requirements for on-site storage if specific standards are met ● must submit a Biennial Report to DTSC by March 1 of even numbered years ● must meet certain recordkeeping requirements for manifests; Biennial Reports; Exception Reports; test results, waste analyses, or other waste characterization data

TABLE 4-1
FEDERAL AND STATE REQUIREMENTS FOR THE MANAGEMENT OF HAZARDOUS WASTES, MATERIALS AND PETROLEUM OILS
AND LUBRICANTS

Subject	Federal Authority	State Authority	General Requirements
Requirements for Transporters	RCRA; 40 CFR 263.10 - 263.20	HWCL; 22 CCR 66263.10 - 66263.31	<ul style="list-style-type: none"> ● must have an Identification Number and current registration certificate from DTSC ● must use proper trucks and containers ● must meet certain manifesting and recordkeeping requirements ● must meet certain operational requirements ● must be prepared to take appropriate immediate action in the event of hazardous waste discharges
Requirements for Permitted Hazardous Waste Facilities	RCRA; 40 CFR 264.1 - 264.17, 264.70 - 264.74, 264.90 - 264.120, 264.170 - 264.199	HWCL; 22 CCR 66264.1 - 66264.25, 66264.70 - 66264.120, 66264.170 - 66264.199, 66270.30	<ul style="list-style-type: none"> ● must have an Identification Number ● must meet permit conditions (which must include the specific elements of a monitoring and response program) ● must obtain a detailed chemical and physical waste analysis before transferring, treating, storing, or disposing of hazardous waste ● must meet security requirements such as a locked fence which completely surrounds the facility ● must conduct and document scheduled inspections which meet certain requirements ● must meet specified requirements for ignitable, reactive, or incompatible wastes ● must keep a written operating record which meets specified requirements for content and availability ● must submit annual reports to DTSC and the RWQCB by March 1 of every year ● must meet specified requirements for the use and management of containers ● must meet specified requirements for the inspection and design of container transfer and storage areas ● must meet specified requirements for most existing hazardous waste tank systems, including shell strength, pressure controls, shell thickness, and an assessment of the system's integrity ● new tanks must meet specified design and installation requirements ● tank systems must meet specified containment and release detection requirements ● must meet specified operating, inspection, and spill/leak response requirements, including certification of major repairs ● must develop and follow a written waste analysis plan
Personnel Training	RCRA; 40 CFR 264.16 and 265.16	HWCL; 22 CCR 66264.16 and 66265.16	<ul style="list-style-type: none"> ● applies to generators and TSD facilities ● must have classroom or on-the-job training to ensure compliance with all hazardous waste management regulations and procedures, including emergency response ● must be conducted by a trained person and meet certain specified minimum requirements ● must be conducted within 6 months of employment or assignment, and include annual reviews ● specified recordkeeping requirements must be met
Preparedness and Prevention	RCRA; 40 CFR 264.30 - 264.37, 265.30 - 265.37	HWCL; 22 CCR 66264.30 - 66264.37, 66265.30 - 66265.37	<ul style="list-style-type: none"> ● applies to generators and TSD facilities ● facilities must be designed and operated to minimize the potential for release ● must have communication (and/or alarm), fire control, spill control, and decontamination equipment, which must be tested, maintained, and accessible (including adequate aisle space) ● must specified arrangements with local response authorities

TABLE 4-1
 FEDERAL AND STATE REQUIREMENTS FOR THE MANAGEMENT OF HAZARDOUS WASTES, MATERIALS AND PETROLEUM OILS
 AND LUBRICANTS

Subject	Federal Authority	State Authority	General Requirements
Contingency Plan and Emergency Procedures	RCRA; 40 CFR 264.50 - 264.56, 265.50 - 265.56, 66265.50 - 66265.56	HWCL; 22 CCR 66264.50 - 66264.57	<ul style="list-style-type: none"> • applies to generators and TSD facilities • must have a contingency plan which meets specific requirements for content, distribution, and amendment • must have a designated emergency coordinator
Requirements for Generators of Recyclable Hazardous Wastes	RCRA; 40 CFR 266.20 - 266.112	HWCL; 22 CCR 66266.3 - 66266.130	<ul style="list-style-type: none"> • must comply with all hazardous waste generator requirements except 1) the need for an Extremely Hazardous Waste Disposal Permit for those materials transferred to a resource recovery facility, or 2) as specifically exempted by or as a consequence of the specified requirements for: <ul style="list-style-type: none"> - hazardous wastes and certain used oils managed as hazardous waste fuels - used oil and fuel derived from used oil, that are burned for energy recovery - management of certain spent lead-acid storage batteries - the management of waste elemental mercury which is a non-RCRA waste - the management of used oil filters
Land Disposal Restrictions	RCRA; 40 CFR 268.7, 268.50	HWRMA; 22 CCR 66268.1, 66268.7, 66268.50	<ul style="list-style-type: none"> • generators must determine whether wastes are subject to land disposal restrictions and treatment standards • generators of restricted wastes must make certain notifications and certifications to off-site TSDFs • generators of restricted wastes must maintain specified records for at least 5 years • must not store hazardous wastes subject to land disposal restrictions unless certain conditions are met
Waste Minimization	n/a	HWR&HWSRMA; 22 CCR 67100.1 - 67100.12	<ul style="list-style-type: none"> • generators who generate more than 12,000 kg of non-exempt hazardous waste, or more than 12 kilograms of non-exempt extremely hazardous waste, in a reporting year must complete a source reduction evaluation review and plan and source reduction evaluation review and plan summary every four years • generators who generate more than 5,000 kilograms of certain categories of hazardous waste, but do not meet the above requirements, must complete a compliance checklist or the above plan • the above generators must prepare a progress report biennially (e.g., Form GM of EPA Biennial Report)
Additional Requirements for Extremely Hazardous Wastes	n/a	HWCL; 22 CCR 67430.1	<ul style="list-style-type: none"> • extremely hazardous wastes may not be handled or disposed of in California without an Extremely Hazardous Waste Disposal Permit

TABLE 4-1
FEDERAL AND STATE REQUIREMENTS FOR THE MANAGEMENT OF HAZARDOUS WASTES, MATERIALS AND PETROLEUM OILS
AND LUBRICANTS

Subject	Federal Authority	State Authority	General Requirements
HAZARDOUS MATERIALS MANAGEMENT			
Underground Storage Tank Requirements	RCRA; 40 CFR 280	23 CCR 2610 - 2728	<ul style="list-style-type: none"> • tanks must be permitted • applies to specified tanks which store hazardous substances • hazardous substances regulated in California but not by RCRA include, but are not limited to, hazardous waste tanks not operating under a hazardous waste facilities permit • new USTs must meet certain construction and installation standards, including primary and secondary containment, spill container and overfill prevention system, corrosion protection and integrity testing • an approved monitoring program, including a response plan, must be implemented for new USTs • existing USTs must be under an approved monitoring program • unauthorized releases must be properly reported, recorded, investigated, and remediated as necessary • certain evaluations must be completed before a primary container repair can be authorized by local agency • existing tanks (except motor vehicle fuel tanks) must meet the new tank secondary containment standards by December 22, 1998; steel motor vehicle fuel tanks may be retrofitted with secondary containment, or be provided with interior lining and cathodic protection • existing tanks must be provided with overfill prevention and/or spill container (as appropriate) by December 22, 1998 • owners must comply with temporary and permanent closure requirements
Business Plans	n/a	CA H&S Code 25500 - 25507	<ul style="list-style-type: none"> • facilities handling a specified minimum amount of hazardous materials must develop plans that include an inventory of hazardous materials, an emergency response plan, and an employee training program • release or threatened release of hazardous materials must be reported
Acutely Hazardous Materials	n/a	CA H&S Code 25531 - 25534	<ul style="list-style-type: none"> • facilities handling specified quantities of acutely hazardous materials were required to submit acutely hazardous material registration forms and may be required to provide risk management and prevention programs
Release Reporting	n/a CERCLA; 40 CFR 302 CERCLA; 40 CFR 355	Porter-Cologne Water Quality Control Act; Water Code 13271 n/a n/a	<ul style="list-style-type: none"> • releases of specified reportable quantities of hazardous substances must be reported when the released substances enter or threaten to enter state waters • releases in excess or equal to reportable quantities of hazardous substances must be reported • releases of extremely hazardous substances must be reported
Emergency Planning	CERCLA; 40 CFR 355	n/a	<ul style="list-style-type: none"> • sites where extremely hazardous substances are present in amounts equal to or greater than threshold quantities must follow certain emergency planning procedures

TABLE 4-1
 FEDERAL AND STATE REQUIREMENTS FOR THE MANAGEMENT OF HAZARDOUS WASTES, MATERIALS AND PETROLEUM OILS
 AND LUBRICANTS

Subject	Federal Authority	State Authority	General Requirements
Reporting Requirements	CERCLA; 40 CFR 370.20 - 370.28	n/a	<ul style="list-style-type: none"> ● sites required to prepare or have available MSDSs for a hazardous chemical under OSHA are required to meet certain reporting requirements
Employee Hazard Communication	OSHA; 29 CFR 1910.1200	n/a	<ul style="list-style-type: none"> ● Employers must provide information to employees about the hazardous chemicals to which they are exposed, by means of a comprehensive hazard communication program, labels and other forms of warning, MSDSs, and information and training.
Hazardous Waste Operations and Emergency Response Training	OSHA; 29 CFR 1910.126	n/a	<ul style="list-style-type: none"> ● employers whose employees conduct certain activities must have emergency response plans that address specific training requirements
Management of Flammable and Combustible Liquids	OSHA; 29 CFR 1910.106	n/a	<ul style="list-style-type: none"> ● use and storage of flammable and combustible liquids must meet specified requirements to ensure employee safety
Transportation	HMTA; 49 CFR 171 - 173, 177	13 CCR 1160.2 - 1197	<ul style="list-style-type: none"> ● hazardous materials offered for transportation must be properly marked, labeled, packaged, and placarded ● employers who offer hazardous materials for transportation must ensure that their employees are properly trained

TABLE 4-1
 FEDERAL AND STATE REQUIREMENTS FOR THE MANAGEMENT OF HAZARDOUS WASTES, MATERIALS AND PETROLEUM OILS
 AND LUBRICANTS

Subject	Federal Authority	State Authority	General Requirements
POL MANAGEMENT			
Spill Prevention Control and Countermeasure Plans	CWA; 40 CFR 112	n/a	<ul style="list-style-type: none"> • non-transportation facilities (of specified petroleum storage capacity) that could reasonable be expected to discharge oil in harmful quantities into navigable waters must prepare an SPCC Plan and conduct training
Aboveground Storage Tanks	n/a	CA APSA; H&S Code 25270	<ul style="list-style-type: none"> • applies to facilities subject to 40 CFR 112 and (with certain exceptions) to those with petroleum ASTs over 10,000 gallons, regardless of any threat to navigable waters • must prepare an SPCC Plan • must file a storage statement with the RWQCB every 2 years • RWQCB may require monitoring requirements • spills or releases must be reported subject to the reporting provisions of the county and the city in which the tank is located
Underground Storage Tank Requirements	RCRA; 40 CFR 280	23 CCR 2610 - 2728	<ul style="list-style-type: none"> • UST regulations for hazardous substances, as detailed above, pertain to most petroleum USTs (excluding heating oil USTs)
Release Reporting	n/a	Porter-Cologne Water Quality Control Act; Water Code 13272	<ul style="list-style-type: none"> • release of specified reportable quantities of oil or petroleum products must be reported when the released substances enter or threaten to enter state waters (except certain spills to marine waters which are covered under the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act)

4-7

Hazardous Waste Control Law (HWCL)

Hazardous Waste Management Act of 1986 (HWMA, added to HWCL re land disposal restrictions)

Hazardous Waste Reduction and the Hazardous Waste Source Reduction and Management Review Act of 1989 (added to HWCL)

(HWR&HWSRMA)

Hazardous Materials Transportation Act (HMTA)

Occupational Safety and Health Act (OSHA)

5.0 ORGANIZATION AND SPECIFIC RESPONSIBILITIES

5.1 Organization

The organization at MCAS El Toro for management of hazardous materials and hazardous wastes is shown in Figure 5-1. The Environmental Director is tasked with the responsibility for management and disposal of hazardous material and hazardous waste at MCAS El Toro and Tustin. The Environmental Department provides overall coordination of hazardous material/hazardous waste operations. Names and telephone numbers of key staff are listed in Table 5-1. The Assistant Chief of Staff (AC/S), G-4, 3d Marine Aircraft Wing (MAW) provides liaison with Wing units for the management and disposal of hazardous material and hazardous waste in coordination with the Environmental Department.

The Commanding General, MCAS El Toro designates Hazardous Material/Hazardous Waste Officers for their respective commands (station coordinators). The Commanding General, 3d MAW, the Commanding Officer, Combat Service Support Group 14 (CSSD-14) and the Commanding Officer, Marine Aircraft Group (MAG) 46 designate Hazardous Material/Hazardous Waste Officers from their respective G-4/S-4 offices to manage/coordinate their programs. These designations are made in writing and are forwarded to the Environmental Department. Updates of these assignments are forwarded to the Environmental Department quarterly. Negative updates are required.

Each Marine Aircraft Group (MAG) within the Marine Air Wing designates a Group Hazardous Material/Hazardous Waste Manager from within their S-4 office to manage/coordinate the hazardous material/hazardous waste program at the group level. These designations are made in writing and forwarded to the Wing Hazardous Material/Hazardous Waste Officer for further delivery to the Environmental Department. Updates are required each quarter. Negative updates are required.

Figure 5-1
Organization of
Hazardous Material/Hazardous Waste
Management, MCAS El Toro

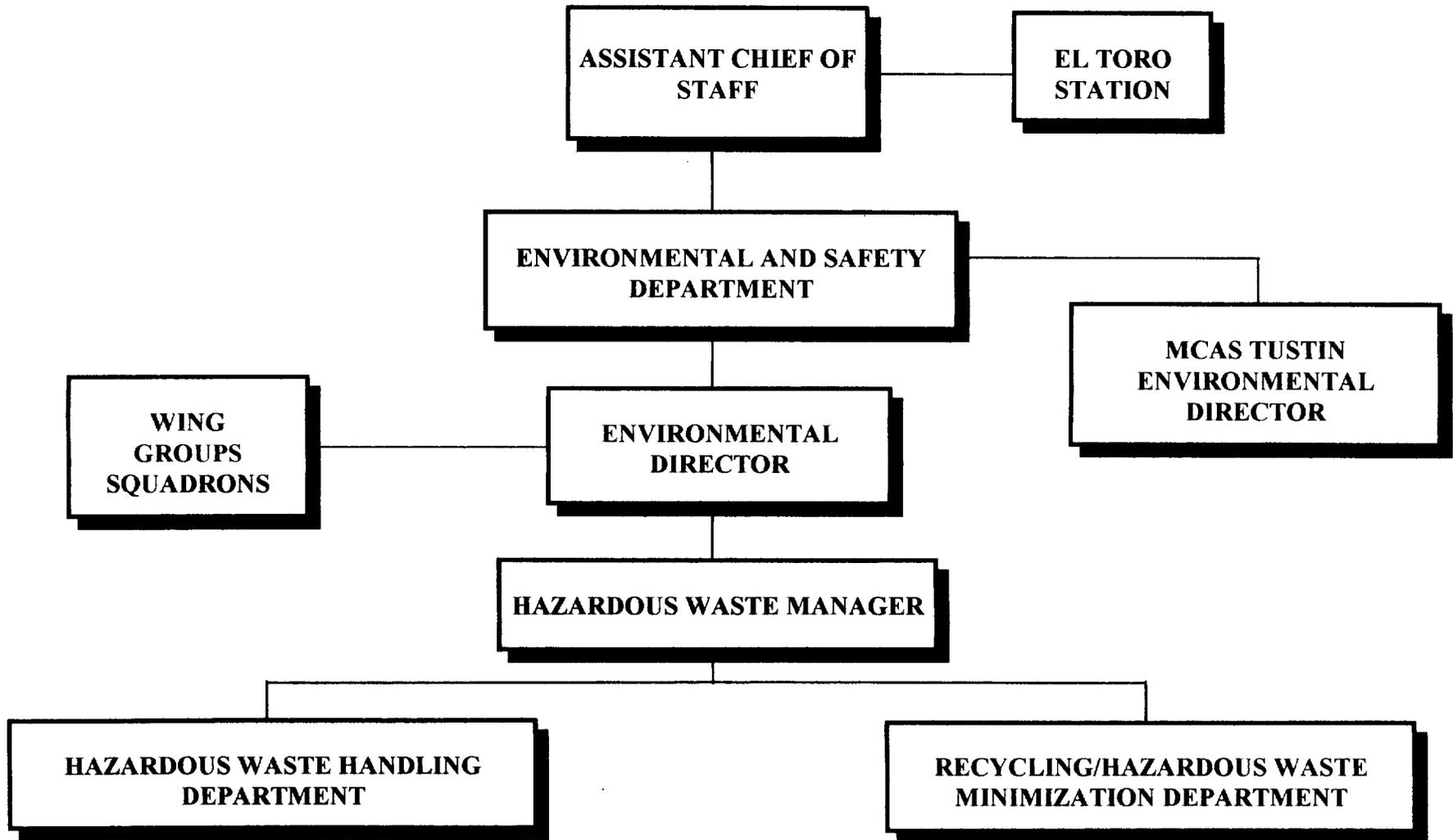


TABLE 5-1**HAZARDOUS WASTE MANAGEMENT PERSONNEL¹**

<u>Title</u>	<u>Name and Phone (714/726-)</u>
Commanding Officer	Col. Chessum, x6610
Public Works Officer	Paul Sherwood, x2172
Base Supply Officer Lt.	Koenig, x3854
Safety Officer	John Garrison, x3818
Director, Facilities Management	Capt. Christianson, x2270
Emergency Response Team Leader	Chief Arnett, x3919
Emergency Coordinators	Sgt. Childers, x2164/ Capt. Clark, x2772
Environmental Director	Wayne Lee, x6614
Hazardous Waste Officer (Wing Level)	W.O. Higgins, x2664, x4802
Hazardous Waste Manager (Group Level)	MMSGT, Spencer, x4141
Hazardous Waste Manager (Squadron Level)	SSGT. Irvine, x3663 (MAL5-11)
Transportation HW Coordinators	Sgt. Childers, x2164/ Capt. Clark, x2772

1. Correct as of November, 1993

At the squadron level, each commanding officer designates Hazardous Material/Hazardous Waste Managers within the S-4 office to handle the daily management of hazardous waste storage, transfer and disposal. The designation of the Hazardous Material/Hazardous Waste Manager is made in writing and forwarded to the Wing Hazardous Material/Hazardous Waste Officer for further delivery to the Environmental Department. Updates are required each quarter. Negative updates are required.

Also at the squadron level, each commanding officer designates Hazardous Material/Hazardous Waste Coordinators responsible for the daily coordination of hazardous material/hazardous waste handling and storage during each respective work shift. The designation of the Hazardous Material/Hazardous Waste Coordinators is made in writing to the Wing Hazardous Material/Hazardous Waste Officer for further delivery to the Environmental Department. Updates are required each quarter. Negative updates are required.

Each remaining tenant unit, including, but not limited to MAG-46, CSSD-14, Station Operations and Maintenance Squadron (SOMS), Morale, Welfare and Recreation (MWR) and the Marine Corps Exchange, all designate Hazardous Material/Hazardous Waste Coordinators. These assignments are forwarded to the Environmental Department. Updates will be provided quarterly. Negative updates are required.

The MCASs El Toro and Tustin Fire Departments designate a Hazardous Material/Hazardous Waste point of contact to provide guidance on storage and emergency procedures as it relates to fire protection. These assignments are forwarded to the Environmental Department.

The Defense Reutilization and Marketing Office (DRMO) designates Hazardous Material Inspectors whose responsibility is to inspect hazardous materials for reutilization and resale.

5.2 Responsibilities

The responsibilities of personnel and various offices and departments in the management of hazardous materials and wastes at MCAS El Toro is outlined below.

5.2.1 Environmental Director

The Environmental Director:

1. Coordinates all Stationwide environmental programs such as air pollution prevention, underground storage tanks, installation restoration, industrial waste water, and hazardous waste minimization.
2. Provides the necessary guidance and technical expertise to support implementation of the station hazardous waste management plan.
3. Maintains routine liaison with SOUTHWESTDIV, EPA, and the California Department of Toxic Substances and Control (DTSC) regarding hazardous waste rule interpretation, inspections, and problem resolution.
4. Reports to the Commanding General on the status of all Stationwide environmental programs.
5. Signs manifests for the Commanding General.
6. Coordinates with the Fire Chief and tenant commands in development of procedures and equipment for fire and spill protection at hazardous waste storage sites in accordance with the activity spill contingency plan.

7. Coordinates with other Station departments, such as Fire, Safety, and Supply, in matters pertaining to hazardous waste.

5.2.2 Manager of Hazardous Waste

The Manager:

1. Provides the necessary support and management expertise to facilitate implementation of the Hazardous Material/Hazardous Waste Management Plan.
2. Prepares hazardous waste reports and hazardous waste compliance documentation as required by EPA, DTSC, and Marine Corps instructions.
3. Investigates, evaluates, recommends, procures, and tracks necessary hazardous waste-related equipment for proper handling and storage of hazardous waste in coordination with the Safety Department.
4. Addresses other appropriate issues relative to the Hazardous Material/Hazardous Waste Management Plan implementation and management.
5. Initiates corrective measures to facilitate proper hazardous waste operations.
6. Performs long-range planning for hazardous waste reduction (including product substitution and best management practices), recycling, and reclamation strategies.
7. Coordinates the training of all hazardous waste management personnel.
8. Maintains all the necessary records and reports as required by the regulations.

5.2.3 Storage Facility Operators

Storage Facility Operators:

1. Inspect storage facilities weekly using the required inspection checklist.
2. Ensure that all equipment is maintained properly and in working condition.
3. Ensure that all records of receipt and disposal of hazardous waste are kept in compliance with environmental regulations.
4. Ensure that all hazardous wastes are handled, transferred, stored, and disposed of in accordance with environmental regulations.
5. Ensure that all spills are reported properly and cleaned up.

Storage Facility Operators will indicate environmental staff and Station personnel designated for assistance in operation of the storage facility.

5.2.4 Wing Hazardous Material/Hazardous Waste Officer

The Wing Hazardous Material/Hazardous Waste Officers:

1. Inspect each generation site quarterly, annotate deficiencies and forward them to the Environmental Department.
2. Notify the Environmental Department of any deployments or transitions.
3. Act as liaison to the Environmental Department on the environmental matters.

4. Attend Environmental Protection Committee meetings.

5.2.5 Group Hazardous Material/Hazardous Waste Managers

Group Hazardous Material/Hazardous Wastes Managers:

1. Ensure generators within the group are following generation responsibilities outlined in Chapter 8.0.
2. Conduct monthly inspections of hazardous waste and hazardous material storage areas, annotate deficiencies and forward inspection reports to the Environmental Department.
3. Work with each generator to correct any discrepancies within 14 days of inspection.
4. Notify the Environmental Department when a squadron is scheduled for deployment and coordinate the removal of any hazardous material/hazardous waste after the squadron departs.
5. Conduct unannounced, monthly inspections of all squadron hazardous waste inspection records.
6. Attend Environmental Protection Committee Meetings.

5.2.6 Squadron Hazardous Material/Hazardous Waste Manager

Squadron Hazardous Material/Hazardous Waste Managers:

1. Inspect accumulation areas for compliance with environmental regulations.

2. Compile a complete list of all hazardous materials used at the squadron, update it whenever necessary, and forward this list to the Environmental Department.
3. Maintain copies of all Material Safety Data Sheets (MSDS) for all hazardous materials used in the squadron.
4. Conduct hazard communication training as often as necessary for compliance with regulations and safety.
5. Attend Environmental Protection Committee meetings.

5.2.7 Squadron Hazardous Material/Hazardous Waste Coordinator

Squadron Hazardous Material/Hazardous Waste Coordinators:

1. Ensure all drums of hazardous materials are handled, labeled, and stored correctly.
2. Inspect hazardous material and hazardous waste storage areas daily.
3. Inspect hazardous waste areas weekly using the approved checklist.
4. Coordinate all hazardous material/hazardous waste matters with the Environmental Department.
5. Attend Environmental Protection Committee meetings.

5.2.8 Fire Inspectors Assigned to the Station Fire Department

Fire Inspectors:

1. Inspect facilities where hazardous materials and hazardous wastes are stored.
2. Provide guidance on storage of flammable and combustible materials.
3. Assist in response efforts during hazardous material/hazardous waste incidents.

5.2.9 Hazardous Waste Transporters

Hazardous Waste Transporters:

1. Drive the vacuum truck for transportation of used jet fuel, gasoline, and oil from MCAS Tustin to MCAS El Toro.
2. Prepare hazardous waste manifests.
3. Perform general vehicle safety inspections.
4. Ensure proper vehicle placarding.

5.2.10 Ground Safety Office

The Ground Safety Office:

1. Cooperates with the Environmental Director in establishing joint hazardous waste facility/procedure inspection and training programs; also maintains information about auxiliary hazardous waste training from external sources.

2. Coordinates with the Environmental Director on necessary action to be taken during spill responses.
3. Maintains a technical library of references detailing hazardous waste safety, handling, storage, transport, treatment, disposal, and characteristics for both stock and non-stock items, including hazardous material characterization references and MSDSs from the Supply Department.
4. Routinely notes and informs the Manager of Hazardous Waste of environmental health and safety deficiencies while performing safety inspections (e.g., corroding containers, incompatible storage).
5. Provides information for and incorporates into hazardous waste training courses the information regarding the EPCRA requirements.

5.2.11 Supply Department

The Supply Department:

1. Maintains records and inventories of all hazardous material throughout the Station to be periodically submitted to the Environmental Director.
2. Ensures that MSDSs are produced for those materials not previously listed on the DOD Hazardous Material Information System (HMIS). Supplies copies of MSDSs to shop personnel, the Safety Department, the Fire Department, and the Director of Hazardous Waste Management.
3. Maintains a stock of appropriate hazardous waste labels and marking stencils to be applied as necessary and to be provided to departments upon request.

4. Requires manufacturers or vendors to properly label all hazardous material prior to shipment and provide an MSDS. These requirements shall be included as part of each purchase contract involving hazardous material.
5. Coordinates with the Manager of Hazardous Waste regarding hazardous materials classification.
6. Drafts and maintains Supply Department Hazardous Material Operating Instructions.

5.2.12 Environmental Department

The Environmental Department:

1. Provides the Supply Department information on materials which are hazardous.
2. Forwards copies of MSDSs to the Ground Safety Office.
3. Inspects hazardous waste containers before turn-in.
4. Develops and coordinates quarterly training for personnel involved in hazardous waste operations.
5. Provides technical assistance to any unit involved in hazardous waste operations.
6. Develops contingency plans and emergency procedures as required by state and federal laws.
7. Coordinates the program for Hazardous Waste Minimization.

8. Manages hazardous waste storage/transfer facilities and ensures that all required documents for operation of these facilities are properly prepared and updated.
9. Functions as the Hazardous Material/Hazardous Waste Officer for the Commanding General, MCAS El Toro.
10. Researches and discusses all hazardous material/hazardous waste issues at the Environmental Protection Committee meetings.
11. Provides all necessary personnel and equipment for weekly pick up of hazardous waste from accumulation sites and for pick up of bulk recyclables (fuel, oil, hydraulic fluid).
12. Signs all hazardous waste manifests for MCAS El Toro and Tustin and maintains and tracks these manifests.
13. Coordinates handling of all unidentified drums of hazardous waste.
14. Manages and operates the storage facilities and ensures that all required documents for these facilities are properly prepared, submitted, and updated.
15. Performs all required inspections of MCAS El Toro storage facility and maintain the hazardous waste operating log for MCAS El Toro.
16. Coordinates with MCAS Tustin to ensure that they perform all required inspections for MCAS Tustin facility.
17. Ensures storage facility inspections at both MCAS El Toro and MCAS Tustin are accurate and operating logs correct through monthly unannounced spot inspections by the Director of the Environmental Department.

18. Provides all necessary personnel and equipment to pick up hazardous waste once a week at each station. In addition, this department regularly pick up bulk recyclables (fuel, oil, hydraulic fluid).

5.2.13 Defense Reutilization and Marketing Office (DRMO)

The DRMO is responsible for the reutilization and resale of hazardous materials and for contracting off-site disposal of hazardous wastes.

5.2.14 Generators

Generators' responsibilities are outlined in Chapter 7.

6.0 GENERATION, STORAGE AND DISPOSAL OF HAZARDOUS WASTE

6.1 Activities Generating Hazardous Waste

At MCAS El Toro, operations at the following types of locations result in generation of hazardous wastes:

- Aircraft maintenance hangars
- Maintenance shops for auto vehicles, aircraft ground support equipment, vehicle equipment and construction equipment
- Auto hobby shop and Marine Corps Exchange (MCX) auto repair station
- Photolab
- Washracks and steam cleaning facilities
- Hazardous/flammable, unused chemical materials storage
- Aircraft fueling stations, Tactical Airfield Fuel Dispensing Systems (TAFDS), and fuel farms

6.2 Hazardous Waste Generated

MCAS El Toro generated approximately 4.3 million pounds of hazardous wastes in calendar year 1992 and is thus classified as a large quantity generator. Hazardous wastes are typically generated from aircraft and vehicle maintenance, degreasing processes, and painting operations include waste oil, fuels, hydraulic fluid, lube oil, antifreeze, cleaning solvents, paints, paint stripper, paint thinner, batteries, and contaminated rags and absorbents.

Chemical products with an expired shelf life that cannot be recertified are handled as hazardous wastes. The fuel storage areas generate hazardous waste when fuel storage tanks are cleaned and sludge is pumped out or when fueling/defueling or loading/unloading operations result in spills. Washwater from washracks is passed through oil/water separators. The effluent water

is discharged to the sanitary sewer or the storm drain, and the waste oil is handled as hazardous waste.

Generators of hazardous wastes identified in site visits October, 1993 are shown in Table 6-1 and hazardous wastes generated by MCAS El Toro in calendar year 1992 are shown in Table 6-2. Hazardous materials which become hazardous wastes after use are shown in Figures 6-1 and 6-2. A specific breakdown of wastestreams for each generator in July and August, 1992, is shown in Table 6-3. (Data was not available for other periods.) Information on hazardous waste types and quantities presented in these tables was collected by reviewing records and by interviewing waste generators. The records reviewed included:

- Hazardous waste manifests
- The logbook for tracking the movement of hazardous wastes from generators to the centralized storage facility
- Annual reports to NEESA

Upon evaluation of the collected data, the manifest data sheets were considered to be the most detailed and reliable data. Information on hazardous waste types, quantities, waste codes, and other pertinent data from the manifests was entered in a data base. The spreadsheet included in Appendix A lists the hazardous wastes shipped off-Station in calendar year 1992, sorted by California Waste Code (CWC).

TABLE 6-1
GENERATORS OF HAZARDOUS WASTE
AT MCAS EL TORO

Aero Club
Armory
Auto Hobby Shop
Combat Service Support Detachment 14 (CSSD 14)
Facilities Maintenance Department Shops, Bldg. 1601 (FMD)
Headquarters & Headquarters Squadron 38 (H&HS 38)
Marine Aerial Refueler/Transport Squadron 352 (VMGR 352)
Marine Air Control Group 38 (MACG 38)
Marine Aircraft Group 46 (MAG 46)
Marine Aircraft Group 46 (MAG 46), Fixed Wing
Marine Aircraft Group 46 (MAG 46), Helo Mals 11
Marine All Weather Fighter Attack Squadron 121 (VFMA (AW) 121)
Marine All Weather Fighter Attack Squadron 225 (VFMA (AW) 225)
Marine All Weather Fighter Attack Squadron 242 (VFMA (AW) 242)
Marine Aviation Logistics Squadron 11 (MALS 11), Air Frames
Marine Aviation Logistics Squadron 11 (MALS 11), Avionics
Marine Aviation Logistics Squadron 11 (MALS 11), Cryogenics
Marine Aviation Logistics Squadron 11 (MALS 11), GSE North
Marine Aviation Logistics Squadron 11 (MALS 11), Ordnance
Marine Aviation Logistics Squadron 11 (MALS 11), Power Plant
Marine Aviation Logistics Squadron 11 (MALS 11), Supply
Marine Fighter Attack Squadron 314 (VFMA 314)
Marine Fighter Attack Squadron 323 (VFMA 323)
Marine Fighter Attack Training Squadron 101 (VFMA 101)
Marine Wing Headquarters Squadron 3 (MWHS 3)
Marine Wing Support Squadron 373 (MWSS 373), Headquarters
Marine Wing Support Squadron 373 (MWSS 373), Refuelers
Marine Wing Support Squadron Utilities (MWSS Utilities)
Maytag Aircraft Corporation
MOD Team
Morale, Welfare & Recreation Department (MWR), Auto #1
Morale, Welfare & Recreation Department (MWR), Golf Course
Motor Pool (G-4) Bldg. 770
Photolab
Squadron Operations & Maintenance Squadron (SOMS), Headquarters
Squadron Operations & Maintenance Squadron (SOMS), Maintenance
Squadron Operations & Maintenance Squadron (SOMS), Recovery
Supply

**Table 6-2
Hazardous Wastes Generated
at MCAS El Toro in 1992**

Waste Stream	CWC	Waste Type	Weight (lb)
Calcium hypochlorite	141	E	173
Mercury batteries and waste mercury	181	E	468
PCB containing waste	261	E	273,211
Photochemicals	541	E	450
Waste mercury metallic	725	E	165
Waste hydrochloric acid	792	E	727
Alkaline solution without metals	122	H	5,316
Wet alkaline batteries	122	H	42
Unspecified alkaline solution	123	H	32
Aqueous solution with metals	132	H	3,625
Detergent	133	H	184
Unspecified aqueous solution	135	H	109,046
Surplus inorganics	141	H	1,040
Asbestos	151	H	15,562
Washrack sludge	171	H	20,099
Blasting booth sand	172	H	94,196
Inorganic solid waste	181	H	114,155
Contaminated Soil	181	H	436,552
Lead acid batteries	181	H	126
Dry alkaline batteries	181	H	48
Lithium batteries	181	H	2,095
Nickel/cadmium batteries	181	H	26
Halogenated solvents	211	H	23,479
Oxygenated solvents	212	H	12,580
Hydrocarbon solvents	213	H	14,717
Unspecified solvents	214	H	57,009
Waste aviation fuel	221	H	276,556
Waste hydraulic fluid, oil, grease	221	H	248,630
Water with fuel and oil	222	H	629,656
Oil sludge	222	H	148

**Table 6-2 (Continued)
Hazardous Wastes Generated
at MCAS El Toro in 1992**

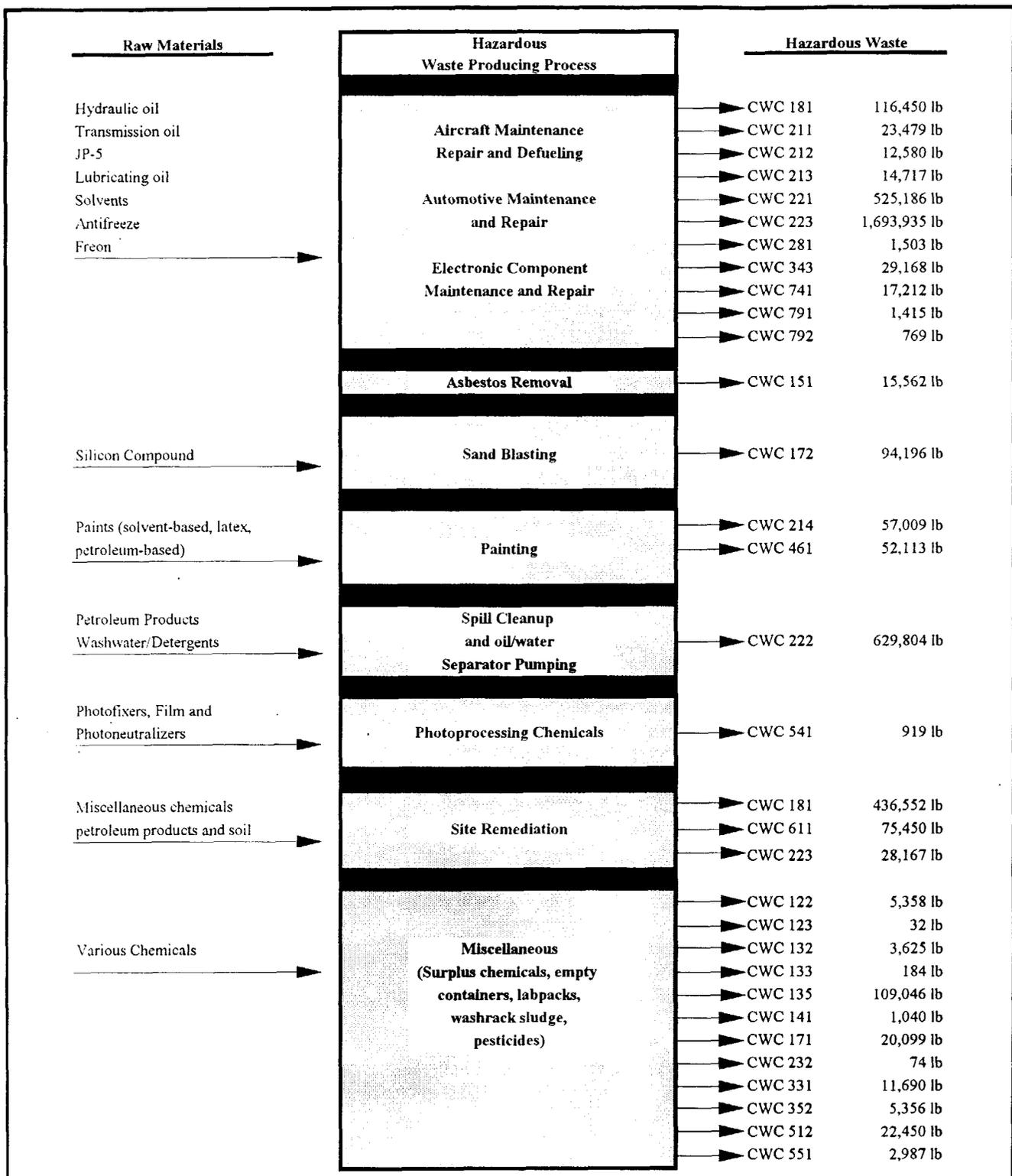
Waste Stream	CWC	Waste Type	Weight (lb)
Rag/absorbent containing oil	223	H	121,203
Oil and fuel filters	223	H	19,921
Oil containing waste	223	H	1,337,077
Automotive fluid, jet fuel	223	H	215,734
Oil contaminated soil	223	H	28,167
Pesticide related material	232	H	74
Adhesives	281	H	1,503
Off-spec organics	331	H	11,690
Liquid organic mixtures	343	H	29,168
Other organic solids	352	H	5,356
Paint waste	461	H	52,113
Empty containers	512	H	22,450
Photochemical waste	541	H	919
Lab waste chemicals	551	H	2,987
Contaminated soil from site cleanups	611	H	75,450
Solvents	741	H	17,212
Waste acids	791	H	1,415
Alodine and acids w/metals	792	H	769
Total			4,283,321

CWC = California Waste Code

Waste Type

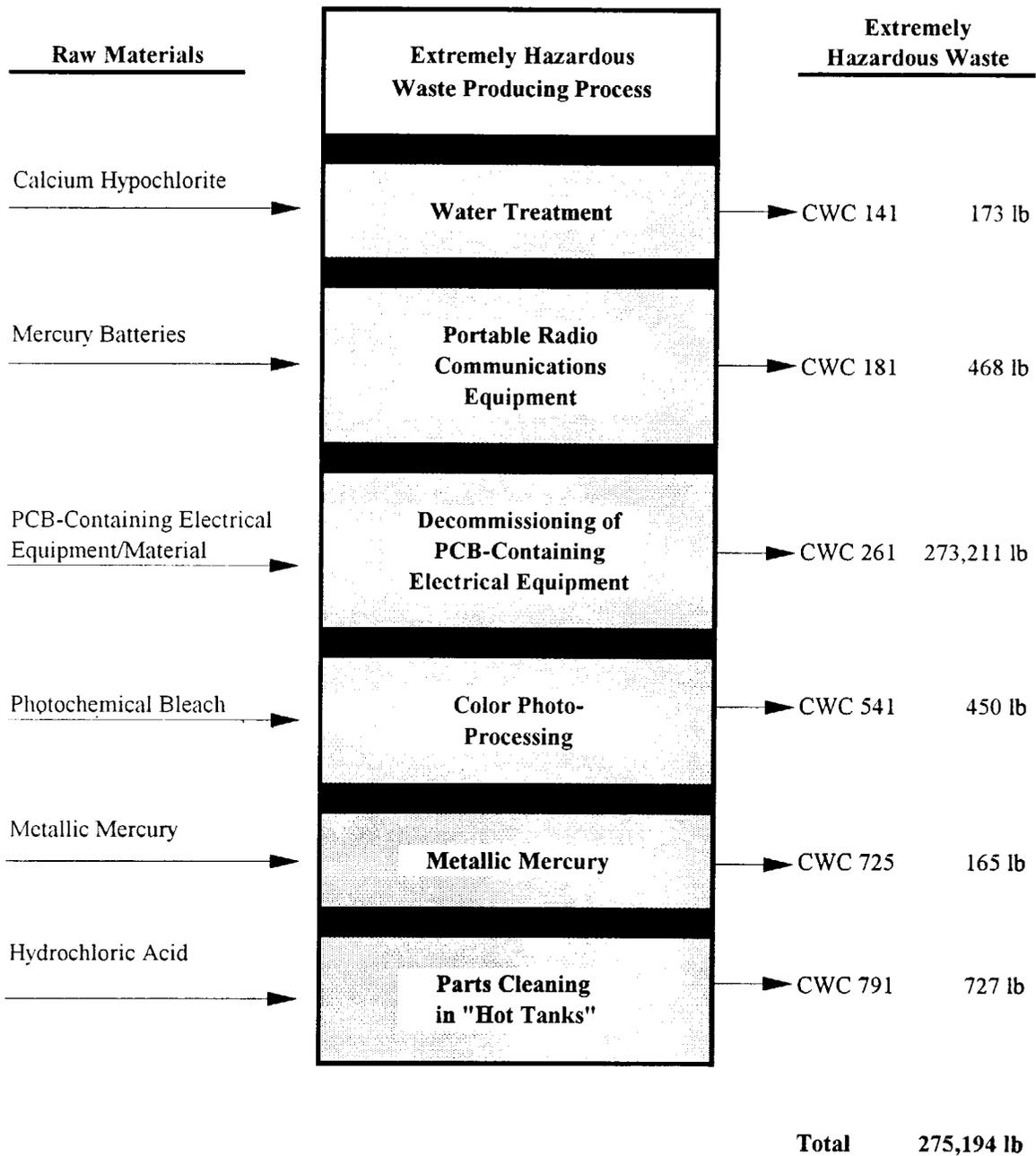
E = Extremely hazardous waste

H = Hazardous waste



Note: This is not a manufacturing facility; therefore, no products are produced.
CWC = California Waste Code

Figure 6-1
Block Flow Diagram for Hazardous Waste Generated
During Calendar Year 1992 at MCAS El Toro



Note: This is not a manufacturing facility; therefore, no products are produced.

CWC = California Waste Code

Figure 6-2
Block Flow Diagram for Extremely Hazardous Waste Generated
During Calendar Year 1992 at MCAS El Toro

**TABLE 6-3
HAZARDOUS WASTES GENERATED BY UNITS¹
MCAS EL TORO**

Generator	Hazardous Waste Generated	Amount (lbs)
Aero Club	Aviation gas	660
Auto Hobby Shop	Absorbent w/fuel, oil	518
	Misc. paints	264
	Oil filters	736
	Antifreeze	544
	Cleaning compound	266
C-Pool	Gas fuses/filters	119
CSSD-14	Petroleum oil w/water	368
	Aerosol prime coating	53
	Aerosol vinyl spray	52
	Absorbent w/fuel, oil	2,564
	Petroleum oil w/solvents	996
	Petroleum oil w/fuel	178
	PD-680	124
	Antifreeze	260
Rags w/fuel, oil	1,104	
FMD	Paint remover	5,503
	Misc. paint	55
	Enamel paint	145
	Spill debris w/oil	65
	Epoxy polyimide paint	14
		98
Fuel Farm	Aviation turbine engine filters	937
H & HS-38	Used oil/diesel filters	98
	Paint thinner	203
	Batteries (mercury)	74
	Calcium Hypochlorite	52
	Rags w/fuel, oil	102
	Petroleum oil	332
	Antifreeze	338
MACG-38	Antifreeze	178
	Aerosol spray paint	94
	Misc. paint	368
	Soil w/fuel, oil	224

**TABLE 6-3 (CONTINUED)
HAZARDOUS WASTES GENERATED BY UNITS'
MCAS EL TORO**

Generator	Hazardous Waste Generated	Amount (lbs)
MAG-46 (Helo)	Rags w/fuel, oil	410
	Rags w/synthetic oil	145
	Petroleum oil	878
	PD-680	314
	Acidic cleaning compound	684
	Plastic w/oil	116
	Absorbent w/fuel, oil	1,523
	Aerosol paint	124
	Synthetic oil	868
	Rags w/sealing compound	152
	Plastic w/sealing compound	475
MALS-11 (Airframes)	Rags w/grease, hydraulic fluid	
	Rags w/oil	688
	Petroleum oil	316
	Paintbooth sludge	6,670
	Aerosol lacquer paints	154
	Misc. paints	328
	Paint stripper	328
MALS-11	Aircraft paint thinner	50
	Methyl Ethyl Ketone	24
	Absorbent w/fuel, oil	554
	Rags w/fuel, oil	250
	Freon	150
	Batteries (magnese/alkaline)	100
	Batteries (mercury)	100
MALS-11 (Avionics)	Sulfuric acid, spent	538
	Rags w/fuel, oil	343
	Rainwater w/oil	3,830
	Batteries (lead acid)	126
	Synthetic oil	145
	Paint thinner	66
	Rags w/PD-680	56
	Corrosion Preventative Compound	138
	Misc. paint	185
	Primer	47
	Sealing compound	39
	Petroleum oil	269
	Aerosol enamel paint	108
	Alodine Corrosive Resistant	37
	Absorbent w/hydraulic fluid	49
Aerosol cleaning compound	97	
MALS-11 (Cryogenics)	Petroleum oil	146

TABLE 6-3 (CONTINUED)
HAZARDOUS WASTES GENERATED BY UNITS¹
MCAS EL TORO

Generator	Hazardous Waste Generated	Amount (lbs)
MALS-11 (GSE)	Rags w/fuel, oil	934
	Rags w/synthetic oil	688
	Rags w/oil	115
	Aerosol cleaning compound	35
	Absorbent w/fuel, oil	929
	Petroleum oil w/synthetic oil	539
	25% Freon w/75% hydraulic fluid	784
MALS-11 (GSE) North	Oil w/antifreeze	199
	Synthetic oil	474
	Used oil/diesel filters	218
	Latex gloves w/synthetic oil	52
	Petroleum oil w/synthetic oil	230
	25% Freon w/75% hydraulic fluid	436
	Aerosol cleaning compound	35
	Rags w/fuel, oil	252
MALS-11 (Ordinance)	Rags w/grease	108
	Corrosion Preventative Cmpd	44
	Aerosol lacquer paint	118
	Rags w/oil	373
	Petroleum oil	269
	Aerosol enamel paint	108
	Alodine corrosive resistant	138
	Absorbent w/hydraulic fluid	49
	Aerosol cleaning compound	97
MALS-11 (Power plants)	Rags w/fuel, JP-5, Synthetic oil	1,129
	JP-5 w/synthetic oil	487
	Decon kit, part B	183
	Decon kit, part A	139
MWR-Auto #1	Grease	142
	Fuel w/water	108
	Used oil/diesel filters	698
	Petroleum oil	522
MWSS-373 (HDQTRS)	Aerosol spray paint	171
	Rags w/fuel, oil	755
	Aerosol enamel spray paint	238
	Absorbent w/fuel, oil	925
	Used oil/diesel filters	164
	Antifreeze	154
MWSS-373 (Refuelers)	Absorbent w/fuel, oil	374
	Petroleum oil	878
	PD-680	314
	Acidic cleaning compound	684

**TABLE 6-3 (CONTINUED)
HAZARDOUS WASTES GENERATED BY UNITS'
MCAS EL TORO**

Generator	Hazardous Waste Generated	Amount (lbs)
MWSS-373 (Utilities)	Absorbent w/fuel, oil	438
	Rags w/solvents	164
	Petroleum oil	338
SOMS	Absorbent w/fuel, oil	104
	Petroleum oil	218
SOMS RECOVERY	Absorbent w/oil debris	78
	Aerosol spray paint	193
	Petroleum oil	1,298
	Absorbent w/fuel, oil	136
	Diesel w/water	574
	Batteries (lead, acid)	150
VMFAT-101	Corrosion preventative compd	67
	Misc. paint	173
	Enamel paint	101
	Rags w/fuel, oil	1,063
	Rags w/AC paint thinner	159
	Absorbent w/fuel, oil	1,213
	Cleaning compound (sodium hydroxide)	66
	Cleaning compound (orthocresol)	687
	Hydraulic fluid	1,966
	Paint thinner	404
	JP-5	1,192
	Methyl Ethyl Ketone	96
	Oil w/lead	100
	Aliphatic isocyanate	168
	Water w/oil	1,500
	Sulfuric acid, spent	550
Rags w/synthetic oil	100	
Paintbooth filters	218	
VMFA-225 (AW)	Absorbent w/fuel, oil	260
	Polyurethane coating	108
	25% Freon w/75% hydraulic fluid	492
	Synthetic oil	124
	Rags w/solvents	150
VMFA-242	Aerosol spray paint	127
	Rags w/fuel, oil	140
	Cleaning compound	1,318
	Misc. paint	174
	Synthetic oil	466
	JP-5	312
	Absorbent w/fuel, oil	136
	Diesel w/water	574
Batteries (lead, acid)	150	

TABLE 6-3 (CONTINUED)
HAZARDOUS WASTES GENERATED BY UNITS¹
MCAS EL TORO

Generator	Hazardous Waste Generated	Amount (lbs)
VMFA-323	Synthetic oil	1,159
	Misc. paint	90
	Acidic cleaning compound	78
	Absorbent w/fuel, oil	448
	Rags w/synthetic oil	1,320
	Rags w/fuel, oil	340
	Paint thinner	56
	Rags w/solvents	118
	Absorbent w/fuel, synthetic oil	780
	Absorbent pads w/fuel, oil	150
VMFA-314	Polyurethane coating	113
	Epoxy polyimide coating	62
	25% Freon w/75% hydraulic fluid	312
	Aerosol spray paint	72
	Aerosol cleaning compound	36
	Acidic cleaning compound	54
	Aerosol enamel spray paint	28
	Aerosol lacquer spray paint	56
	Rags w/fuel, oil	360
	Misc. paint	208
	Absorbent w/fuel, oil	1,646
	Rags w/solvents	112
	Enamel paint	558
	Paint equipment, debris	76
	Absorbent w/synthetic oil	109
	Lacquer paint	53
	JP-5 w/hydraulic fluid, synthetic oil	363
Synthetic oil	292	
VMGR-352	25% Freon w/75% hydraulic fluid	442
	Rags w/fuel, oil	403
	Misc. paint	360
	Enamel paint	105
	Batteries (lead, acid)	400
	Adhesive	60
	Paint stripper	72
	Aerosol spray paint	70
	Synthetic oil	868
	Hydraulic fluid	444
Absorbent w/fuel, oil	1,260	

1. For July/August 1992

7.0 REQUIREMENTS FOR GENERATORS

7.1 General Requirements

The following hazardous management requirements apply to all generating departments and tenant commands. For the most part, the requirements are mandated by law, and therefore, not discretionary.

Requirements for generators include:

- Characterization of wastes to determine whether the waste generated is hazardous based on its chemical composition and the criteria and lists in 22 CCR. Waste characterization is outlined in the Waste Analysis Plan references in Chapter 12.
- Compliance with personnel training and emergency response requirements as outlined in Chapters 10 and 13.
- Meeting requirements for on-Station transportation and off-site disposal of hazardous wastes as outlined in Chapter 9.
- Maintaining the required records listed in Chapter 11.
- Implementing hazardous waste reduction measures as described in the Hazardous Waste Minimization Plan referenced in Chapter 15.
- Management of on-Station wastes in accordance with regulations.

This chapter outlines the management of on-Station wastes.

7.2 Daily Accumulation of Hazardous Waste

Hazardous waste is collected and containerized immediately after generation. Collection is at accumulation points where hazardous waste may be stored for up to 90 days. Each generating unit at MCAS El Toro is required to designate an accumulation site and have this site conform to requirements of the Hazardous Waste Accumulation Point Plan. The requirements of this plan are outlined in Chapter 8.

7.3 Container Readiness and Preparation

7.3.1 General Container Requirements

The following requirements apply to storage of hazardous wastes in drums.

- Drums must be in good condition with no dents or corrosion and closure rings or bungs must be tightly fitted.
- Drums must be always closed except when adding or removing waste.
- Drums used for transportation must comply with the Department of Transportation requirements, including 49 CFR 173.28.
- Wastes that are incompatible with other wastes shall not be placed in the same drum. Guidelines to determine waste incompatibilities are presented in Appendix B. Exhibit 7-1 groups wastes routinely generated at MCAS El Toro according to compatibility.
- Drums must be made or lined with a material compatible with the hazardous waste. Drums used at MCAS El Toro are shown in Exhibit 7-2.

Exhibit 7-1
Waste Routinely Generated Grouped According to Compatibility

ABO 5090.1A
3 Apr 90

COMMON TOXIC/HAZARDOUS WASTES

Hazardous wastes generated at MCASS El Toro and Tustin listed according to storage compatibility. (Partial list, to be updated as necessary)

	<u>NOMENCLATURE</u>	<u>SPEC</u>	<u>NSN</u>
<u>Group #1</u> Acid Waste	Hydrochloric Acid	O-H-765	6810-00-236-5665
	Hydrochloric Acid		6810-00-823-8010
<u>Group #2</u> Caustic Waste	Sodium Hydroxide	O-S-598B	6810-00-174-6581
<u>Group #3</u> Organic Waste	Remover, Paint & Lacquer Solvent Type	OPL-TT-R-248-10 TT-R-248A	8010-00-943-7127 8010-00-943-7128
	Engine Gas Path Cleaner	B & B 3100	6850-00-181-7594 6850-00-181-7597
	Dry Cleaning Fluid (Stoddard Solvent)	PD 680	6850-00-264-9037 6850-00-264-9038 6850-00-274-5421 6850-00-281-1985 6850-00-285-8011 6850-00-285-8012
	Isopropyl Alcohol	TT-I-735A	6810-00-286-5435 6810-00-543-7915
	Trichlorotrifluoroethane (Freon 113)	MIL-C-81302 Type 1 or 2 Genetron	6850-00-033-8851 6850-00-142-9247 6850-00-319-0834 6850-00-681-5688 6850-00-983-0282 6850-00-984-5853
	Methyl Ethyl Ketone	TT-M-261	6810-00-281-2762 6810-00-281-2785
	1-1-1 Trichloroethane (Methyl Chloroform)	MIL-T-81533	6810-00-476-5612 6810-00-476-5613
	Primer, Epoxy Polyamide	MIL-P-23377 Type I MIL-P-23377 Type II (Low IR)	8010-00-082-2450 8010-00-142-9279 8010-00-935-7080 8010-00-050-4082
	Primer, Zinc Chromate	TT-P-1757	8010-00-297-0593
	Remover, Paint, Epoxy System	MIL-R-81294	8010-00-142-9273 8010-00-181-7568 8010-00-926-1488 8010-00-926-1489
	Thinner, Acrylic Nitro Cellulose	MIL-T-19544	8010-00-527-2897
	Thinner, Aliphatic Polyurethane	MIL-T-81772	8010-00-181-8079 8010-00-181-8080
	Thinner, Paint (Mineral Spirits)	TT-T-291	8010-00-242-2089 8010-00-558-7026

Exhibit 7-2
Containers used for Storage of Hazardous Waste

ABO 5090.1B
4 Dec 90

HAZARDOUS WASTE CONTAINERS, CLEANUP AND DISPOSAL MATERIALS

<u>TYPE</u>	<u>NSN</u>	<u>ITEM DESCRIPTION</u>
Drum	8110-00-030-7780	Steel, 16 gauge, 55 gal, removable cover/w/lock ring, enamel outside surface treatment.
Drum	8110-00-292-9783	Steel, 18 gauge, 55 gal, enamel exterior treatment, B/V.
Drum (overpack)	8110-01-101-4056	Hazardous material recovery, 85 gal, open head, 16 gauge reusable epoxy phenolic lining.
Drum (overpack)	8110-01-101-4055	Hazardous material recovery 85 gal, open head, 16 gauge, disposal only, no lining, not suitable for storage.
Absorbent Compound	7930-00-269-1272	Kitty litter, 50 lb. bag.
Absorbent Compound	7930-01-145-5797	Safestep, 25 lb. bag.
Absorbent Compound	7430-01-154-7001	Safestep, 1000 lb. skid.
Bung Wrench	5120-00-244-4389	Multiple size wrench for opening/closing bung covers on drums.
Funnel	7240-00-244-1206	General purpose (2 gal) w/screen

7.3.2 Reuse of Containers

New containers are not necessary for hazardous waste collection. Containers may be reused one time for hazardous waste disposal under the following conditions:

- A plastic liner must be used for wastes which are corrosive.
- Drums cannot be full of liquid at 130 degrees F (5 percent of container capacity must be left as freeboard).
- Transportation is restricted to highways only.
- The drum, once closed, must be held for at least 24 hours and inspected for leakage immediately prior to transportation.
- The drum and the original contents of the drum are compatible with the hazardous waste being disposed.

7.3.3 Labeling and Marking of Containers

Certain labels and markings are required to be placed on each container of hazardous waste. Preprinted hazardous waste warning labels are available to satisfy most of the marking requirements. An example label is shown in Figure 7-1. Information required on the hazardous waste label is shown in Appendix B. All entries on the label are made using an indelible marker.

In addition to the hazardous waste label, the appropriate DOT warning label is placed on each container being offered for transportation on the public highway. These labels are available through Supply. Examples of hazardous material/hazardous waste labels and placards (for transportation on public highways) are given in Figure 9-3.

**Figure 7-1
Container Labels**

<h1 style="margin: 0;">HAZARDOUS WASTE</h1>	
STATE AND FEDERAL LAW PROHIBITS IMPROPER DISPOSAL IF FOUND, CONTACT THE NEAREST POLICE, OR PUBLIC SAFETY AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY OR THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES	
GENERATOR INFORMATION:	
NAME _____	
ADDRESS _____	PHONE _____
CITY _____	STATE _____ ZIP _____
EPA / MANIFEST ID NO. / DOCUMENT NO. _____ / _____	
EPA WASTE NO. _____	CA ACCUMULATION WASTE NO. _____ START DATE _____
CONTENTS, COMPOSITION: _____	
PHYSICAL STATE: <input type="checkbox"/> SOLID <input type="checkbox"/> LIQUID	
HAZARDOUS PROPERTIES: <input type="checkbox"/> FLAMMABLE <input type="checkbox"/> TOXIC	
<input type="checkbox"/> CORROSIVE <input type="checkbox"/> REACTIVITY <input type="checkbox"/> OTHER _____	
D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX	
<h2 style="margin: 0;">HANDLE WITH CARE!</h2>	
STYLE WMCA6	

Printed by LABELMASTER, Div. of AMERICAN LABELMARK CO., CHICAGO, IL 60646

DRUM LABELING REQUIREMENTS

1. Hazardous Waste

All drums containing hazardous waste must be labeled "HAZARDOUS WASTE"

2. Identity of Waste

Example: 10% paint ;10% MEK
Contaminated JP-5

3. Hazard Class

Example: Flammable
Corrosive

4. Squadron Name

Example: MALS 11, Cryogenics

5. Station

Example: MCAS Tustin

6. Date of Accumulation

Include: (a) date the FIRST drop of hazardous waste is placed in the drum;and
(b) date the drum is full.

7.3.4 Handling of Empty Containers

Containers which have previously held a hazardous material, including a hazardous waste, must be managed and disposed of as a hazardous waste unless they can be declared empty.

As defined in 40 CFR 261.7(b), a container is empty when there is less than one inch of hazardous material remaining. The state of California has additional requirements as defined in 22 CCR 66261.7. A container is empty if:

- no hazardous material can be poured or drained from the container when the container is held in any orientation; and
- for nonpourable hazardous materials, no hazardous material remains which can feasibly be moved by physical methods (except rinsing); no encrusted or adhered material remains.

Containers that previously contained a material listed as an acute hazardous waste in 40 CFR 261.31, .32, or .33(e) or as an extremely hazardous waste pursuant to the criteria of 22 CCR 66261.110-.113, must also be triple-rinsed using a solvent capable of removing the waste.

To be considered a nonhazardous waste, empty containers must be returned to the vendor for reconditioning or reuse, disposed of at an appropriate solid waste facility if less than five gallons in capacity, or reclaimed as scrap. Empty containers larger than five gallons in capacity are turned in to the DRMO using DD 1348-1 form within one year of being declared empty.

A container that has held a compressed gas is empty and not considered a hazardous waste when pressure in the container approaches atmospheric pressure. Aerosol containers are not considered hazardous waste when emptied of the contents to the maximum extent practicable under normal use, provided that they are not a RCRA regulated hazardous waste as defined in 22 CCR 66260.10.

7.3.5 Placement of Containers in Use

Generators are responsible for:

- Positioning of the container of hazardous waste so that the hazardous waste label with accumulation start date is clearly visible for inspection.
- Segregation of waste stored in 90-day accumulation areas such that it will prevent mixing of incompatible wastes in the event of a spill or leak.
- Location of containers of ignitable or reactive wastes at least 50 feet from the activity property line at all times.
- Maintenance of sufficient aisle space (i.e., 30 to 36 inches) around all containers of hazardous waste to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area where hazardous waste is located.
- Recording of all hazardous waste on the Daily Hazardous Waste Accumulation Point or Storage Facility Log (see Exhibit 7-3). Entries on the record include the name of the waste, name of the individual placing the material in the container, the date, the time the key was checked in and out, drum number, waste type, amount, depositor, and supervisor's signature.
- Placement of signs reading "Danger--Unauthorized Personnel Keep Out" on the entrances of hazardous waste accumulation sites in a size legible from a distance of 25 feet. In addition, "No Smoking Within 50 Feet" signs are placed on all four sides of the building or fence where ignitable wastes are stored so that each is visible from a distance of 50 feet. "No Smoking or Open Flame" signs are placed in the container storage area. The unit name is also placed on the storage area.

- Locking of gates to the accumulation point or storage areas except to add or remove containers.

In addition, generators are also responsible for providing other securities including:

- An internal communication or alarm system for disseminating immediate emergency instructions to facility personnel.
- A device such as a telephone or two-way radio for summoning emergency assistance from local police, fire departments or state and local emergency response teams.
- Portable fire control equipment and spill control and decontamination equipment.
- Water at sufficient volume and pressure to supply water hose streams.

7.3.6 Inspection of Containers

Department/tenant commands inspect the hazardous waste accumulation area weekly using the Hazardous Waste Accumulation Point Weekly Inspection Record (see Exhibit 7-4). Checks are made for leaks, container condition, compatibility/segregation of wastes, required labels, aisle space and the 90-day accumulation period compliance. Copies are forwarded to the Manager of Hazardous Waste.

7.4 Reporting of Unidentified Drums

Generators immediately notify the Environmental Department upon discovery of any unidentified drums.

Exhibit 7-4
Quarterly Accumulation Point Inspection Record

ABO 5090.1B
4 Dec 90

QUARTERLY INSPECTION SCHEDULE
FOR HAZARDOUS WASTE ACCUMULATION AREAS

Unit _____

	Yes	No*
1. Fire extinguisher operative?	—	—

*If no, contact the Station's Fire Dept (ET-3919, T-7225):

	+Yes	No*
2. Internal alarm system operative?	—	—
3. External Alarm system operative?	—	—
4. Safety shower operative?	—	—
5. Eyewash operative?	—	—
6. Spill control equipment adequate?	—	—

+If yes, perform all required maintenance and provide a statement of these actions below:

*If no, provide a statement of corrective action below (after equipment is operative, perform all required maintenance):

Date _____
Time _____

Name and Grade of Inspector

Signature

7.5 Implementation of the Contingency Plan and Emergency Procedures

A copy of the Contingency Plan, referenced in Chapter 13, and written emergency procedures are stored at each generating unit. In the event of a release, fire or explosion an Emergency Coordinator from the generating unit who is familiar with the Contingency Plan and with specific actions required will be present.

7.6 Implementation of Safe Work Practices

The waste generating organization's safety department is responsible for the establishment and implementation of safe work practices; and for the selection, issue and enforced use of the proper personal protective equipment with regard to each hazardous material used. The period of responsibility begins when the material is accepted for use at the job site and ends when the material is properly packaged and ready for removal from the hazardous waste collection area.

7.7 Emergency Coordinator

All facilities that handle hazardous wastes are required to have at all times at least one employee either on the facility or on call, with the responsibility of coordinating all emergency response measures.

8.0 STORAGE REQUIREMENTS FOR HAZARDOUS WASTE

There are three types of storage areas that are regulated by the EPA. They are satellite accumulation sites, accumulation points where hazardous wastes can be stored for up to 90 days, and permitted treatment, storage and disposal (TSD) facilities. At MCAS El Toro satellite accumulation sites are not allowed. Marine Corps guidance on the handling, transfer and disposal of wastes is provided in ABO 5090.1A, .1B and AB Bul 5090.

8.1 Satellite Accumulation Sites

Wastes stored at or near points of generation are considered satellite accumulation sites. At MCAS El Toro satellite accumulation sites are not at present authorized. (A generator with a satellite accumulation point may accumulate as much as 55 gallons of hazardous wastes or one quart of acutely or extremely hazardous waste at or near the point of generation for one year from the initial date of accumulation, or 90 days from the date the quantity limitation is reached, whichever occurs first, as defined in 22 CCR 6626.34.)

8.2 Accumulation Points

At an accumulation point, a generator may accumulate hazardous waste on-site for 90 days or less without a RCRA hazardous waste storage permit. At MCAS El Toro there are 40 accumulation points as shown in Figure 8-1 and in photographs in Appendix I.

Accumulation points must comply with certain federal and state regulations. These requirements, as outlined in Chapter 7.0, address physical condition and layout of the site, container types, record keeping, inspections, sign posting, and notification procedures.

8.2.1 Location of Accumulation Points

All accumulation points are approved by the Environmental Department. Upon approval, a number is assigned to a site and a "Hazardous Waste Area" sign, stating the number assigned to the accumulation site is posted at the site. These signs are available from the Environmental Department. Criteria for establishing accumulation sites include:

- The site must meet specifications of Environmental Department and the MCAS El Toro Fire Department with respect to location; criteria include drain location and distance from buildings.
- A layer of tarp and a layer of plastic must be put down first when building a new site area, unless there is a permanent concrete area already built on the site. Permanent concrete sites must have a sump hole to catch overflow from spills.
- All sites must have a 6-inch berm constructed of either concrete or sand bags.
- Roof protection is recommended, but not a requirement.
- Fire extinguishers placed at the sites must be approved by Environmental Director and the MCAS El Toro Fire Department.
- All sites must be equipped with internal and external communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel.
- All sites must have at least a 20-foot clearance on all sides to allow for access by fire fighting personnel.

- Physical separation of incompatible wastes must be made by either a curb or other means necessary to prevent the mixing of these waste due to a spill or an accident resulting from collecting the waste.
- Provision of adequate spill control/containment material to contain and/or clean up a spill as described in the Oil and Hazardous Substance SPCC and SCP.

8.2.2 Accumulation Point Management

Standard operating procedures for waste accumulation site management are described in the Hazardous Waste Accumulation Point Management Plan in Appendix C. These procedures are listed below and summarized in Table 8-1.

Container Storage Procedures

Containers of hazardous waste are placed on pallets. Each container is, at all times, positioned so that the hazardous waste label is clearly visible. Sufficient aisle space is maintained around the container (or pallet) to allow unobstructed movement of personnel, spill control, and decontamination equipment.

Containers of incompatible waste are separated from other hazardous waste containers by a curb, or some other manner which prevents incompatible wastes from contacting one another in the event of a leak or spill.

Container Identification

Each container of hazardous waste placed in the designated storage area is properly marked to comply with federal and state regulations. Appendix B gives the information needed on the container for compliance with federal regulations.

Table 8-1
Requirements for Hazardous Waste Accumulation Points
MCAS El Toro

<p>I. <u>Drum Management</u></p> <p>A. Proper labeling on all drums with paint</p> <p> 1. The words "hazardous waste"</p> <p> 2. Identification of waste and NSN</p> <p> 3. Hazard class (flammable, corrosive, etc.)</p> <p> 4. Unit and station</p> <p> 5. Accumulation date (first drop of waste)</p> <p>B. Drums closed except when filling</p> <p>C. No HW on top of sides of drum</p> <p>D. No stacking of drums</p>
<p>II. <u>Emergency Equipment</u></p> <p>A. Internal alarm system (chime, horn, etc.)</p> <p>B. External alarm system (telephone, alarm box, etc.)</p> <p>C. Fire extinguisher</p> <p>D. Spill control equipment* (broom, shovel, overpack, safestep)</p> <p>E. Safety shower</p> <p>F. Eyewash</p> <p>G. Copy of Station's contingency plan</p> <p>H. Signs (no smoking, etc.)</p>
<p>III. <u>Inspections</u></p> <p>A. Daily</p> <p>B. Weekly</p> <p>C. Monthly</p> <p>D. Quarterly</p> <p>E. After-storm</p>

* In the event of a hazardous waste spill call "9-911"

* For further information or questions, call ext. 6606 (MCAS El Toro).

Storage Records

The Manager of Hazardous Waste maintains accumulation point Storage Records, shown in Figure 8-2, for all hazardous waste handled. Data for completing the entries on the Storage Record are taken from the container.

Spills/Leaks

Spills or leaks of hazardous waste are promptly cleaned up and the spilled material disposed of as hazardous waste. Leaking containers are promptly repackaged. Residues from spills are packaged, marked, and labeled as appropriate for the spilled material (refer to the Oil and Hazardous Substance Spill Prevention, Control and Countermeasures Plan (SPCC) and Spill Contingency Plan for details). Personnel are responsible for immediately reporting all spills to the Environmental Department. An emergency coordinator is available at the site at all times. A copy of the Spill Contingency Plan is kept at each accumulation point.

Repackaging Leaking/Damaged Containers

Leaking or damaged containers of hazardous waste are repackaged into a DOT recovery drum, or contents are placed into another container, whichever is more appropriate. The drum is marked and labeled as appropriate for the hazardous waste.

Guidance on Specific Wastes

Guidance on management of some commonly generated wastes, as provided by AB Bul 5090, May 1993, is summarized in Table 8-2.

Table 8-2
Guidance on Commonly Generated Wastes¹

<p>Aerosol Cans</p> <p>The cans are managed as hazardous waste.</p>
<p>Empty Paint Cans</p> <p>Paint cans which are empty are disposed of as nonhazardous waste. Empty is defined by there being no pourable liquid or hardened residue in the can. Once the usable contents are removed, the can is wiped dry. Any hardened residue is chipped from the can and the can wiped free of any residual paint. Paint cans not meeting this definition of empty are managed as hazardous waste.</p>
<p>Used Oil</p> <p>Used oil is stored as a hazardous waste. Used oil is recyclable if not contaminated. All used oil is placed in 55 gallon drums and tested for contamination by the Environmental department.</p>
<p>Used Lead Acid Batteries</p> <p>Lead acid batteries are stored as a hazardous waste and are recycled through a contract administered by the DRMO. Batteries are marked with the date taken out of service; marking must be legible. Batteries are stacked on a pallet, one high, and are either shrink-wrapped or banded with non metallic bands. Pallets may be stacked two high. A piece of plywood is placed between pallets to avoid damage to the lower pallet. Damaged batteries are stored and transported in two, six millimeter plastic bags.</p>

1. From AB Bul 50990, May 1993.

Rainwater in Accumulation Points

Rainwater in accumulation points is pumped out using pumps specifically designated for this purpose. These pumps are available from the Environmental Department. If the water is contaminated or believed to be contaminated it is tested by the Environmental Department to determine whether it should be treated as a hazardous waste. If not contaminated, it is pumped out and allowed to follow normal drainage paths.

Inspections

Each accumulation point, including all containers of hazardous waste, safety equipment, and spill control materials, is inspected daily, weekly and monthly and quarterly by the Hazardous Material/Hazardous Waste Coordinator. Inspections are recorded in the Inspection Record, an example of which is shown in Figure 8-3 and in Appendix C.

8.3 Permitted Storage Area

At MCAS El Toro, hazardous wastes may be stored for up to 1 year in the RCRA-permitted storage facility located in Building 673T3 and shown in Figure 8-1. The building is constructed of corrugated metal and surrounded by a berm. Drums are stored on pallets within six bays designated for flammables, corrosives, reactives and toxic wastes. Each bay is separated by six inch berms. Management of hazardous wastes has the same requirements as accumulation points, as described above.

The doors to the storage area are kept locked, except when activity personnel are present. A sign is posted at the entrance and on all sides of the storage building, in a size that is legible from a distance of 25 feet, reading "Danger--Unauthorized Personnel Keep Out." In addition, a "No Smoking Within 50 Feet" sign is placed on all four sides of the building so that each is visible from a distance of 50 feet. "No Smoking" or "No Open Flame" signs are placed in the container storage area. Container handling and spill control equipment are maintained in the

Figure 8-3
Accumulation Point Inspection Checklist

HAZARDOUS WASTE ACCUMULATION POINT WEEKLY INSPECTION RECORD					
WORK CENTER _____		INSPECTOR'S SIGNATURE _____			
CHECKLIST	DATE	TIME	CONDITIONS FOUND	DEFICIENT Y/N	CORRECTIVE ACTION
Containers					
Compatibility					
Segregation *					
Leaks/Spills *					
Labels					
Waste Level *					
Aisle Space					
Gate Lock					
Drum Lock					
Fence					
Fire Extinguisher					
Ignitable Waste					
Ground Strap					
Drum Wrench					
Covers/Lids *					
Absorbent					
Acum. Start Date					
Protective Equipment					
Other					
PROBLEMS MUST BE CORRECTED PROMPTLY * To be inspected each operating day					

storage area at all times. A hazardous waste inventory is posted inside the storage area at all times.

9.0 DISPOSAL OF HAZARDOUS WASTE

9.1 Transportation

Hazardous waste containers are kept at accumulation sites for less than 90 calendar days from the accumulation start date. In order to ensure compliance with this requirement, the following procedures are followed:

Generating units notify the Environmental Department for inspection of containers no later than 60 calendar days after the accumulation start date. In addition, the Group Hazardous Material/Hazardous Waste Manager is notified at this time. The Environmental Department will normally inspect the containers within 5 working days and either certify them ready for pickup or indicate changes which must be made. Once certified for pickup, the containers are removed by the Environmental Department to the permitted storage facility.

If any container has not been removed from the accumulation area by the 80th calendar day following the accumulation start date, the Director, Environmental Department and the Hazardous Materials/Hazardous Waste Officer should both be contacted. The Director, Environmental Department and the Hazardous Materials/Hazardous Waste Officer will work together to effect removal by the 90th day.

9.1.1 Transportation from Accumulation Points to the Storage Facility

Hazardous waste is collected from the generating department/tenant accumulation sites in accordance with the following procedures:

9.1.1.1 The Generating Facility

The generating facility is responsible for completing the following prior to transfer:

1. Collecting and transferring the hazardous waste in an approved container;
2. Labeling correctly the hazardous waste container;
3. Sealing and letting the container sit for 24 hours; and
4. Preparing an MCAS El Toro DD 1348-1 turn-in form if a facility is a department or tenant of MCAS El Toro. An example of DD 1348-1 is shown in Figure 9-1.

9.1.1.2 Schedule and Routine for Transfer

Schedule and routine for transfer is as follows:

1. Hazardous waste pickups are weekly or as necessary.
2. When a hazardous waste pickup is required at an activity, call extension 3035. Give the scheduler the following information:
 - a. Name of generator
 - b. Location of generator
 - c. Phone of contact at generator
 - d. Characteristic and classification of waste to be picked up
 - e. Volume of waste
 - f. Container size
 - g. Accumulation date
 - h. Repeat items d-f for every different type of waste

9.1.2 Transportation from the Storage Facility

Hazardous waste generated by MCAS El Toro is disposed of through a contract administered by DRMO. The contractor, who must be licensed with the California Department of Toxic Substances Control (DTSC), is obligated to pick up and transport the waste to an EPA-permitted

disposal site. Prior to pickup, the accountability of all waste to be disposed of must be turned over to DRMO via a DD 1348-1 form.

The operator of the central MCAS El Toro hazardous waste storage facility is responsible for completing the following prior to transportation:

1. Confirming that the hazardous waste is in an approved container.
2. Confirming that the hazardous waste is properly labeled and marked.
3. Confirming that all hazardous waste is properly sealed.
4. Letting all hazardous waste sit unattended for 24 hours.
5. Filling out disposal turn-in forms for all waste to be disposed.
6. Transferring accountability of the hazardous waste to DRMO. This is done by turning in the disposal turn-in forms for all waste to be disposed.
7. Confirming that the waste being transported for disposal has been properly entered into the hazardous waste facility storage record.
8. Confirming that the waste prepared for transportation is on the DRMO contract list for pickup and disposal.
9. Preparing an EPA manifest for the waste shipment in accordance with Appendix D.

9.1.2.1 The Hazardous Material/Hazardous Waste Coordinator's Responsibilities

The Hazardous Material/Hazardous Waste Coordinator is responsible for completing the following prior to transportation:

1. Coordinating the pickup with DRMO and the contractor.
2. Reviewing the portion of the manifest prepared by the storage facility operator and completing the manifest in accordance with Section 11 of this plan.

9.2 Packaging, Labeling and Placarding Requirements

Prior to off-site disposal, the waste is packaged, labeled and placarded according to DOT requirements which govern the transportation of hazardous wastes and materials on public highways. These requirements are summarized in 49 CFR §173.178 and 179 and 22 CCR 66262.30 for packaging, 49 CFR 172 and 22 CCR 66262.31 and .32 for labeling and marking, and 49 CFR 172 and 22 CCR 66262.33 for placarding.

9.2.1 Packaging

In general, DOT requires specific packaging based on the physical state and properties of the material, a shipping name recognized by DOT or a "not otherwise specified" designation and a hazardous class label based on the shipping name or properties of the material. DOT recognizes 16 hazardous classes:

- | | |
|--------------------------------|---|
| 1. Radioactive material | 9. Poison B |
| 2. Poison A | 10. Corrosive material (solid) |
| 3. Flammable gas | 11. Irritating materials |
| 4. Non-flammable gas | 12. Combustible liquid (in > 110 gallon containers) |
| 5. Flammable liquid | 13. Other Regulated Materials (ORM) |
| 6. Oxidizer | 14. ORM-A |
| 7. Flammable solid | 15. Combustible liquid (in < 110 gallon containers) |
| 8. Corrosive material (liquid) | 16. ORM-E |

If a shipment could fit into more than one class, DOT requires shippers to use the class that is highest on this list.

9.2.2 Labeling

Each container of 110 gallons or less must be labeled with the following information displayed according to DOT regulations:

- Hazardous waste. State and federal law prohibit improper disposal. If found, contact the nearest police or public safety authority, the U.S. Environmental Protection Agency or the California Department of Toxic Substances Control.
- Generator's name and address
- Manifest document number

Figure 9-2 is an example of a hazardous waste shipping label meeting the requirement.

9.2.3 Placarding

The transportation vehicle must be properly placarded. Each DOT hazardous waste shipping name has a placard number assigned to it. This name and number are used on the container label, on the truck which hauls the waste, and also are required on the manifest. Service firms that are also subject to penalties for failure to comply with these requirements will usually ensure compliance with transportation rules.

An example of placards and hazardous materials warning labels is shown in Figure 9-3.

9.3 The Uniform Hazardous Waste Manifest

A hazardous waste manifest is a document designed to facilitate the cradle-to-grave tracking of hazardous wastes that the regulatory agencies need to monitor the generation and eventual

Figure 9-2
Hazardous Waste Shipping Label

REQUIRED FOR TRANSPORTATION

REQUIRED FOR STORAGE

<h1 style="margin: 0;">HAZARDOUS WASTE</h1>	
STATE AND FEDERAL LAW PROHIBITS IMPROPER DISPOSAL IF FOUND, CONTACT THE NEAREST POLICE, OR PUBLIC SAFETY AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY OR THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES	
GENERATOR INFORMATION:	
NAME _____	
ADDRESS _____	PHONE _____
CITY _____	STATE _____ ZIP _____
EPA / MANIFEST ID NO. / DOCUMENT NO. _____ / _____	
EPA WASTE NO. _____	CA WASTE NO. _____
	ACCUMULATION START DATE _____
CONTENTS, COMPOSITION: _____	
PHYSICAL STATE:	HAZARDOUS PROPERTIES:
<input type="checkbox"/> SOLID <input type="checkbox"/> LIQUID	<input type="checkbox"/> FLAMMABLE <input type="checkbox"/> TOXIC
<input type="checkbox"/> CORROSIVE <input type="checkbox"/> REACTIVITY <input type="checkbox"/> OTHER _____	
_____ _____ _____ D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX	
<h2 style="margin: 0;">HANDLE WITH CARE!</h2>	
STYLE WMCA6	

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HAZARDOUS MATERIALS WARNING LABELS & PLACARDS

Labels

CLASS 1
EXPLOSIVES

CLASS 2
GASES

CLASS 3
FLAMMABLE LIQUID

CLASS 4
FLAMMABLE SOLIDS/SUBSTANCES

CLASS 5
OXIDIZING SUBSTANCES

CLASS 6
POISONOUS/INFECTIOUS SUBSTANCES

CLASS 7
RADIOACTIVE

CLASS 8
CORROSIVE

CLASS 9
MISCELLANEOUS

OTHERS

Placards

CLASS 1
EXPLOSIVES

CLASS 2
GASES

CLASS 3
FLAMMABLE LIQUID

CLASS 4
FLAMMABLE SOLIDS/SUBSTANCES

CLASS 5
OXIDIZING SUBSTANCES

CLASS 6
POISONOUS/INFECTIOUS SUBSTANCES

CLASS 7
RADIOACTIVE

CLASS 8
CORROSIVE

CLASS 9
MISCELLANEOUS

OTHERS

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disposal of such wastes. Generators that ship their hazardous wastes are required to complete a "Uniform Hazardous Waste Manifest" which, in general, identifies:

- The nature and amount of waste that is being transported off-site
- The generator
- The transporter
- The waste's destination

An example of a Uniform Hazardous Waste Manifest is shown in Figure 9-4. Instructions for the completion of this document are provided in Appendix D.

9.3.1 Manifest Exception Reporting

After a manifested hazardous waste has been initially accepted for transport off-Station, a time clock starts. If MCAS El Toro has not received a copy of the manifest with a written signature of the owner or operator of the designated TSD disposal facility within 35 days of the date the waste was accepted by the initial transporter, the Manager of Hazardous Waste contacts the transporter and/or the owner or operator of the designated disposal facility to determine the status of the hazardous waste. If MCAS El Toro has not received a copy of the signed manifest (same as above) within 45 days, the Manager of Hazardous Waste submits an exception report to the DTSC. The exception report includes:

- A legible copy of the manifest for which confirmation of delivery has not yet been received.
- A cover letter explaining the efforts taken to locate the hazardous waste and the results of those efforts.

At MCAS El Toro the Manager of Hazardous Waste completes and signs the manifest and, if required, the exception report. Hazardous Waste Manifests are tracked and stored by the Environmental Department for at least 5 years.

Figure 9-4 Hazardous Waste Manifest

State of California—Environmental Protection Agency
Form Approved OMB No. 7050-0029 (Expires 6/30/84)
Please print or type. Form designed for use on elite (12 pinch) typewriter.

See Instructions on back of page 6.

Department of Toxic Substances Control

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. CA 61170023208	2. Page 1 1 of 1	3. Manifest Document No. 31246	4. DELIVERY ORDER No. 93061362
Generator's Name and Mailing Address MARINE CORPS AIR STATION EL TORO P.O. BOX 95001 SANTA ANA CA 92703-5001 Generator's Phone: (714) 726-4436		A. State Manifest Document Number 93061362		B. State Generator's ID CA 61170023208	
5. Transporter 1 Company Name DART TRUCKING COMPANY, INC.		6. US EPA ID Number OHD009865825		C. State Transporter's ID CA 0389116	
7. Transporter 2 Company Name		8. US EPA ID Number		D. State Transporter's ID	
9. Designated Facility Name and Site Address PETROLEUM RECYCLING CORPORATION 1835 E. 29TH STREET SIGNAL HILL, CA 92806		10. US EPA ID Number CAT080011059		E. State Facility's ID CA 080011059	
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers No. Type		13. Total Quantity	
WASTE FLAMMABLE LIQUID, N.O.S., (NAPTHA) 3, UN1993, III		1 1 DM		310 P	
RO WASTE FLAMMABLE LIQUID, N.O.S., (STODDARD SOLVENT) 3 UN1993 III		1 1 DM		556 P	
NON RCRA HAZARDOUS WASTE SOLID, DEBRIS		1 1 DM		572 P	
WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S. (METHYLENE CHLORIDE) 9 UN3082 III		0101 1 DM		598 P	
14. Additional Description for Waste		15. Handling Codes for Waste Listed Above		16. State Waste Number	
WASTE FLAMMABLE LIQUID, N.O.S., (NAPTHA) 3, UN1993, III		D601		331	
RO WASTE FLAMMABLE LIQUID, N.O.S., (STODDARD SOLVENT) 3 UN1993 III		D601		214	
NON RCRA HAZARDOUS WASTE SOLID, DEBRIS		D601		223	
WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S. (METHYLENE CHLORIDE) 9 UN3082 III		D601, F001		133	
15. Special Handling Instructions and Additional Information ERG# a.27 b.27 c.31 d.31 SEND SIGNED TSD & CD TO: P.R.C. ATTN: WENDY JACOBUS 2651 WALNUT AVE. SIGNAL HILL, CA 92806		17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name: DOUGLAS CHILDERS Signature: [Signature] Month Day Year: 10/06/93		18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name: CHARLES TWEIST Signature: [Signature] Month Day Year: 10/06/93	
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable federal, state and international laws.		19. Discrepancy Indication Space		20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name: [Signature] Month Day Year: [Signature]	

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802. WITHIN CALIFORNIA, CALL 1-800-852-7550

DO NOT WRITE BELOW THIS LINE.

D15C 6022A (7/92)
EPA 8700-22

File: GENERATOR SENDS THIS COPY TO DTSC WITHIN 30 DAYS
To: P.O. Box 400, Sacramento, CA 95812-0400

10.0 TRAINING

10.1 General Requirements

As a user of hazardous materials and generator of hazardous wastes and an operator of a permitted hazardous waste storage facility, MCAS El Toro is required under RCRA and OSHA to have a written training plan for personnel who handle hazardous materials or hazardous wastes or who are responsible for such personnel and for personnel involved in responding to spills, fires or explosions involving hazardous materials/hazardous wastes. These personnel are required to be familiar with the regulations for their management activities and to be able to handle hazardous wastes and materials in a safe manner. The Marine Corps requires handlers of hazardous wastes/hazardous materials to receive training (MCO P11000.8). The regulatory requirements for training are summarized below.

10.1.1 Resource Conservation and Recovery Act (RCRA-40 CFR 264.16)

40 CFR 264.16 specifies training for employees at facilities with hazardous waste RCRA permits. Personnel must be trained in the relevant aspects of the activity's Hazardous Waste Management; Spill Prevention, Control and Countermeasures Program; and Spill Contingency Program.

10.1.2 Occupational Safety and Health Act (OSHA-29 CFR 1910.120)

29 CFR 1910.120 specifies that training must be provided to employees to ensure they have the knowledge and skills to perform their work safely and with minimal health risk to themselves and others. Required training programs include:

- a. A program for emergency response units and HAZMAT teams. This program requires monthly training of not less than 24 hours per year.

- b. A program (HAZWOPER) for personnel involved in routine operations at permitted hazardous wastes treatment, storage and disposal sites. This program provides 24-hour initial and 8 hours annual refresher courses for supervisors, hazardous waste operators, staff and emergency response, spill and cleanup personnel.

10.1.3 Occupational Safety and Health Act (OSHA-29 CFR 1910.1200)

29 CFR 1910.1200, the Hazard Communication Standard (HAZCOM), specifies the requirements for informing employees of hazards in their workplace. HAZCOM is known as the "Worker Right to Know" regulation and includes personnel having access to the Material Safety Data Sheets (MSDSs) for each hazardous material handled. Guidance for HAZCOM training, provided in OPNAVINST 4110.2, is presented in Appendix E.

10.1.4 Hazardous Material Transportation Act (HMTA-49 CFR 172 Subpart H)

49 CFR 172 Subpart H specifies how hazardous materials and hazardous wastes must be packaged, labelled, and transported. Personnel responsible for off-site shipment of hazardous materials and hazardous waste must receive training to comply with this regulation.

10.1.5 National Oil and Hazardous Substance Pollution Contingency Plan (NCP-40 CFR 400)

40 CFR 400 specifies the requirements for quick, efficient, and safe response to hazardous spills. Spill response teams receive training to ensure that National Contingency Plan requirements are met.

The standards for appropriate training (with the exception of OSHA in paragraph 10.1.2a) are not based on a minimum number of hours, but on content applicable to a particular individual's job. Training may be a combination of classroom instruction and on-the-job training. Trained personnel must be able to effectively respond to emergencies, inspect and maintain hazardous

waste facilities for which they are responsible, and properly operate unit equipment. Personnel must also be able to recognize hazards and adequately protect themselves from exposure to substances which are toxic. All training instructors must be knowledgeable in their area of hazardous waste management.

All personnel requiring training under this plan must successfully complete training within six months after their employment or assignment to a hazardous waste unit, or when assigned to a new position at a hazardous waste unit. Until the training is complete, personnel must be supervised by trained personnel.

An overview of a hazardous waste training program, used as guidance at MCAS El Toro, is provided in Appendix E. Curricula for the 24-hours Hazardous Waste Management Training and 8-hours refresher training at MCAS El Toro are also provided in Appendix E.

10.2 Training Plan Format

A training matrix for personnel involved with hazardous waste management is provided in Table 10-1. Listed on the vertical axis are specific personnel responsibilities. The extent of training is specified by a code: "S" indicates where detailed coverage is required; "O" indicates where only an overview of the subject is necessary; "/" indicates where a subject is not required for training.

Information is provided by, but not limited to, the following agencies:

- MCAS El Toro Environment and Safety Department
- MCAS El Toro Branch Clinic, Industrial Hygiene
- MCAS El Toro Ground Safety
- MCAS El Toro Fire Department
- Third Marine Air Wing

TABLE 10-1
HAZARDOUS WASTE FACILITY TRAINING MATRIX - MCAS EL TORO

RESPONSIBILITY	HM/HW OFFICER HM/HW MONITOR	HM/HW MANAGER HM/HW COORDINATOR	HM Package	Records Administration	HM Inspectors	Contract Administrators	Facility Designers	Supply Administrators	Storage Facility Operators	Transporters	Fire Inspectors	Vehicle Inspectors	General Workers	Safety Inspectors	MGMT
SUBJECT															
Laws & Regulations	O	O	O	O	S	S	S	O	O	O	O	S	O	S	O
Health Effects	O	O	O	/	S	/	O	/	O	O	O	O	O	S	O
Environmental Effects	O	O	O	/	S	/	O	/	O	O	O	O	O	S	O
Handling	O	S	O	/	S	/	O	/	S	S	O	S	O	S	O
Packaging	O	O	S	/	S	/	O	O	O	S	O	S	O	O	O
Marking & Labeling	O	S	S	/	S	/	O	O	S	S	S	S	O	O	O
Placarding	O	S	S	/	S	/	O	O	S	S	S	S	O	O	O
Protective Clothing	O	O	O	/	S	/	O	O	O	S	S	S	O	O	O
Respiratory Protection	O	S	S	/	S	/	O	O	O	O	S	O	O	S	O
Storage Techniques	O	S	S	/	S	/	O	O	O	O	S	O	O	S	O
Information Sources	O	S	S	/	S	/	O	O	S	S	O	S	O	O	O
Fire/Explosion Response	O	S	S	/	S	/	O	O	S	S	S	S	S	S	O
Emergency Response	O	S	S	/	S	/	O	O	S	S	S	S	S	S	O
Contingency Planning	O	S	S	/	S	/	O	O	S	S	S	S	S	S	O
Site Specific System	O	S	S	/	S	/	O	O	S	S	S	S	S	S	O
Site Specific Chemicals	O	S	S	/	S	/	O	O	S	S	S	S	S	S	O

* = Depends on specific job
/ = Not required

O = Overview of subject
HM = Hazardous Material

S = Subject covered in detail
HW = Hazardous Waste

- Safety Department University of California Irvine, Hazardous Substance Management Certificate Program

The job sites, responsibilities and detailed training requirements of personnel affiliated with hazardous waste and hazardous material handling and management at MCAS El Toro are provided in Appendix E.

10.3 Training Records

Records of training for current employees are maintained until the hazardous waste unit in which the employee works is formally and permanently closed. Training records on former employees are stored for at least three years from the date the employee last worked at the facility. At MCAS El Toro, training records are kept by the Manager of Hazardous Waste, with assistance from the Compliance Support staff, and by each Squadron. These records are available to EPA or the state environmental agency upon request.

The training records provide the following information:

1. name of employee and job title;
2. the unit(s) where the employee is authorized to work;
3. position description including the requisite skills, education, other qualifications, and duties;
4. a description of the type and amount of training (introductory and continuing) that will be provided for the position;
5. documentation that the employee has successfully completed all training (including on-the-job training) required by this training plan; and

6. any correspondence concerning training waivers.

A sample training record for MCAS El Toro is shown in Figure 10-1.

The Manager of Hazardous Waste reviews these training files every six months to identify employees who have not received proper training.

Figure 10-1
Training Record (Continued)

TRAINING RECORD
ATTACHMENT 1

Instructor(s):

Date of Training:

Location of Training:

Length of Training:

Description of Training:

11.0 REPORTING AND RECORDKEEPING

RCRA specifies certain reports and records that will be audited by federal or state officials and, therefore, need to be easily accessible. This information is stored separately from purchasing, inventory and maintenance records. As records must be permanent, entries on the forms are made with indelible ink.

11.1 Hazardous Waste Analysis

Results of laboratory analysis of wastestreams are stored indefinitely with the Environmental Department.

11.2 Hazardous Waste Storage Records

The information that is retained in the storage record includes the following:

- a. Generator's name, location and phone number
- b. Waste descriptions
- c. Waste quantities and containers
- d. Date in
- e. Date out

Storage records are stored by the Manager of Hazardous Wastes for at least 3 years and a copy of up-to-date storage records is forwarded to the MCAS El Toro Fire Department.

11.3 Inspection Records

11.3.1 Permitted Storage Facility

Inspections of the permitted storage facility and its equipment are performed by the facility manager daily, weekly, monthly and quarterly. These inspections include safety, emergency, and SPCC materials. Inspection of equipment is also required as part of a preventative maintenance plan.

11.3.2 Accumulation Points

Daily, weekly, monthly, and quarterly inspections of the 90-day accumulation points are conducted by the assigned Hazardous Waste Coordinator.

A copy of the completed inspection forms is forwarded to the Manager of Hazardous Wastes, who stores the records for at least 3 years. All findings are retained as part of the operating record and include the following:

- Work center name
- Inspection date
- All inspection criteria
- Conditions found
- Corrective actions taken

11.4 Hazardous Waste Reports

11.4.1 Biennial Report to EPA

The Manager of Hazardous Wastes files a biennial report to the DTSC, and to the Regional Water Quality Control Board where groundwater monitoring is required, describing MCAS El

Toro's activities in the generation, storage, and processing of hazardous wastes. This report is due by March 1 for the preceding calendar year and is filed using standard state forms. Copies of the report are retained for 3 years.

11.4.2 Annual Report to NEESA

An annual report is due to the Naval Energy and Environmental Support Activity (NEESA). An example is presented in Appendix A.

11.5 Training Records

Training records for personnel are kept by the individual squadrons and the Manager of Hazardous Wastes. These records refer to training in hazardous waste and hazardous material handling and management procedures, described in Section 10.0. Records are maintained for each individual employee and must include the following information:

- Job title
- Name of employee
- Job description
- Description of training

Pertinent training records on personnel currently involved in handling hazardous materials and managing hazardous wastes at MCAS El Toro are kept until the facility is closed. The records of employees who leave the facility are retained for 3 years from the date they last worked at the facility.

11.6 Medical Surveillance Program Records

Records are kept by the Manager of Hazardous Wastes on the medical surveillance of the workers involved with hazardous waste management. These records are maintained for each individual employee and must include the following information:

- Job title
- Date of qualification physical examination
- Date of all check-up examinations
- All work restrictions based on individuals health
- Date of check-out examination

11.7 Hazardous Waste Manifest

The RCRA manifest system is established to ensure that hazardous waste designated for delivery to off-Station treatment, storage or disposal facilities actually reaches its destination. The central element of the system is the "manifest," a control and transport document that accompanies the hazardous waste shipment from its point of generation to its point of disposal destination.

All shipments of hazardous wastes over public highways must be accompanied by a RCRA Uniform Hazardous Waste Manifest. MCAS El Toro ships waste off-Station through hazardous waste transporters registered with the California DTSC. Appendix D provides instruction on completing the Uniform Hazardous Waste Manifest, a copy of which is provided in Figure 9-3. The Environmental Department keeps track of manifests and stores them for 5 years.

11.8 Land Disposal Restricted Wastes

Reporting and record keeping requirements for the Land Disposal Restriction (LDR) rule are found in Section 12.2.

12.0 HAZARDOUS WASTE ANALYSIS PLAN AND LAND DISPOSAL RESTRICTION REQUIREMENTS

A primary requirement of generators of waste is to determine whether the waste is non-hazardous, hazardous or extremely hazardous. As an operator of a RCRA-permitted hazardous waste storage facility, MCAS El Toro is required by RCRA to have a detailed chemical and physical analysis performed on a representative sample of waste before treatment, storage, or disposal. MCAS El Toro is also required to develop and follow a written Hazardous Waste Analysis Plan to analyze the waste. The analysis requirements to be included in this plan are listed in 40 CFR 264.13 and 22 CCR §66264.13.

The analysis is repeated as necessary to ensure that it is up-to-date and accurate. When waste generation processes change, and/or the receiving off-site facility indicates that the analysis information does not match the characteristics of the waste indicated on the shipping manifest, the analysis is repeated and updated. Results of waste analysis are stored indefinitely.

The owner/operator of an off-site facility inspects and, if necessary, analyzes in-coming and outgoing hazardous waste received at the facility to verify that the waste matches the waste characteristics identified on the shipping papers and manifest. This procedure demands that the generator of hazardous waste clearly and properly identify the waste.

12.1 Waste Analysis Plan

A Waste Analysis Plan for owners/operators of a RCRA-permitted hazardous waste storage facility must be written and followed. The plan must describe the procedures which will be carried out to fulfill the analysis requirements of 40 CFR 264.13 (a). At a minimum, the plan must specify:

1. The parameters for which the hazardous waste will be analyzed and how the analysis will provide sufficient information as required by 40 CFR 264.13 (a);

2. The test method used;
3. The sampling method used, (described in 40 CFR 261, Appendix I of the regulations); and
4. The frequency with which the hazardous waste will be reviewed to ensure analysis accuracy.

The MCAS El Toro Hazardous Waste Analysis Plan was originally prepared as a requirement for the Part B permit for the storage facility. The Hazardous Waste Analysis Plan is presented as a separate document on file at MCAS El Toro Environmental and Safety Department.

12.2 Land Disposal Restriction (LDR) Analysis Requirements

Generators must test a sample of the waste (using methods of 40 CFR 261, Appendix I of the regulations) or use product knowledge of the waste to determine if the hazardous waste is restricted from land disposal. Wastes generated at MCAS El Toro which are restricted from land disposal are shown in Table 12-1.

If a generator determines that the waste is a restricted waste and the waste does not meet the treatment standards, the generator must send a written notification to the facility to which the waste is being sent. The notice must include the following information:

1. EPA hazardous waste number;
2. corresponding treatment standards and applicable prohibitions;
3. manifest number of the waste; and
4. existing analysis data, if available.

If a generator determines that the hazardous waste is a restricted waste and that waste can be land disposed without further treatment, a notice and certification statement must be sent with the waste to the disposal facility stating that the hazardous waste meets the treatment standard

Table 12-1
Wastes Generated at MCAS El Toro/Tustin Subject to Land Disposal Restrictions

Waste Type	Designation	Description	Constituent
Solvent Wastes	F001	Spent halogenated solvents- bearing waste	1,1,1-Trichloroethane Trichloro-trifluoroethane
	F002	Spent halogenated solvents- bearing waste	Methylene chloride
	F003	Spent non-halogenated solvent- bearing wastes	Acetone Ethyl benzene Methanol Methyl ethyl ketone Toluene Xylene
	F004	Spent non-halogenated solvent- bearing wastes	Cresol
	F005	Spent non-halogenated solvent- bearing wastes	Toluene Methyl ethyl ketone
Other Wastes	D001	Ignitable wastes	Ignitable liquids Ignitable oxidizer solids
	D002	Corrosive wastes	Liquid with pH \leq 2.0 and $>$ 12.5 Reactive batteries
	D003	Reactive wastes	Cadmium
	D006	Cadmium-containing batteries	Chromium
	D007	Chromium-bearing wastes	Lead
	D008	Lead containing wastes	Mercury
	D009	Mercury containing wastes	
California list wastes	--	Waste oil	--

criteria. The notice must include the information listed above in 12.2 (1), (2), (3) and (4). The certification must be signed by authorized personnel and include the certification statement found in 22 CCR 66268.7 (a) (2) (B).

If a generator's hazardous waste is subject to a case-by-case extension (40 CFR 268.1 (c) (3) or 268.5), an exemption (40 CFR 268.6) or a nationwide variance (Subpart C) a notice stating the exemption from LDR must be forwarded to the land disposal facility receiving the waste. If a generator is determining that the waste is restricted solely on the knowledge of the waste stream, all supporting data used to make that determination must be maintained on-site in the generator's files.

For wastes with treatment standards expressed as concentrations, the treatment facility operator must test a sample of the waste to assure that the waste meets applicable treatment standards. For California list wastes which are not subject to treatment standards, the owner operator must test the treatment residues to assure compliance with applicable prohibitions. Such testing must be performed according to frequency specifications found in the facility's Hazardous Waste Analysis Plan as described in 12.1 of this chapter. If the treatment residues do not comply, they will need to be further treated and properly managed at a different facility:

1. The notice as described in 12.2 must be sent with the waste to the receiving facility.
2. The treatment facility must submit a certification with the waste and treatment residue stating that the waste has been treated in compliance with the applicable practice standard. If the waste is not subject to treatment standards, the certification must be signed by authorized personnel and must include the certification statement found in 40 CFR 268.7 (a)(2)(ii).

13.0 SPILL CONTINGENCY PLAN

A description of measures to prevent releases and actions to be taken by facility personnel in response to fires, explosions, and any unplanned or sudden release of hazardous waste or hazardous materials are provided in the Oil and Hazardous Substances Spill Prevention, Control and Countermeasure and Spill Contingency Plan (SPCC and SCP), respectively.

The plan describes coordination agreements for emergency assistance with the Orange County Fire Department and MCAS El Toro military police, fire department, and medical center. Emergency coordinators are assigned by the MCAS El Toro Fire Department, which has the primary responsibility for directing emergency operations. Emergency coordinators at MCAS El Toro, as of November 1993, are listed in Section 19. The plan lists emergency equipment and procedures and provides a personnel evacuation plan.

Copies of the SPCC and SCP are kept on-Station in the office of the Environmental Director, at the permitted storage facility, and at each generating unit. The Station Police, Orange County Police, fire stations, and hospitals also receive a copy.

14.0 ON-SITE TREATMENT OF HAZARDOUS WASTE

In California, treatment of hazardous waste requires a permit from the Department of Toxic Substances Control. This requirement is substantially different and more stringent than the permitting requirements of federal EPA and many other states. In California, more wastes are considered hazardous (like waste lubricating oil). Also, the state law and regulations do not exempt hazardous waste treatment from the permitting process if it is associated with wastewater pre-treatment prior to discharge to a community sewer system or discharge to surface water pursuant to an NPDES permit.

Given that so many operations are affected by this permitting requirement and the state has latitude because many types of waste treatment are not subject to federal RCRA permitting, it has been able to develop a "streamlined" permitting process called "tiered permitting." This new form of regulation was enacted by AB 1772, the Hazardous Waste Treatment Permitting Reform Act of 1992.

The applicability of this law is triggered by any hazardous waste treatment that is not subject to federal EPA treatment permitting, and which employs treatment technologies such as:

- Precipitation and crystallization
- Ion exchange
- Evaporation
- Absorption
- Chemical stabilizing
- Physical processes
- Phase separation by filtration, centrifugation or gravity settling, but excluding critical fluid extraction
- Distillation
- Neutralization of corrosive hazardous wastes
- Separation based on difference in physical properties, such as size, magnetism and density

- Reverse osmosis
- Biological process conducted in tanks or containers and utilizing naturally occurring microorganisms

Any facility treating any amount of hazardous wastes (including pre-treatment of wastewater prior to sewer discharge) must comply with the notification requirement by April 1, 1993 and meet the regulatory requirements applicable for its permit tier. The four tiers established by AB 1772 are shown in Table 14-1.

Each facility covered by the on-site treatment permitting program (including facilities that use the services of a transportable treatment unit brought on-site by a service firm) was required to submit a Facility Specific Notification and a Unit Specific Notification for the appropriate tier for each treatment unit the facility operates by April 1, 1993.

On-site treatment subject to this regulation at MCAS El Toro are oil/water separation and silver recovery. Notifications have been submitted to DTSC and a status of "Conditionally Exempt-Specified Waste Stream" has been assigned. The facility must comply with the regulatory requirements applicable to the tier or tiers in which its treatment units are permitted. For MCAS El Toro the requirements are:

- Compliance with all hazardous waste generator requirements
- Proper treatment residual management
- Written operating instructions
- Maintenance of an operating log
- Proper closure of the treatment unit

**Table 14-1
Treatment Tiers**

- **Conditionally Exempt - Small Quantity Treatment (CESQT).** This tier covers any approved treatment method within the limit of 500 pounds or 55 gallons of hazardous waste treated in any calendar month.
- **Conditionally Exempt - Specified Waste Stream (SESW).** This tier covers certain types of treatment and certain industries. Included in this tier are the following activities:
 - Polymerizing resins
 - Rinsing empty containers
 - Magnetic gravity separation or screening with some limits
 - Drying certain wastes
 - Neutralization of demineralizer regenerants
 - Neutralization of food processing wastes
 - Silver recovery from photo processing up to 500 gallons per month
 - Wastewater treatment (neutralization and toxics removal) by state-certified testing laboratories and educational institution labs.
- **Conditionally Authorized (CA).** This tier covers many of the approved treatment processes, but imposes limits on either the concentration of toxic organic or metallic hazardous waste constituents in the waste being treated or the total volume per month or at any one time, or both.
- **Permit By Rule (PBR).** This tier includes all of the approved treatment activities which do not qualify for regulation in one of the lesser regulated tiers.

15.0 HAZARDOUS WASTE MINIMIZATION AT MCAS EL TORO

At MCAS El Toro, three approaches are being used to reduce the amount of hazardous waste generated: 1) recycling; 2) operational improvement; and 3) input changes. Of these, only recycling has resulted in a quantifiable reduction in the amount of hazardous waste disposed of. The two remaining approaches are currently being evaluated. These three approaches are summarized below. Details are provided in the Hazardous Waste Minimization Plan on file in the office of the Director of Hazardous Waste Management.

Recycling

The Environmental Department at MCAS El Toro tracks the amount of hazardous wastes recycled. Table 15-1 lists the types and amounts recycled during 1993.

The recyclable used oil is largely generated from either vehicle and aircraft maintenance, or effluent from the oil/water separator. The oil skimmed from the separator is stored in tanks which are pumped out as necessary. The JP-5 fuel is recycled only if it is slightly contaminated with water or other types of fuel. Oil and fuel filters are generated during regular vehicle and aircraft maintenance.

The Recyclable Tracking Log does not detail which types of batteries are recycled, but four common types are used at the Station: lithium, nickel-cadmium, dry alkaline and lead acid.

Operational Improvement

Under this approach, MCAS El Toro has followed the recommendations in the 1991 Waste Minimization Plan which suggested the use of a rag supplier/recycler and a solvent supplier/recycler. Currently, MCAS El Toro is in the process of writing the contract for rag supplier services. In the past, virtually any type of cloth was used as a rag, and these rags had

Table 15-1
Amount of Hazardous Waste Recycled in 1993
MCAS El Toro

Waste Type	Amount	Units
Oil	10,232	Gallons
JP-5	9,900	Gallons
Batteries	64	Each
Oil/Fuel Filters	47	Drums
Steel Drums	17,600	Pounds
Photographic Silver	1,000	Pounds

to be disposed of as hazardous waste. With a supplier/recycler, the waste reduction will be 100 percent because the rags will be cleaned and reused.

MCAS El Toro has also contracted a solvent supplier/recycler that provides parts cleaning tanks. The tanks have a pump and filter system that reuses the solvent until it is spent. The supplier regularly picks up the tanks of spent solvent, replaces them with fresh solvent, and returns the spent solvent for regeneration.

Input Changes

During the fall of 1993, the Environmental Department began a program designed to evaluate a variety of types of absorbents. Traditionally, a "kitty-litter" type absorbent has been used to clean up drips and spills, but this results in a large amount of waste that must be treated as hazardous. During the evaluation program, a new type of absorbent pad was substituted for the "kitty-litter" and the results of this test will help determine the most effective method of cleaning up fuel, oil, and solvent spills.

16.0 HAZARDOUS MATERIALS MANAGEMENT

16.1 Hazardous Materials Used

Hazardous materials used at MCAS El Toro include:

- Acids, caustics
- Adhesives
- Cleaners
- Compressed gases
- Fuel and oil
- Paints and paint thinners
- Solvents
- Vehicle batteries

Specific hazardous materials used are listed in Appendix F.

16.2 Management of Hazardous Materials

Management of hazardous materials involves procurement, safe use, storage, disposal, and spill prevention and cleanup. Guidance is provided in OPNAVINST 4110.2 and ABO 5090.1A, 1B, Appendix F. Management of petroleum, oils and lubricants is discussed in Chapter 17.0.

16.2.1 Procurement and Inventory

Hazardous materials are procured by the Supply Department. The procurement system is designed to prevent overstocking of hazardous materials. Usage of materials has been analyzed to establish minimum quantities required. Hazardous materials are ordered only when the minimum stock level is reached.

The Supply Department maintains a current inventory of hazardous materials. Each hazardous material is assigned an identifying code based on its Material Data Safety Sheet (MSDS), which is required for all materials procured. The inventory system also identifies hazardous material use by location to ensure proper controls are in place for storage, use, HAZCOM training, Spill Prevention, Control and Countermeasures Plans, Spill Contingency Plans, and notification of Local Emergency Planning Committees in the event of a release of a reportable quantity of material.

16.2.2 Safe Use

Safe use requires that MSDS sheets are readily accessible to every worker using hazardous materials. The MSDS provides information on the hazardous characteristics of the material, proper labeling and safeguards for use. Each unit using hazardous material obtains copies of MSDS sheets from the Supply Department for hazardous materials used.

Hazardous materials are used in the minimum quantities required to accomplish the mission. Personal protective equipment and requisite safety, emergency, and spill cleanup and containment equipment are readily available at each location where hazardous materials are used. Guidance on safe use is provided in Table 16-1.

16.2.3 Storage

Hazardous materials are stored in minimum quantities in facilities that conform with the Navy Design Manual. Hazardous materials are stored in their original containers or in bulk storage aboveground storage tanks. All locations for hazardous material storage are approved by the Environmental Department. Hazardous material storage areas located outside buildings are shown in Figure 8-1 and as photographs in Appendix I. Hazardous material storage locations are inspected weekly by the unit hazardous material/hazardous waste coordinator.

**TABLE 16-1
STORAGE AND HANDLING OF HAZARDOUS MATERIALS
MCAS EL TORO**

- **STORE ALL FLAMMABLE MATERIALS IN FLAMMABLES CABINETS.** A flammable material is defined as a substance with a flashpoint of 100°F or less. Flammables include:
 - petroleum-based solvents
 - oil or alkyne-based paints
 - gasoline
 - aerosol lubricants and degreasers
 - some adhesives and other products.
- **AVOID THE USE OF REACTIVE MATERIALS.** Reactive materials are those that are chemically active in the presence of water or air. Examples of reactive materials include phosphorous and nitrocellulose.
- **NEVER STORE INCOMPATIBLE MATERIALS IN THE SAME CABINET, SHELF, OR AREA.** Incompatible materials are defined as materials that will react vigorously when combined. An example of incompatible materials is a strong acid and a strong base. When these two products are combined, a heat-generating reaction can occur. Incompatible materials must not be stored in such a manner that leaks from the containers could combine and react.
- **STORE ALL HAZARDOUS PRODUCTS AWAY FROM THE TEMPERATURE EXTREMES TO PRESERVE SHELF LIFE.**
- **MAKE SURE ALL RAW MATERIAL CONTAINERS ARE CLEARLY LABELED.** Unlabeled containers can lead to accidents and to the generation of unidentified hazardous wastes.
- **MAKE SURE AN MSDS IS ON HAND BEFORE USING A PRODUCT.** The MSDS provides information on the hazardous constituents in the product, the potential health hazards associated with those constituents, and proper treatment for exposure to those materials.
- **PREVENT LOSS OF CHEMICALS THROUGH EVAPORATION OR SPILLAGE** by ensuring that container lids are replaced and tightened after each use.
- **WIPE, BRUSH OFF, OR STEAM-CLEAN PARTS BEFORE USING SOLVENT,** to reduce solvent use and extend solvent life.

TABLE 16-1 (CONTINUED)
STORAGE AND HANDLING OF HAZARDOUS MATERIALS
MCAS EL TORO

- **USE SPIGOTS, PUMPS, OR FUNNELS** when dispensing and transferring materials to reduce the possibility of spills.
- **USE DRIP PANS TO COLLECT OILS AND FLUIDS**, and to prevent drips from dispensing containers from leaking onto the floor.
- **DRAIN SOLVENTS, PAINT, THINNERS, ETC. FROM THEIR CONTAINERS** to ensure that the containers are legally empty and therefore not hazardous waste. Empty product containers can be disposed of in a sanitary landfill. Product containers of toxic material should not be reused.
- **KEEP THE SHOP AND STORAGE AREA CLEAN AND ORDERLY TO PREVENT ACCIDENTS AND SPILLS.**

Disposal

Used hazardous materials become hazardous waste and are subject to the storage and disposal requirement for hazardous waste described in Sections 8 and 9. Used hazardous materials which can be recycled, e.g. lubricating oils, lead acid batteries, are recycled through a program administered by the DRMO. Used hazardous material which cannot be recycled, i.e., hazardous wastes, are disposed off-site through a disposal contract administered by the DRMO as described in Chapter 9.

Unused or excess hazardous materials (EHM) are turned over directly to the DRMO for reuse. Surplus inventory is made available to the Department of Defense (Army, Navy, Air Force, and Marine), other federal agencies, and state and local government.

Out-of-date or off-specification hazardous materials are disposed of as hazardous waste. To reduce the amount of off-specification hazardous materials disposed of as hazardous waste, the Supply Department has implemented a shelf life program whereby hazardous material used is monitored so that materials are used prior to the expiration of the material shelf life.

16.2.4 Spills

Measures to prevent release of hazardous materials to the environment and responses to clean up spills, together with reporting requirements, are described in the Oil and Hazardous Substance Spill Control and Countermeasures Plan (SPCC) and the Spill Contingency Plan (SCP).

16.3 Training

The suggested training requirements to ensure safe use of hazardous materials is presented in OPNAVINST 4110.2, Appendix F. Training requirements have also been described in Section 10 and include:

- OSHA Hazard Communication Standard (HAZCOM) (29 CFR 1910.1200) which describes the requirements for informing employees of hazards in the work place.
- OSHA and EPA Hazardous Waste and Emergency Response training (29 CFR 1910.120 and 40 CFR 264.16) which includes 24 hours initial and 8 hours annual refresher courses and supervised on-the-job training.
- Specific work place training (29 CFR 1910) for individuals exposed to hazardous materials such as asbestos and lead.

Training is provided by MCAS El Toro Environmental Department. Training is completed within six months of employment and records maintained until the facility closes; records of former personnel are maintained for three years.

16.4 Responsibilities

The Supply Department is responsible for the procurement and inventory of hazardous materials and for obtaining and storing MSDSs for each hazardous material used.

The Environmental Department is responsible for providing training in the management of hazardous materials and for maintaining training and inspection records.

Individual units are responsible for the use and storage of hazardous materials at their location. Disposal of used hazardous materials as hazardous wastes, as recyclables, or as surplus inventory is addressed through the DRMO.

16.5 Community Right-to-Know

A summary of the laws and regulations pertaining to hazardous and acutely hazardous materials and the community right-to-know is present in Table 16-2. The Right-to-Know Act (EPCRA)

of 1986, also known as SARA Title III, establishes requirements for installations handling hazardous materials (including hazardous wastes) and extremely hazardous material in a quantity that exceeds threshold planning quantities. For hazardous materials, federal thresholds are 10,000 lbs and state thresholds are 500 pounds for solids, 55 gallons for liquids, or 200 cubic feet for compressed gas. In accordance with Executive Order 12856 issued August 1993, federal agencies must comply with EPCRA. A summary of EPCRA requirements is shown in Table 16-3.

16.5.1 Hazardous Materials

Compliance requires the installation to:

- Prepare an inventory of hazardous materials exceeding threshold planning quantities for submission to the local Emergency Planning Committee (LEPC) and local Fire Department as a component of the Hazardous Materials Business Plan. (As California's reporting requirements are more stringent than the federal requirements, inventory reporting pursuant to state and local administering agency guidelines is deemed to meet federal requirements.)
- Prepare an annual report detailing the amounts of hazardous materials released through accident or through normal operations.
- Immediately notify the LEPC and the State Emergency Response Commission (SERC) of the release of a reportable quantity of any extremely Hazardous Substance (40 CFR 355, Appendix A) or CERCLA Hazardous Substance (40 CFR 302). A follow-up written report is required for submission to SERC and LEPCs where the release exposes persons outside the boundaries of the facility.
- Notify the SERC if an extremely hazardous substance is present in the facility in excess of the threshold planning quantity as defined in 40 CFR 355.

**TABLE 16-2
LAWS AND REGULATIONS ON
HAZARDOUS MATERIALS AND COMMUNITY RIGHT-TO-KNOW**

State Laws

- Business Plans and Inventories Health and Safety Code §§25500-25521
- Reporting of Releases Health and Safety Code §§25500-25521
- Acutely Hazardous Materials Requirements Health and Safety Code §§25533-25541

Federal Laws

Comprehensive Environmental Response Compensation and Liability Act (CERCLA)

- Federal Reportable Releases: Designation, Reportable Quantities and Notification

Emergency Planning and Community Right-to-Know

- Notification
- Release of Toxic Chemicals (EPCRA §313 Form Rs)

State Regulations

- Hazardous Material Release Reporting, Inventory and Response Plans 19 CCR §§2620-2732, as well as ordinances adopted by local administering agencies
- Reporting of Releases 19 CCR §§2701-2705, as well as ordinances adopted by local administering agencies
- Acutely Hazardous Materials California has issued guidelines for the applicability of Risk Management and Prevention Program (RMPP)
- Hazardous Materials Storage Requirements (except hazardous waste, see Chapter 8) 8 CCR §§5160-5190 (Cal/OSHA regulations) and ordinances adopted by local administering agencies, including the Uniform Fire Code

Federal Regulations

Business Plans and Inventories

- Hazardous Chemical Reporting: Community Right-to-Know (EPCRA §311,312) 40 CFR 370

Reportable Releases

- Reportable Quantities and Notification Requirements (EPCRA §304) 40 CFR 302
- Emergency Planning and Notification (extremely hazardous materials) (EPCRA §301-305) 40 CFR 355
- Release of Toxic Chemicals (EPCRA §313 Form Rs) 40 CFR 372

**Table 16-3
Summary of EPCRA Requirements**

Section	Coverage/Topic	Requirements & Deadlines	Relevant Chemical List	Thresholds
301-303	Emergency Planning	Emergency Plan to LEPC; submit name of facility emergency contact	Extremely Hazardous Substances (EHSs)	Produce, use, or store > Threshold Planning Quantity (TPQ)
304	Accidental Release Emergency Notification	Immediate Notice to NRC, and any affected SERC, LEPC written follow-up	EHSs and CERCLA §102(a) Substances	Release > Reportable Quantity (RQ) into the environment
311	Community Right-to-Know; MSDSs or lists	MSDSs or list of chemicals to SERC, LEPC within 3 months of acquisition	OSHA Hazardous Chemicals	Have \geq 10,000 pounds of hazardous chemicals, or lesser of TPQ or 500 pounds for EHSs
312	Community Right-to-Know; Chemical Inventory	Tier I or II - inventories and locations; submit annually on March 1 to SERC, LEPC	OSHA Hazardous Chemicals	Have \geq 10,000 pounds of hazardous chemicals; or lesser of TPQ or 500 pounds for EHSs
313	Toxic Chemical Release Reporting	TRI Form R, Total Annual Release for each chemical; submit annually on July 1 to EPA and SERC	Section 313 Toxic Chemicals and Chemical Categories	Manufacture \geq 25,000 pounds; produce \geq 25,000 pounds, or otherwise use \geq 10,000 pounds of each chemical per year. Have 10+ employees, and be a manufacturing facility (SIC 20-39) or a federal facility.

The Orange County Fire Department is the LEPC for MCAS El Toro. The Orange County Fire Department requires submittal of a semiannual disclosure form during the months of January and July. The disclosure form includes but is not be limited to:

1. A copy of the MSDS for every hazardous material used by the person completing the disclosure form as required by the Fire Department.
2. CAS number as may be required by the Fire Department.
3. SIC code as may be required by the Fire Department.
4. U.N. identification number as may be required by the Fire Department.
5. A listing of the chemical name and any common names of every hazardous material used by the person completing the disclosure form.
6. The maximum amount of each hazardous material which is handled or used at any one time by the user over the course of the year.
7. Specific information on how and where the hazardous materials are handled or used by the user so as to allow fire and safety personnel to prepare adequate emergency response plans to potential releases of the hazardous materials.
8. The names and phone numbers of at least two persons representing the activity and who would be able to assist emergency personnel in the event of an emergency involving the business during business and nonbusiness hours.
9. The hazard characteristics of every hazardous material disclosed, including, but not limited to, toxicity, flammability, reactivity, and corrosivity as may be required by the Fire Department.

Upon request, all users must provide:

1. To the Fire Department, any information determined by the Fire Department to be necessary to protect the public health, safety or the environment.
2. To any physician, any information determined by the physician to be necessary to the medical treatment of his or her patient.

16.5.2 Acutely/Extremely Hazardous Materials

Both federal and state laws regulate more stringently materials of higher acute or immediate toxicity identified as extremely hazardous (federal) or acutely hazardous (state). An acutely hazardous material is the same as an extremely hazardous material as defined by the EPA and listed in 40 CFR 355, Appendix A. The state requirements for handling acutely hazardous materials are more stringent than federal requirements in that a Risk Management and Prevention Plan (RMPP) may be required. Both federal and state requirements are summarized below.

Federal Requirements

Under EPCRA §302, any facility that handles extremely hazardous materials in amounts exceeding the threshold planning quantity listed in 40 CFR §355, Appendix A, must notify the State Emergency Response Commission and the Local Emergency Planning Committee.

State Requirements

Under the Health and Safety Code §§25533-25541, any facility handling acutely hazardous materials in amounts exceeding the threshold planning quantities listed in 40 CFR §355, Appendix A must submit a registration form to the State Emergency Response Commission and to the local administering agency, which for MCAS El Toro is the Orange County Fire Department.

The form specifies:

- Identity of acutely hazardous materials handled and their quantity
- A general description of processes and equipment
- Information on the submitting facility.

Upon request by the Orange County Fire Department, a Risk Management and Prevention Program (RMPP) must be prepared and implemented within one year.

The RMPP includes:

- A description of each accident involving acutely hazardous materials during the prior three years.
- A report stating the nature, age and condition of equipment used to handle acutely hazardous material.
- Detection, monitoring and control systems to minimize accident risks.
- Design, operating and maintenance controls which minimize the risk of an accident.
- A schedule for implementing additional steps to reduce the risk of accident.

17.0 MANAGEMENT OF PETROLEUM, OILS AND LUBRICANTS (POL)

17.1 POL Use and Waste Generation

At MCAS El Toro aircraft and equipment maintenance and operation require extensive use of petroleum-based fuels, oils and lubricants, collectively referred to as "POL." The principle POL used are shown in Table 17-1. POL are regulated as hazardous materials and hazardous wastes according to the requirements described in the previous chapters and reviewed in this chapter.

As hazardous wastes, POL constitute about 84 percent of all hazardous waste generated by MCAS El Toro. In calendar year 1992 the following POL waste streams were generated, with percent total waste stream indicated in parenthesis:

- Oil-containing waste (including spill cleanup, waste oil and petroleum products) (37 percent)
- Water contaminated with fuel and oil (16 percent)
- Automotive fluids (12 percent)
- Fuel- and oil-contaminated soil (12 percent)
- Unreusable aircraft fuel (7 percent)

Of the oil-containing waste, 91 percent is composed of oil contaminated with water, TCE, TCA, benzene and/or chromium. This waste is generated in the removal of abandoned storage tanks and from oil/water separators. Oil-contaminated rags and absorbent used for cleaning and spill cleanup composed 8 percent of the oil containing waste, with used oil and oil filters comprising the remainder.

The sources of the water contaminated with fuel oil are from spill cleanups from large spills of JP-5 on runways and from oil/water separation. At MCAS El Toro, oil/water separators are located at aircraft and vehicle washracks where oily wastewater from the washracks passed through the oil/water separators into the sanitary or storm sewer. The remaining oily/water

Table 17-1

**Petroleum, Oils and Lubricants (POL)
Used at MCAS El Toro**

FUELS JP-5 Avgas Mogas Diesel
OILS Hydraulic Fluids (e.g., MIL-H-83282A) Crankcase Oils (e.g., MIL-L-46152) Engine Oils (e.g. MIL-1-22851) Synthetic Turbine Oils (e.g., MIL 23699)
PETROLEUM-BASED SOLVENTS Naptha (TT-T-548) Paint Thinners Xylene
CALIBRATING FLUIDS

mixture is pumped out from the separator on a regular schedule by the Environmental Department.

17.2 Storage

17.2.1 Storage Locations

As hazardous materials, POLs are stored principally in underground storage tanks. As hazardous waste, POL are stored in 55 gallon drums and aboveground tanks (ASTs). POL storage sites are listed in Table 17-2 and UST locations are shown in Figure 17-1.

Tank Farm 4

Eleven underground fuel storage tanks comprise Tank Farm 4. The tanks are constructed of concrete, coated with tar, and have steel tops and bottoms. The Tank Farm is located in the north-central portion of MCAS El Toro on 8th Street, off of North Marine Way, Grid Nos. M-7 and N-7 on Figure 17-1.

Tank Farm 4 is separated into two sections, upper and lower. The lower section consists of four JP-5 underground storage tanks; Tanks 200, 201, 202, and 203; and four empty underground storage tanks; Tanks 196, 197, 198, and 199. Tanks 200 and 203 each have a 25,000-gallon capacity and Tanks 201 and 202 each have 50,000-gallon capacities. Tanks 196 and 199 each have 25,000-gallon capacities and, at one time, contained diesel and JP-5, respectively. Tanks 197 and 198 each have 50,000-gallon capacities and once contained diesel.

Tank Farm 4 is old and will be abandoned in the near future, once the JP-5 fuel is depleted. The plan is to transfer diesel fuel usage from Tank 218 to Tank 208 in Tank Farm 5. Tanks 216-218 and 196-199 will also be removed.

Table 17-2
POL Storage Sites

Site	Building	Description
Tank Farm 4	196 - 199 200 - 203 216 - 218	Tank 216: 50,000-gal. diesel UST; will be closed, fuel transferred to Tank Farm 5 Tank 200 & 203: 25,000-gal. JP-5 USTs Tank 201 & 202: 50,000-gal. JP-5 USTs Tanks 196-199, 217 & 218: empty USTs T-02 & T-03: 2,000-gal. spill containment USTs Entire Tank Farm will be closed in the future.
Tank Farm 5	208 - 215	Tank 208: 50,000-gal. UST, empty; will be used for diesel Tanks 209 & 213: 25,000-gal. JP-5 UST Tanks 211 & 215: 50,000-gal. JP-5 UST Tanks 210, 212, & 214 are empty USTs T-06 & T-08: 2,000-gal. spill containment USTs
Tank Farm 6	204 - 207	Tank 206: 50,000-gal. UST for unleaded gasoline Tank 207: 50,000-gal. empty UST used as back-up for AVGAS Tanks 204 and 205 are empty USTs; scheduled to be closed Tank T-07: 2,000-gal. spill containment UST
Tank Farm 555	547-551	Tanks 547-551: 567,000-gal. JP-5 USTs Tank T-01: 2,000-gal. spill containment UST
Tank Farm 902	902-A, 902-B	Tanks 902-A, -B: 50,000-gal. JP-5 USTs Tank 902-C: 2,500-gal. spill containment UST
Fuel Pit	101	Two 30,000-gal. JP-5 USTs One 4,000-gal. UST spill recovery tank
C-Pool Service Station	298	Tank 298A: 3,000-gal. UST for unleaded gasoline Tank 298B: 2,000-gal. diesel UST Tank 298C: 100-gal. oil/water separator Tank 298D: 185-gal. waste oil UST
Government Motor Vehicle Filling Station	800	Two 10,000-gal. diesel USTs One 10,000-gal. unleaded gasoline UST Two 1,000-gal. waste oil UST; not in use since Oct. 1992 Up to 55-gallon containers of waste and product oil, antifreeze, hydraulic fluid, grease, and Safety-Kleen solvent
MWR Automotive Center	651	Four 12,000-gal. USTs for unleaded fuel One 500-gal. UST for new bulk oil One 1,000-gal. aboveground propane tank Up to 55-gal. containers for waste and product oil, antifreeze, hydraulic fluid, grease, and Safety-Kleen solvent
Service Station/Mini Mart	637	Three 12,000-gal. unleaded gasoline USTs One 500-gal. aboveground propane tank
Test Cells	Various	T-6A: Two 10,000-gal. JP-5 UST and oil/water separator T-6C: Two 10,000-gal. JP-5 UST and oil/water separator T-17: 1,000-gal. JP-5 UST T-23: 2,500-gal. JP-5 UST T-26: 100-gal. aboveground JP-5 tank and oil/water separator
Haz Waste/ Haz Materials Accum. Areas	40 known sites	Hazardous wastes and hazardous materials accumulate in designated accumulation areas and in aboveground tanks (see Attachments A and B)
Hazardous Waste Storage Area	67313	RCRA-permitted hazardous waste storage area
Oil/Water Separators	39 known sites	Shown in Figure 17-1
Miscellaneous Tanks	Various	Several tanks throughout the Station; one containing propane, one containing contaminated JP-5

Fuel Tanks

Fuel is delivered to Tank Farm 4 by tanker trucks. Transfer piping consists of both underground and aboveground piping. The aboveground pipelines lead from the tanks to the loading racks. Valves, pumps, and hose connections are located in concrete vaults below grade to aid in preventing releases of fuel during transfer operations.

Tank Farm 5

Tank Farm 5 consists of eight underground, concrete tanks that are coated with tar each with steel tops and bottoms. It is located in the northeastern corner of the Station on North Marine Way, grid No. N-10 on Figure 17-1. Four of these tanks are empty (Tanks 208, 210, 212, and 214). The remaining tanks (Tanks 209, 211, 213, and 215) contain JP-5. The storage capacities for Tanks 209 and 213 are 25,000 gallons each; the storage capacities for Tanks 211 and 215 are 50,000 gallons each. Tanks 209 is used to fill the test cells. Diesel from Tanks 216 in Tank Farm 4 will be transferred to Tank 208 in the future.

Fuel Transfer

JP-5 fuel is delivered to this Tank Farm directly from Tank Farm 555. Transfer piping consists of both underground and aboveground piping. The aboveground pipelines lead from the tanks to the loading racks. Valves, pumps and hose connections are located in concrete vaults below grade to aid in preventing releases of fuel during transfer operations to and from the vacuum trucks.

Tank Farm 6

Tank Farm 6 consists of four underground concrete tanks with steel tops and bottoms; Tanks 204, 205, 206, and 207. It is located in the northeastern corner of the Station off of U Street, Grid No. N-10 on Figure 17-1. The tanks are constructed of concrete, coated with tar, with

steel tops and bottoms. Only Tank 206 contains fuel (50,000-gallons of premium unleaded gasoline). The other three are empty. Tanks 204 and 205 once contained JP-5, have 50,000 and 25,000-gallon capacities, respectively, and are scheduled to be closed. Tank 207 is 50,000-gallons and is used as a back-up tank for AVGAS during the air shows.

Fuel Transfer

Fuel is delivered to the Tank Farm by tanker trucks. Transfer piping consists of both underground and aboveground piping. The aboveground pipelines lead from the tanks to the loading racks. Valves, pumps, and hose connections are located in concrete vaults below grade to aid in preventing releases of fuel during transfer operations.

Tank Farm 555

Tank Farm 555 consists of five 567,000-gallon underground tanks, 88 feet in diameter, and constructed of concrete with steel tops and bottoms. It is located across Irvine Boulevard in the extreme northeastern corner of the Station, Grid No. K-12 and K-13 in Figure 17-1. The tanks contain JP-5 fuel.

Fuel Transfer

The tanks receive JP-5 fuel directly through a pipeline from Norwalk, California twice a week. When fuel is being delivered, valves are opened and operated manually. Pressure is monitored to detect a closed or clogged valve. Norwalk personnel provide MCAS El Toro with the volume of fuel being delivered and an "allowance, plus or minus." This allowance accounts for the difference in computed fuel volume at different temperatures and pressures. MCAS personnel stated that they have always been within their allowance. In addition, excess JP-5 fuel emptied from a jet is transferred to Tank Farm 555 via tank truck. In these cases, the fuel may be pumped through a filter system before it is transferred to the underground tanks. The ports

where the fuel is pumped from the tanker truck is surrounded by a concrete berm and any spillage is directed to a spill containment tank.

Tank Farm 902

Tank Farm 902 is a new tank farm installed in early 1993. The tank farm consists of two 50,000-gallon underground tanks for JP-5, Tanks 902-A and 902-B, and a 2,500-gallon underground recovery tank, Tank 902-C.

Fuel Transfer

Fuel is delivered by tanker trucks. Transfer piping consists of both underground and aboveground piping. The aboveground pipelines lead from the tanks to the loading racks. Valves, pumps, and hose connections are located in concrete vaults below grade to aid in preventing releases of fuel during transfer operations.

Building 101 Fuel Pit Area

This fuel pit is located adjacent to the runway in the southeast section of the Station (Grid No. Q-10 on Figure 17-1) and consists of two 30,000-gallon underground tanks for JP-5 fuel and one 2,500-gallon underground recovery tank. The fuel pit was intended to be operated remotely; however, clean up from major spill that occurred in the 1970s depleted the funds and the remote equipment was never installed. Instead, a trained individual from the Supply Department must manage each fuel transfer.

Fuel Transfer

Fuel is delivered directly from Tank Farm 555. The fuel is then pumped into vacuum trucks or piped directly to be delivered to the aircraft.

C-Pool Service Gas Station

This service station, located in the western corner of the Station on South Marine Way, Grid No. U-7 on Figure 17-1, dispenses fuel and provides maintenance services for government-owned vehicles. There are ten service bays where maintenance activities are conducted located behind the fuel dispensing islands, in Building 386.

Two underground tanks store fuel; one 3,000-gallon tank for unleaded gasoline (Tank 298A) and one 2,000-gallon tank for diesel (Tank 298B). In addition, one 185-gallon underground, steel tank (Tank 298D) was used to collect waste oil during oil changes. Currently, however, waste oil is collected in 55-gallon containers. An oil/water separator is also associated with this service station. Hazardous wastes, including waste oil, waste antifreeze, batteries, and contaminated dry sweep, are stored in a separate, fenced and locked hazardous waste accumulation building, behind the service station, in Building 770. Hazardous materials, including fresh motor oil, lube oil, hydraulic fluid, grease, and antifreeze, are stored in a separate fenced and locked building, adjacent to the hazardous waste accumulation building.

Fuel Transfer

Fuel is transferred to the underground tanks by tanker truck. The tank truck hose connects directly onto the fill port for each tank and is equipped with an automatic cut-off in the event of overfilling. Waste oil and waste antifreeze are collected during maintenance in small containers and hand-carried by facility personnel to the appropriate waste drums in the hazardous waste accumulation building. Fresh product is also transferred to the service bays by hand.

Government Motor Vehicle Filling Station

This service station, Building 800, provides maintenance for government-owned vehicles and is located in the southwestern portion of the Station on South Marine Way, Grid No. U-10 on Figure 17-1. Maintenance operations occur within 16 service bays. The service station has

three 10,000-gallon capacity underground storage tanks, two for diesel and one for unleaded gasoline. Two 1,000-gallon capacity underground waste oil tanks were emptied in October 1992 have not been used since. Waste oil is currently collected in 55-gallon drums within the service station.

Hazardous materials are stored outdoors within a paved and bermed area. The berming height has been increased by sandbags. A sump in the middle of the area collects any spillage.

Hazardous substances include oil, antifreeze, grease, batteries, and Safety-Kleen solvent. Hazardous waste is stored within a structure with walls on three sides, a corrugated roof, and a berm surrounding the entire building. The station is also equipped with a wash rack and associated oil/water separator, Building 802.

Fuel Transfer

Fuel is transferred to the underground tanks by tanker truck. The tank truck hose connects directly onto the fill port for each tank and is equipped with an automatic cut-off in the event of overfilling. Waste oil and waste antifreeze is collected during maintenance in small containers and temporarily stored within the service bay. When the container is full, it is brought to the hazardous waste accumulation building, Building 825. Fresh product is also transferred to the service bays by hand.

MWR Automotive Center

MWR Automotive Center, Building 651, is a Chevron gas station that also provides maintenance services on privately-owned vehicles within eight service bays. It is located in the northern portion of the Station on C Street, Grid No. O-2 on Figure 17-1. Four 12,000-gallon underground tanks contain three grades of unleaded gasoline (regular, plus, and premium). In addition, two 500-gallon underground tanks contain new bulk oil. A 500-gallon underground tank once contained waste oil, although it is not currently being used. Instead, waste oil is

placed directly into 55-gallon drums. Other hazardous substances include antifreeze, grease, batteries, Safety-Kleen solvent, and biodegradable, water-based greaser. Hazardous waste is stored within a locked, bermed shed outside of the service station. An aboveground 1,000-gallon propane tank is located on the edge of the parking lot. All of the underground tanks have an electronic leak detection system, installed in August 1993, although not yet operational.

Fuel Transfer

Fuel is transferred to the underground tanks by tanker truck. The tank truck hose connects directly onto the fill port for each tank and is equipped with an automatic cutoff in the event of overfilling. Waste oil and waste antifreeze is collected during maintenance in small containers and temporarily stored within the service bay. When the container is full, it is brought to the hazardous waste accumulation building, Building 825. Fresh product is also transferred to the service bays by hand.

Service Station/Mini Mart

The service station/mini mart, Building 637, is located in the northeastern portion of the Station on North Marine Way, Grid No. M-8 on Figure 17-1. No service is provided here except for fuel dispensing. Three 12,000-gallon underground tanks store three grades of unleaded fuel. A 500-gallon aboveground propane tank is located near the parking lot within a paved, bermed area.

Fuel Transfer

Fuel is transferred to the underground tanks by tanker truck. The tank truck hose connects directly onto the fill port for each tank and is equipped with an automatic cutoff in the event of overfilling.

Test Cells Fuel Tanks

Engines are tested in five test cells by the Marine Aviation Logistics Squadron (MALS-11). Four of these test cells are large concrete buildings where the engines are fueled from underground tanks; Test Cells T-6A (two 10,000-gallon tanks), T-6C (two 10,000-gallon tanks), T-17 (one 1,000-gallon tank), and T-23 (one 2,500-gallon tank). Test Cell T-26 is a small yellow structure where smaller engines are tested. A 100-gallon aboveground tank is located within another locked, small yellow structure next to Test Cell T-26.

Fuel Transfer

Fuel is delivered to the tanks by tanker truck. The hose from the trucks connects directly to the fill port of each tank. Overfilling is prevented by automatic shutoffs in the valves of the truck hoses. All but Test Cell T-26 is supplied by underground piping from the tanks. Fuel is supplied to Test Cell T-26 by aboveground piping from the 100-gallon aboveground tank.

Hazardous Waste Storage Building

MCAS El Toro has a RCRA hazardous waste permit to store waste in 55-gallon drums for up to 1 year. Building 673T3, the designated storage building, is located in the southeastern portion of the Station on East Marine Road, Grid No. P-12 on Figure 17-1. The building is constructed of corrugated metal and surrounded by a berm. Drums are stored on pallets within 6 bays designated for flammables, corrosives, reactives, and toxic wastes. Each bay is separated by six-inch berms. Typical POL wastes in storage include oils, hydraulic fluid, solvents, paints, paint thinner, and antifreeze.

Fuel Transfer

Waste drums are transferred to the staging area outside of the hazardous waste storage building by truck. There, facility personnel inspect the containers for leakage, deterioration, and

labeling, and sort the containers based on their hazard classification. Physical transfer on the drums to the appropriate storage bay is accomplished by fork lift. Secondary containment can consist of berming around the area to contain up to 10 percent of the maximum volume of waste in the staging area, and/or sloping the area toward a waste collection sump to contain any release.

Hazardous Waste/Hazardous Material Accumulation Areas

Forty hazardous waste accumulation areas have been constructed around MCAS El Toro to temporarily store waste (less than 90 days) generated by each of the units (see Figure 8-1). Most of the accumulation areas are located outdoors, near the generation point, constructed of concrete or asphalt base, chain-link fence walls, and metal roofs. Wastes accumulate in 55-gallon or smaller containers specific to the generator.

Hazardous POL materials are stored within similarly constructed buildings, adjacent to the hazardous waste accumulation buildings, and separated by a chain-link fence. During the October 1993 Station survey it was observed that the volume of hazardous materials in storage was not excessive, indicating good inventory control.

The type of hazardous POL wastes and hazardous materials in storage would be specific to each unit. Typical hazardous POL wastes stored in these buildings include oil, grease, lube oil, paints, paint thinners, aerosol cans, degreasing solvents, hydraulic fluid, antifreeze, and contaminated absorbent material.

Fuel Transfer

In most cases, POL hazardous waste is accumulated in 55-gallon drums at the point of generation. When the drum is filled, it is brought to the hazardous waste accumulation area by forklift. In other cases, such as that at the C-Pool Gas Station, wastes are collected in pans and other containers and carried to the waste accumulation drum in the hazardous waste accumulation

building. As the accumulation drum is filled, or the 90 day limit is reached, the drum is transferred to the permitted hazardous waste storage building (Building 673T3) by forklift or truck.

Oil/Water Separators

Oil/water separators are used throughout MCAS El Toro to remove floating objects and spilled fuel. They are associated with truck wash racks, steam cleaning racks, and the storm drain and sewer drainage controls. Oil/water separation systems have been placed at the discharge points on the Agua Chinon and Bee Canyon Washes.

Fuel Transfer

Discharges from regular run-off at the generation points and fuel transfer areas are directed to the oil/water separators. Effluent from the separators passes through a sewage monitoring station prior to discharge to the sewer system.

Miscellaneous Tanks

Several aboveground tanks were observed around MCAS El Toro, not apparently associated with any unit. Two tanks were identified. One is located next to Building 245 and it appeared to be a fuel tank with approximately a 1,000-gallon capacity. No berm or other drainage control is apparent. Any spill from this tank would flow to the street and into the storm water drainage ditch. A second aboveground tank is located across from the Environmental Department near Building 862. It is labeled as containing JP-5 fuel and has a capacity of approximately 10,000 gallons. This tank contained "contaminated JP-5." The contaminant was found to be JP-4 fuel. The contents of the tank will be recycled.

17.2.2 UST Management

A brief description of POL storage at MCAS El Toro is provided below. Within the past few years, regulatory requirements for USTs have changed. USTs are regulated by RCRA Subtitle I and under the state's UST regulatory program. The goals of the regulations are to prevent, find and correct leaks and spills due to USTs, and to make sure operators of USTs can pay for correction problems. The regulations help to avoid the high cost of future clean up and legal costs associated with UST leaks and spills. Inspections of USTs are made every three years by Orange County Environmental Health Department. The major points of UST regulations are listed below.

1. If a UST is installed after December 1988, it must meet requirements for new USTs including spill and overfill prevention, corrosion protection, correct installation, and leak detection
2. USTs installed prior to December 1988 must provide:
 - a. corrosion protection
 - b. spill and overfill prevention
 - c. leak detection
3. Corrective action must be taken in response to leaks.
4. Closure procedures for USTs must be followed for temporary or permanent closure.
5. Owners/operators of USTs are financially responsible for cleanup costs due to spills and leaks and for compensating persons who have suffered bodily injury and property damage caused by leaking USTs.

Minimum requirements of UST management are shown in Exhibit 17-1. Appendix G provides a more detailed description of these requirements. In complying with federal and state UST requirements, MCAS El Toro maintains an up-to-date tank inventory and has an aggressive program for UST removal. As of November 1993, there were 82 active USTs; in the period 1990 to 1993, 199 USTs have been removed from MCAS El Toro and MCAS Tustin.

17.2.3 Aboveground Tanks and Drums

Until they are effectively recycled, POL wastes are considered hazardous wastes in California (22 CCR §§66266.50). The requirements for the storage of petroleum-based wastes as hazardous wastes in drums are outlined in Chapters 7 and 8. The following requirements should be emphasized for both drums and aboveground tanks:

- Storage containers should be electrically grounded.
- Storage areas must be outside and at least 50 feet from any structure or flame source. "No Smoking," (Flammable Materials) signs must be posted at the site in Spanish and English and visible from at least 25 feet).
- Containers must be clearly marked to indicate contents. The "Date of Accumulation" should be marked directly on the container.
- The following liquid wastes must be stored in separate containers:
 - used motor crank case oils
 - reciprocating engine oils
 - petroleum-based hydraulic fluid
 - petroleum-based lubricating oils
 - diesel fuel

With respect to storage in aboveground tanks, the following additionally apply:

Exhibit 17-1
Minimum Requirements of UST Management

ENVIRONMENTAL COMPLIANCE AND PROTECTION MANUAL

APPENDIX M

MINIMUM REQUIREMENTS FOR UNDERGROUND STORAGE TANKS

The following two-page figure concerning underground storage tank (UST) requirements was published by the U.S. Environmental Protection

Agency (EPA) Office of Underground Storage Tanks in August 1988. It includes minimum requirements and important deadlines.

**Exhibit 17-1
Minimum Requirements of UST Management, Continued**

ENVIRONMENTAL COMPLIANCE AND PROTECTION MANUAL

WHAT DO YOU HAVE TO DO? Minimum Requirements?

You must have Leak Detection, Corrosion Protection, and Spill/Overfill Prevention. For WHEN you have to add these to your tank system, see the chart on page M-4 for upgrading deadlines.

LEAK DETECTION	
NEW TANKS + (40 CFR 280.41(a)(1))	<ul style="list-style-type: none"> • Monthly Monitoring* and • Monthly Inventory Control (40CFR 280.43(a)) or Manual Tank Gauging (40 CFR 280.43 (b)) • Tank Tightness Testing Every 5 Years
EXISTING TANKS++ (40 CFR 280.41(a)(2))	<ul style="list-style-type: none"> • Monthly Monitoring* and • Monthly Inventory Control (40 CFR 280.43(a)) or Manual Tank Gauging (40 CFR 280.43(b)) and Annual Tank Tightness Testing until December 1998, when the tank must be upgraded according to 40 CFR 280.21 or 40 CFR 280.20, or then permanently closed according to 40 CFR 280.71. • Once the existing tank has been upgraded according to (40 CFR 280.21 or 40 CFR 280.20 then follow requirements for New Tank Leak Detection.
ALL TANKS WITH CAPACITIES OF 550 GALLONS OR LESS (40 CFR 280.41(A)(3))	<ul style="list-style-type: none"> • Monthly Monitoring* and • Weekly Manual Tank Gauging (40 CFR 280.43(b))
NEW & EXISTING PRESSURIZED PIPING (40 CFR 280.41(B)(1))	<ul style="list-style-type: none"> • Automatic Line Leak Detectors • Automatic Shutoff Device • Audible or Visual Leak Alarm System • Annual Line Tightness Testing • Monthly Monitoring* (except automatic tank gauging)
NEW & EXISTING SUCTION PIPING (40 CFR 280.41(B)(2))	<ul style="list-style-type: none"> • Either Line Tightness Testing every 3 years or Monthly Monitoring* (except automatic tank gauging) • No requirements if: <ol style="list-style-type: none"> 1. Suction piping sloped back to tank 2. Only one check valve, directly below suction pump. 3. Underground piping operates at less than atmospheric pressure.

Exhibit 17-1
Minimum Requirements of UST Management, Continued

ENVIRONMENTAL COMPLIANCE AND PROTECTION MANUAL

CORROSION PROTECTION	
NEW TANKS (40 CFR 280.20(a))	<ul style="list-style-type: none"> • Coated and Cathodically Protected Steel • Fiberglass-reinforced plastic • Steel-fiberglass-reinforced plastic composite
EXISTING TANKS (40 CFR 280.21(b)(1) THROUGH (3))	<ul style="list-style-type: none"> • Upgrade to same options as for New Tanks • Add Cathodic Protection System • Add Interior Lining or • Add Interior Lining and Cathodic Protection Combination
NEW PIPING (40 CFR 280.21(b))	<ul style="list-style-type: none"> • Coated and Cathodically Protected Steel • Fiberglass-reinforced plastic
EXISTING PIPING (40 CFR 280.21(c))	<ul style="list-style-type: none"> • Upgrade to Same Options as for New Piping (except coating steel piping with dielectric material).
SPILL/OVERFILL PREVENTION	
ALL TANKS (40 CFR 280.20(c)), (40 CFR 280.21(d))	<ul style="list-style-type: none"> • Spill Catchment Basins with one or more of the following overfill prevention methods: <ol style="list-style-type: none"> 1. Automatic shut-off devices at 95% tank capacity. 2. Overfill alarms at 90% tank capacity with activated flow restricting devices. 3. Ball float valves set at 95% tank capacity

** Monthly Monitoring (40 CFR 280.43(d) through (h)) Includes:*

- Automatic Tank Gauging
- Vapor Monitoring
- Interstitial Monitoring
- Ground-Water Monitoring
- Other Approved Methods

+New Tanks are those installed after December 1988

++Existing Tanks are those installed prior to December 1988.

Exhibit 17-1
Minimum Requirements of UST Management, Continued
ENVIRONMENTAL COMPLIANCE AND PROTECTION MANUAL

WHEN DO YOU HAVE TO ACT?

Important Deadlines

For WHAT you have to do, see the chart on page M-2 and M-3

TYPE OF TANK AND PIPING	LEAK DETECTION (40 CFR 280.40)	CORROSION PROTECTION (40 CFR 280.21)	SPILL/OVERFLOW PREVENTION (40 CFR 280.21(a))
New Tanks and Piping*	At installation of system	At installation of system	At installation of system
Existing Tanks** 25+ or unknown age 20-24 years 15-19 years 10-14 years 9-2 years	December 1989 December 1990 December 1991 December 1992 December 1993	December 1998 December 1998 December 1998 December 1998 December 1998	December 1998 December 1998 December 1998 December 1998 December 1998
Existing Piping** Pressurized/Suction	December 1990 same as existing tanks	December 1998 December 1998	Does not apply Does not apply
<p>*New tanks and piping are those installed after December 1988. ** Existing tanks and piping are those installed before December 1988.</p>			

Registration

All aboveground tanks used to store materials with at least five percent crude oil and with a capacity of over 660 gallons must be registered with the State Water Resources Control Board in the form of a "storage statement" filed by July 1, 1990, and every two years thereafter.

Condition of Tanks

1. Tanks must be constructed in a sturdy and leakproof manner.
2. The thickness of the tank must be determined at least annually.

Tank Storage Design Requirements

1. Tanks must be vented in accordance with state air quality requirements.
2. Aboveground storage tanks must not contact the ground.
3. Containment should be provided to hold the entire contents of the tanks, plus precipitation resulting from a 24-hour storm.

Compatibility of Waste with the Tank

The waste must be chemically compatible with the materials used in the tank construction.

Inspection

Each storage area must be inspected daily. Exhibit 17-2 shows items to be inspected.

Exhibit 17-2
Tank Inspection Checklist

Bulk Storage And Transfer Facility
Daily Inspection Checklist

Facility: _____ Inspector: _____

Tank #: _____ Contents: _____

Fill Level: _____

Item To Inspect	Acceptable	Unacceptable	Corrective Action
Tank wall condition (not leaking)	_____	_____	_____
Fill valve is closed and locked	_____	_____	_____
Dike drain valve is closed and locked	_____	_____	_____
Valves condition (not leaking)	_____	_____	_____
Overfill control equipment functioning (before each product transfer operation)	_____	_____	_____
Inlet flow rate is sufficiently limited	_____	_____	_____
Pipes, hoses, fittings, connections not leaking	_____	_____	_____
Pipes, valves, hoses fittings, connections, not dented or damaged by traffic	_____	_____	_____
Evidence of leakage on the ground	_____	_____	_____
Adequate freeboard	_____	_____	_____
No debris found in containment area	_____	_____	_____

Inspector Signature

_____/_____/_____
Date

Supervisor Signature

_____/_____/_____
Date

Marking

Each tank must be marked with the following:

- the words: "Hazardous Waste"
- the accumulation start data
- the composition and physical state of the waste
- words indicating the particular hazardous characteristic of the waste, e.g., flammable, corrosive, reactive
- the name of the unit which generated the waste

Tank Management

1. Tanks holding incompatible wastes must be separated from each other to avoid mixing contents in the event of a spill.
2. Hazardous waste or reagents must not be placed in a tank if they could cause the tank to rupture, leak, corrode, or otherwise fail before the end of its intended life.
3. Tank storage areas must be inspected daily.
4. The area must have alarm and communications device for emergencies and portable fire extinguishers if ignitable wastes are stored.
5. The tanks must be addressed in a Contingency Plan.
6. All personnel who are involved in placing wastes in the tank, removing wastes, or otherwise handling hazardous waste must be trained in hazardous waste management.

7. Upon closure, all waste residuals, equipment and environmental contamination must be removed.

Additional rules are proposed in the Safe Aboveground Storage Tank Act of 1993. Proposed requirements include: installation of dikes to contain petroleum releases for "at least 72 hours; periodic inspection for leaks and the capping off and plugging of out-of-service piping; retention of maintenance and visual inspection records for at least five years."

17.3 POL Disposal

In California used lubricating oils must be managed as hazardous waste and recycling is required. Used lubricating oils include:

- Any oil that has been refined from crude oil, and has been used, and, as a result of use, has been contaminated with physical or chemical impurities.
- Any oil that has been refined from crude oil and, as a consequence of extended storage, spillage, or contamination with non-hazardous impurities such as dirt and water, is no longer useful to the original purchaser.
- Spent lubricating fluids that have been removed from an engine crankcase, transmission, gearbox, or differential of an automobile, bus, truck, vessel, plane, heavy equipment, or machinery powered by an internal combustion engine.
- Spent industrial oils, including compressor, turbine, and bearing oil, hydraulic oil, metal-working oil, refrigeration oil, and railroad drainings.
- Contaminated fuel with the flashpoint equal to or greater than 100° F.

A used oil recycling program is operated through the DRMO for recyclable POL waste. POL waste may be rejected for recycling if it is contaminated with water, solids such as rags, plastic bags and other unidentifiable material. POL waste which is judged unrecyclable is disposed of as hazardous waste.

Waste Oil Filters

Where waste metal oil filters are recycled they can be managed as a nonhazardous waste provided:

- they are thoroughly drained of "free-flowing" oil;
- the filters are accumulated, stored, and transferred in closed, rain-proof containers; and
- they are transferred for the purpose of metal reclamation.

Paper cartridge oil filters are not exempt from being handled as a hazardous waste (22 CCR 66266.13).

JP-5 Fuel

JP-5 fuel which passes laboratory tests to meet the criteria for reuse is recycled for on-site aircraft reuse and returned to Bulk Storage.

Solvents and Degreasers

Parts cleaning solvents and degreasers are handled as a hazardous waste and recycled through a contract administered by the DRMO.

The Environmental Department provides for pickup of waste POLs on a scheduled basis. Collection is arranged by contacting Mr. Tom Leary at extension 3035. The Environmental Department personnel will refuse pickup of any POL waste for recycling if, in the judgement of the Environmental Department, it is contaminated with other wastes or with large amounts of water. Collection of contaminated JP-5 is under the cognizance of Supply-contracted refuelers for SOMS, MAG-46 and visiting aircraft. Supply refuelers are contacted at extension 2558.

17.4 Spill Prevention, Control and Countermeasures Plan (SPCC) and Spill Contingency Plan (SCP)

Measures required to prevent spills of POL and to counteract the effects of POL spills that do occur are described in the Oil and Hazardous Substance Spill Prevention, Control and Counter Measures Plan and the Spill Contingency Plan, respectively. Emergency coordinators for spills both on and off the flightline are listed in these plans and in Section 19.0.

17.5 Responsibilities

The Environmental Director ensures that:

- Applicable EPA and state requirements related to the prevention of oil spills are met and that the SPCC plans are up-to-date and received and certified every 3 years.
- The sale of waste POLs is accomplished through the DRMO and maintains a used oil recycling program.
- Ensures that spill response personnel, through the Environmental Department, receive appropriate training.

The Supply Department has the responsibility for procurement of POL, for inspection of fuel systems, and for providing materials for spill cleanup. The Environmental Department has responsibility for pick-up of POL recyclables and POL hazardous wastes. Recycling and resale of POL is the responsibility of the DRMO. Generating units have responsibility for handling, storage and disposal/recycling of POL waste through the DRMO. They notify the On-Scene Operations Team and Environmental Department whenever a spill greater than 5 gallons occurs. For spills less than five gallons, they are responsible for cleanup.

18.0 CLOSURE PLAN

MCAS El Toro is scheduled to close as early as July 1997 and no later than July 1999. Generators of hazardous waste are required to have a closure plan which describes procedures for inventory reduction, facility decontamination, removal of contaminated soils and concrete, and closure schedule. MCAS El Toro Hazardous Waste Storage Facility Closure Plan was originally prepared in 1991 as a requirement for the Part B permit application. The plan is kept on file at the office of the Environmental Director.

The closure of MCAS El Toro is being managed by the Base Realignment and Closure Office, which is presently developing a Base Closure Plan. Base realignment and closure cleanup teams, comprising representatives from DOD, State of California, and the U.S. EPA, are reviewing the existing installation restoration program and identifying opportunities for "fast track" or accelerated cleanup. There is extensive public involvement in both clean up plans and post closure use of the Base.

19.0 RESOURCES

Commander

- US Army Environmental Hygiene Agency

Attention: HSHB-ME-SH

Aberdeen Proving Ground, MD 21010-5422

DSN 584-3651

Commercial 301-671-3651

Provides assistance with analysis of unknown wastes for hazardous characteristic and composition. (Precoordination with AEHA must be established prior to sample taking or sample shipment.)

- California Department of Health Services

Toxic Substances Control Division

P.O. Box 942732

714/744 P Street

Sacramento, CA 94234-7320

916-322-2337

- California/EPA Department of Toxic Substances Control

Region 4 Long Beach

245 West Broadway, Suite 350

Long Beach, CA 90802

213-590-4868

- California Regional Water Quality Control Board
Santa Ana Region 8
2010 Iowa Avenue, Suite 100
Riverside, CA 92507
714-782-4130

- State Water Resources Control Board
Underground Tank Program
Orange County Environmental Health
714-667-3773
Orange County Fire Department
714-744-0400

- California Highway Patrol/Metro Carrier Organization
(For information on DOT shipping names, packaging)
Los Angeles Area: 213-736-2996
San Diego Area: 619-268-1860

- Orange County Fire Department
Hazardous Materials Disclosure Office
180 South Water Street
Orange, CA 92666
714-744-0463

- City of Irvine
714-724-6000

- City of Tustin
714-544-8890

Contacts for Spills

MCAS El Toro

MCAS El Toro On-Station Departments

- Medical Department X 3172 if a threat to human health exists.

Local Agencies

- Orange County Sanitation District: (714) 962-2411 or 3301
- (A Slug Control Plan is included as Attachment I) if a spill enters the sewer system.
- South Coast Air Quality Management District: (909) 396-2000 or (800) 572-6306 if a spill could impact air quality.
- Orange County Health Care Agency: (714) 667-3700 if additional health care, beyond what can be provided by MCAS El Toro, is necessary, or if a risk to human health exists off-Station.
- Orange County Emergency Management Division: (714) 834-7255 if a spill affects areas outside MCAS El Toro boundaries.

State Agencies

- California Regional Water Quality Control Board, Santa Ana Region: (909) 782-4130 if a spill has affected, or may affect, surface water or groundwater.
- California Department of Toxic Substances Control: (818) 551-2800 if a spill threatens, or may threaten, human health or the environment, or if a reportable quantity (see Attachment F) of a hazardous substance has been released as discussed in the facility's hazardous waste facility permit and the appendix to 49 CFR 172.101 and 40 CFR 302.4.
- California Office of Emergency Services: (800) 852-7550 or (916) 262-1621 must be notified whenever any spill occurs that could threaten human health or welfare, or if a reportable quantity is released to the environment.

Contact for Spills (Continued)

MCAS El Toro

Federal Agencies

- National Response Center: (800) 424-8802 whenever a spill greater than 100 gallons occurs, regardless of location or hazard, or reportable quantity. The National Response Center will notify other agencies as required by the and implement the National Oil and Hazardous Substances Spill Contingency Plan.
- U.S. Environmental Protection Agency: (415) 744-2000 if a spill threatens, or may threaten, human health or the environment, or if a reportable quantity of a hazardous substance has been released as discussed in the facility's hazardous waste facility permit and the appendix to 49 CFR 172.101 and 40 CFR 302.4.

**Emergency Coordinators - Flightline
MCAS El Toro**

Shift A

Primary - Fire Department

Capt. Dan Beerer
4081 West 1st Street #53
Santa Ana, CA 92703
Work (714) 726-3716
Home (714) 554-8559

Alternate #1 - Fire Department

Capt. Richard A. Davis
20261 Chaucer Lane
Huntington Beach, CA 92646
Work (714) 726-3919
Home (714) 963-6310

Alternate #2 - Environmental Dept

Sgt. R.S. Pashalian
Work (714) 726-3035/2164
Pager (714) 286-8225
Home (714) 733-2088

Alternate #3- Environmental Dept

MSgt R. Nelson
Work (714) 726-3035/2164
Pager (714) 286-8229
Home (619) 722-4794

Alternate #4- Environmental Dept

Sgt. E. A. Ibarra
Work (714) 726-3035/2164
Pager (714) 286-8226
Home (714) 733-3044

Shift B

Primary - Fire Department

Asst. Chief William Cook
3923 South Harvard Blvd.
Los Angeles, CA 90006
Work (714) 726-3919
Home (714)296-6484

Alternate #1 - Fire Department

Same as that for shift A

Alternate #2, #3, and #4 - Env. Dept

Same as those for Shift A

**Emergency Coordinators - (Excluding Flightline)
MCAS El Toro**

Duty Section 1

Primary - Aircraft Rescue and Fire
Fighting

SSgt Thomas E. Peters
183 Commor Ave.
Irvine, CA 92718
Work (714) 726-3922
Home (714) 733-2505

Alternate #1 - ARFF

LCpl Michael Higley
Barracks 842, Room B105
Santa Ana, CA 92709
Work (714) 726-3922
Home (714) 726-3198

Alternate #2 - Environmental Dept

Sgt. R.S. Pashalian
Work (714) 726-3035/2164
Pager (714) 286-8225
Home (714) 733-2088

Alternate #3- Environmental Dept

MSgt R. Nelson
Work (714) 726-3035/2164
Pager (714) 286-8229
Home (619) 722-4794

Alternate #4- Environmental Dept

Sgt. E. A. Ibarra
Work (714) 726-3035/2164
Pager (714) 286-8226
Home (714) 733-3044

Duty Section 2

Primary - ARFF

SSgt Thomas E. Peters
183 Commor Ave.
Irvine, CA 92718
Work (714) 726-3922
Home (714) 733-2505

Alternate #1 - ARFF

Sgt Paul Taylor
3184 C-Gard Ct.
Irvine CA 92714
Work (714) 726-6847
Home (714) 551-3592

Alternate #2, #3, and #4 - Env. Dept

Same as those for Duty Section 1