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6240 Hazardous Material
Waste

C4 to fill

Ms. Elroy 3094 +C

11000
PWO
4 Oct 1985

From: Public Works Officer, Marine Corps Base, Camp Lejeune
To: Assistant Chief of Staff, Logistics (Attn: Contracting Division, Dixie Black)
Via: Assistant Chief of Staff, Facilities

Subj: ENVIRONMENTAL CONTAMINATION MONITORING

Encl: (1) Requisition Form 1348 and Contracting Data

1. The enclosure is provided as a description of the required services to obtain a contract through the Basic Offering Agreement with the Coast Guard. The contractor to provide these services is as follows:

Industrial Marine Services, Inc.
Post Office Box 1779
Norfolk, VA 23501

Telephone No. (804) 543-5718
Point of Contact: Mr. Jim Parker, President

2. Funding data required by the enclosure will be provided by the Assistant Chief of Staff, Facilities.

3. Point of contact for contract negotiations, questions, and future action regarding the services to be provided is Mr. Bob Alexander, Environmental Engineer, Assistant Chief of Staff, Facilities, at extension 3034.

C. A. JOHANNESMEYER

I don't see actual removal of contaminant as part. REA says its left out on purpose. Removal will be a second phase.

Danny Sharp

8/10

Ms. Elroy - 3094
+C

11000
PWO
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C. A. JOHANNESMEYER

FUEL CONTAMINATION STUDY

SCOPE OF WORK:

a. Delineate the horizontal extent of the fuel contamination at the indicated site by constructing a minimum of ten monitoring wells and no more than fifteen. Wells are to be constructed in accordance with the attached specification, and locations are to be as recommended by the contractor and coordinated with Marine Corps Base representatives and the N.C. Division of Environmental Management.

b. Measure ground water levels and fuel thickness at each well location and provide a map of no smaller scale than 1"=100' indicating ground water levels, contours, and fuel thickness.

c. Recommend number and locations of recovery wells based on fuel thickness.

MONITORING WELL CONSTRUCTION

All confirmation study monitoring wells will be drilled. The borings are estimated to have drilled depths of no more than 25.0 feet.

Well construction is shown in Figure A-1. Unless otherwise specified, all water used/removed in this effort shall be allowed to seep back into the ground at each drill site.

The test borings will be drilled using 3-1/4 inch I.D. hollow stem auger flights (O.D. approximately 7-1/2 inches). A boring log of the soil type, stratification, consistency and groundwater level will be made.

After completion of the soil sampling and drilling to the specified depth, the hollow stem auger flights will be removed and a 6-inch I.D. PVC flush threaded pipe installed in the bore hole. If cave-in occurs, these soils will be removed by jetting through the 6-inch casing using potable water. Water sources will be designated on base.

Two-inch I.D. flush threaded Schedule 80 PVC monitoring well slotted screen and well casing will be installed within the 6-inch PVC casing. A sand pack will be placed around the slotted well screen extending to 2 feet above the top of the screen. A 15-20 foot section of 0.01 inch slotted PVC well screens should be used in each well which extends at least five feet above and below the existing groundwater table. A 12-inch seal of bentonite clay pellets will be placed over the sand pack and the 6-inch PVC casing will be removed to the bottom level of the seal using a hoist plug and sand line on the drill rig. A grout mixture of 2 parts sand and 1 part cement will be placed and blended in with the specified amount of potable water and then be thoroughly mixed. The grout will be placed in the 6-inch PVC casing and rodded to insure a proper seal. A 4-inch security pipe with a hinged locking cap will be installed having an embedment depth of 2.5 feet into the grout. The security pipes will extend a minimum 2.5 feet and maximum of 4.0 feet above the ground surface. A concrete apron measuring 5'x5'x0.5' will be constructed around each well. This apron will be constructed of 3000 psi ready mixed concrete. The concrete will be crowned to provide positive runoff. The concrete pads can be constructed within five days after all of the wells have been installed. Each well will be marked with four Schedule 40 steel pipes imbedded in a minumum of 2.5' of 3000 psi concrete. The steel marker pipes will be painted black and the top 2-foot portion will be painted day-glo orange.

The concrete used to secure the four pipes will be poured at the same time and be an integral part of the 5'x5'x0.5' concrete apron described above.

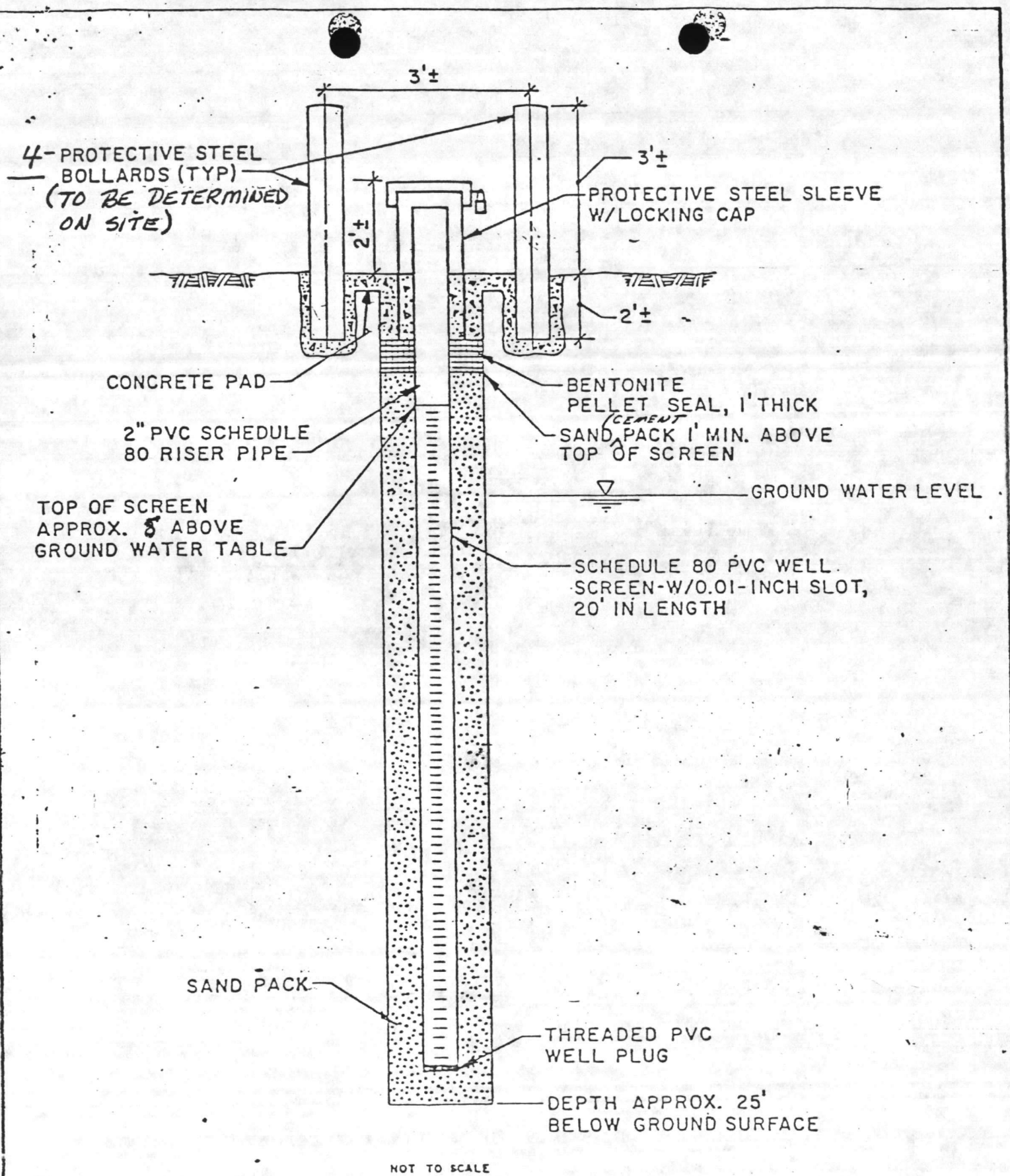
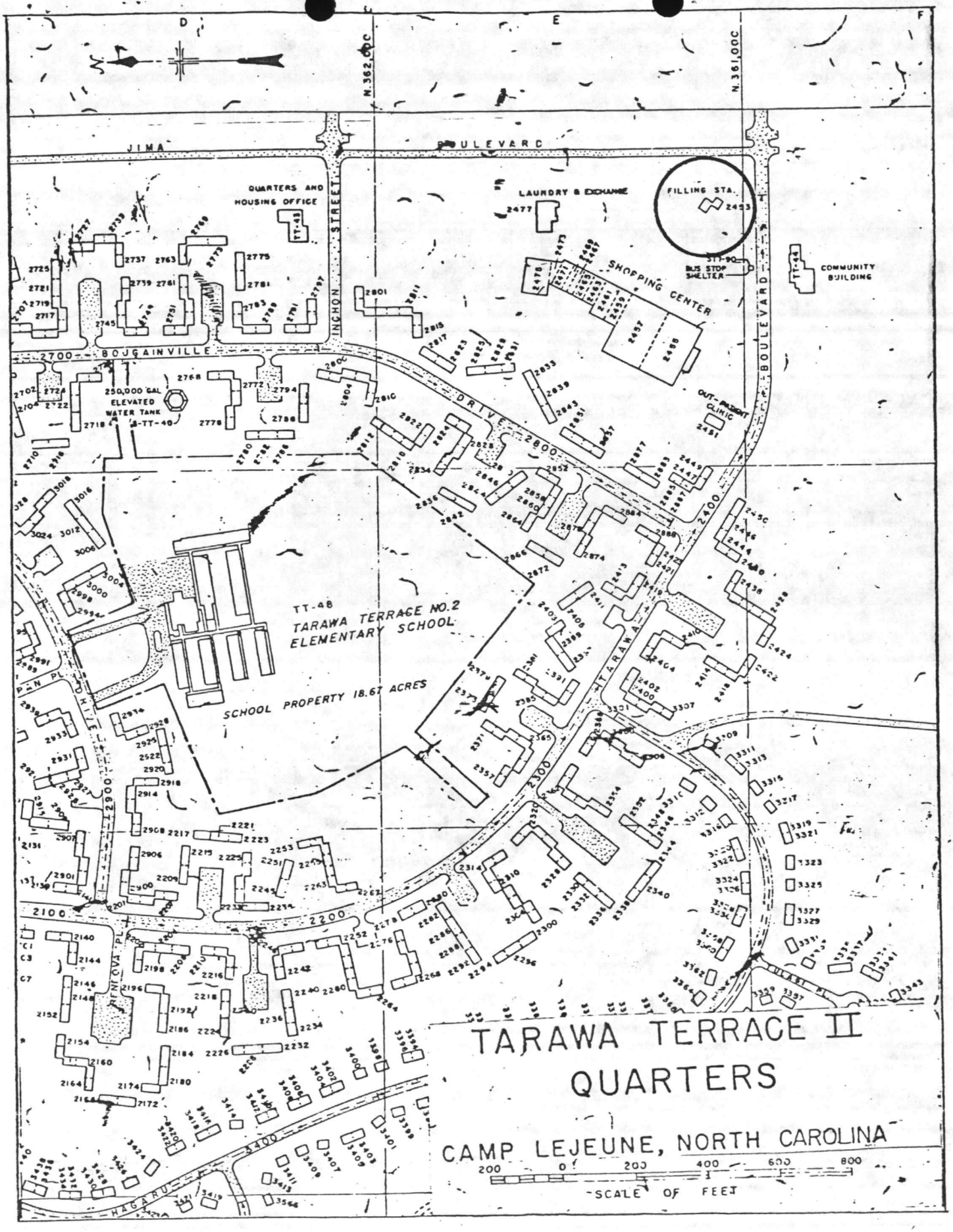


FIGURE A-1

MONITORING WELL CONSTRUCTION


TARAWA TERRACE II
QUARTERS
CAMP LEJEUNE, NORTH CAROLINA
200 0 200 400 600 800
SCALE OF FEET
JIMA BOULEVARD
INCHON STREET
BOUGAINVILLE DRIVE
BOULEVARD
2700
2800
2400
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2200
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2000
2900
3000
3400
N.362,000
N.361,000
QUARTERS AND HOUSING OFFICE
TT-48
LAUNDRY & EXCHANGE
FILLING STA.
SHOPPING CENTER
BUS STOP SHELTER
COMMUNITY BUILDING
OUT-PATIENT CLINIC
250,000 GAL ELEVATED WATER TANK
TT-40
TARAWA TERRACE NO.2 ELEMENTARY SCHOOL
SCHOOL PROPERTY 18.67 ACRES
TARAWA
HAGARU
PENICOVA PL.
PAN PL.
HILL

6240
NREAD
17 Oct 85

From: Director, Natural Resources and Environmental Affairs Division, Marine Corps Base, Camp Lejeune
To: Assistant Chief of Staff, Logistics, Marine Corps Base, Camp Lejeune
Via: Assistant Chief of Staff, Facilities, Marine Corps Base, Camp Lejeune

Subj: HANDLING, STORAGE AND PACKAGING OF HAZARDOUS MATERIAL

Ref: (a) AC/S LOG ltr 4500 LOG/SUPPORT of 8 Oct 85

1. Enclosures (1) and (2) of the reference have been reviewed as requested and the following comments are provided:

a. Enclosure (1) provides excellent general information. Possibly, it should be made clearer that State regulations often have a significant impact on Base operations and procedures.

b. Enclosure (2) is well written and has significant applicability aboard Camp Lejeune. The sections on "recoupment" are especially pertinent. Significant improvement would be required locally to meet the standards/guidelines set in enclosure (2).

P. E. BLACK

Julia—
Per Cap + Owen
we can keep
the encls.
T

6240
NREAD
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P. E. BLACK
Acting

5050-1

UNITED STATES MARINE CORPS
Natural Resources and Environmental Affairs Division
Marine Corps Base
Camp Lejeune, North Carolina 28542

IN REPLY REFER TO:
6240
NREAD
~~16 Oct~~ 1985

From: Director, Natural Resources and Environmental Affairs Division, Marine Corps Base, Camp Lejeune
To: Assistant Chief of Staff, Logistics, Marine Corps Base, Camp Lejeune
Via: Assistant Chief of Staff, Facilities, Marine Corps Base, Camp Lejeune

Subj: HANDLING, STORAGE AND PACKAGING OF HAZARDOUS MATERIAL

Ref: (a) AC/S LOG ltr 4500 LOG/SUPSPT of 8 Oct 1985

Encl: (1) Hazardous Material Technical Center Draft Chapter 12, Spill Management/Response
(2) Hazardous Material Technical Center Draft Chapter 13, Material Readiness

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P. E. BLACK
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Acting

Writer: D. D. Sharpe, NREAD 5003
Typist: J. Cross 16Oct85

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Typist: J. Cross 16Oct85

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Date: 11 Oct 1985

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	Approval		For Clearance		Per Conversation
	As Requested		For Correction		Prepare Reply
	Circulate		For Your Information		See Me
	Comment		Investigate		Signature
	Coordination		Justify		

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UNITED STATES MARINE CORPS
Marine Corps Base
Camp Lejeune, North Carolina 28542-5001

4500
LOG/SUPSPT
08 Oct 85

From: Assistant Chief of Staff, Logistics
To: Assistant Chief of Staff, Facilities

Subj: HANDLING, STORAGE AND PACKAGING OF HAZARDOUS MATERIAL

Ref: (a) CMC ltr 4500/2 LMM-2 of 19 Nov 84
(b) DOD 4145.19R-1 Storage and Material Handling Manual
(c) CMC ltr 4500/2 of 17 Sep 85

Encl: (1) Hazardous Materials Technical Center Draft- Chapter 12, Spill Management/Response
(2) Hazardous Materials Technical Center Draft- Chapter 13, Material Readiness

1. As stated in reference (a), a project has been initiated by the office of the Secretary of Defense, Manpower, Installation and Logistics (OASD (MI&L)), to update the Hazardous Commodity Section, Chapter V, Section 4 of reference (b). The enclosures are a continuation of this effort and are forwarded for your review and comments.

2. Request your comments be provided to this office no later than 18 October 1985. These comments will be forwarded to Headquarters Marine Corps, Code LMM-2, in accordance with reference (c).

W. Z. DEMENT
By direction

RECEIVED
10 OCT 1985

Hazardous Materials Technical Center

DRAFT

CHAPTER 12

SPILL MANAGEMENT/RESPONSE

August 1985

Operated by the Dynamac Corporation
for the Defense Logistics Agency

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DRAFT

CHAPTER 12

SPILL MANAGEMENT/RESPONSE

August 1985

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APPENDICES

Appendix A: Instructions for Completion of the Uniform Hazardous Waste Manifest and Manifest Completion Checklist

Appendix B: Example of Spill Response Personnel and Appropriate Duties

Appendix C: General Evaluation of Materials Comprising Various Types of Personal Protective Equipment

12-1. INTRODUCTION

A. This chapter presents information on Spill Management and Response Procedures. Its purpose is to assist the Defense Logistics Agency (DLA) and the Department of Defense (DoD) in the development of spill management data and procedures necessary to assure safe and efficient spill response activities.

B. Topics covered in this chapter include spill prevention management, spill incident reaction and notification procedures, spill control and cleanup equipment, evacuation planning, guidelines for spill cleanup and removal, and spill response training.

C. This chapter will help DoD personnel standardize spill response procedures to assure that proper reactions and precautions are followed.

12-2. REFERENCE

This section lists the government and non-government reference sources that have been used to develop the information contained in this chapter. Personnel are encouraged to review these reference materials.

A. Government.

1. Title 40, Code of Federal Regulations (40 CFR), Environmental Protection Agency.

2. Title 49, Code of Federal Regulation (49 CFR), Department of Transportation.

3. Title 29, Code of Federal Regulations (29 CFR), Occupational Safety and Health Administration.

B. Non-Government.

1. A Guide to Safe Handling of Hazardous Material Accidents, American Society for Testing and Materials, 1984.

2. Material Safety Data Sheets, General Electric, 1980.

3. Emergency Action Guides, Bureau of Explosives, 1984.

4. Emergency Handling of Hazardous Materials in Surface Transportation, Bureau of Explosives, 1981.

5. Fire Protection Guide for Hazardous Materials, National Fire Protection Assoication, 7th edition, 1983.

6. Emergency Response Guidebook, Department of Transportation, 1984.

7. Emergency Response Guide for Dangerous Goods, Canadian Transport Emergency Centre (CANUTEC), 2nd Edition, 1982.

8. Hazardous and Toxic Materials: Safe Handling and Disposal, Fawcett Consultations, Inc., 1984.

9. "Hazardous Chemical Spill Cleanup," Pollution Technology Review No. 59, 1979.

10. Hazardous Materials Spill Handbook, Bennett, Festes, Wilson, 1982.

12-3. SPILL PREVENTION MANAGEMENT GUIDELINES

A. Spill Prevention Management (SPM).

Spill prevention management is the function of establishing and maintaining programs and facility design features necessary to minimize the effects of HM spills. Specific spill prevention management policy or procedure should be established to:

1. Identify all toxic and hazardous substances at the installation.
2. Identify all potential spill sources/areas.
3. Establish incident reporting procedures.
4. Assess risks at different installations.
5. Review historical incidents and remedies.
6. Coordinate incident response cleanup and notification procedures.
7. Establish a training program for installation personnel.
8. Assist in interdepartmental spill prevention coordination.
9. Review new construction and/or changes in processes and procedures.

B. Spill Prevention Control and Countermeasure Plan (SPCC).

A SPCC is required by EPA, per 40 CFR Parts 112, 151, and 264 for each facility and provides information for the prevention and containment of hazardous spills. Prevention measures typically identified by this plan are dikes, curbing, berms, or structures which otherwise will contain inadvertent release of HM. More specific prevention measures are discussed in Section 12-3 of this chapter.

1. The SPCC plan must also, according to law, be supplemented by an Installation Spill Contingency Plan (ISCP), per 40 CFR Part 265, Subpart D. This plan should be developed in conjunction with the SPCC plan as it is a vital part of spill prevention management. The ISCP must include arrangements made with local police departments, fire departments, hospitals, contractors,

state and local emergency services, pursuant to 40 CFR 265.37. These arrangements include emergency evacuation routes and alternate evacuation routes, total number of personnel at the activity, types of hazardous items handled, etc.

2. The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as the emergency coordinator (see 40 CFR 265.55), and this list must be kept up-to-date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates.

3. The plan must include a list of all emergency equipment at the facility, [such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external) and decontamination equipment], where this equipment is required. This list must be kept up-to-date. In addition, the plan must include the location and physical description of each item on the list and a brief outline of the item's hazard characteristics.

4. The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe the signal(s) to be used to begin evacuation, to plan evacuation routes and alternative evacuation routes (in cases where the primary routes could be blocked by releases of hazardous material or waste).

5. The plan must be tested by and have provisions for trial runs and emergency signaling systems. Spill drills should be conducted at least every 6 months with a report filed on the response performance. If the plan is implemented for an actual emergency, the On-Scene Coordinator (OSC) will submit a written report on the incident to the EPA regional administrator in accordance with 40 CFR 265.56(j). If the plan is revised or deficiencies corrected, copies of the revisions must be sent to all those who maintain a copy of the original plan.

C. Facility Description.

As part of the SPCC/ISCP plan, each facility that stores HM/HW or PCBs should be described individually, including any above ground or underground tanks. Each facility should be identified by a floorplan, schematic, or photograph. Storage areas of hazardous items should be identified on these drawings. Each individual facility should be described in detail, using at a minimum, the following categories:

1. General description information.

2. Security.

3. Materials stored.

4. Facility function.

5. Total storage area.

6. Facility construction.

7. Potential spill areas.

8. Inspection schedule.

9. Personal protective equipment/onsite safety equipment.

10. Facility drainage.

11. Initial and secondary containment

D. Additional Spill Prevention Management Guidelines.

1. Sometimes the simplest way to avoid potential spills is to stop leaks as they occur. The following rules and discussion may help personnel avoid disastrous spill mishaps.

a. Rule One: Rotate the container. For simple nonpressurized containers such as drums, the simplest way to stop flow from a leak is to turn the container so that the leak is at the topmost point of the container. If some pressurized containers (chlorine cylinders, for example) are inverted, liquid may flow from a valve leak. It may be possible to turn the cylinder so that gas rather than liquid finds its way through the leak.

b. Rule Two: Attempt to decrease the pressure. Decreasing pressure on many containers can substantially reduce the rate of flow from a leak. For a nonpressurized container, the goal is to restrict entry of outside air into the leaking container. For a pressurized container, the goal is to cool the tank and its contents through application of water, or possibly CO_2 from a fire extinguisher.

c. Rule Three: If Rules One and Two did not work; (and relief is nowhere in sight) start patching and plugging. Most hazardous materials response teams stock wooden dowels and plugs, rubber materials of various sizes and shapes, pipe plugs and caps, chains and hydraulic jacks, and patching compounds. A knowledgeable responder once estimated that there are from 50 to 75 different types of patching compounds. Some are made specifically for hazardous materials usage; most are not. For example, "Plug N' Dike"*TM* is a nontoxic, granular material that absorbs over 300 times its weight in water to produce a sealant that stops penetration of fuels and chemicals. A handful of "Plug N' Dike" kneaded with water for 30 seconds forms a sticky paste for patching and plugging. Larger quantities can be used to form dikes for containment or to divert spills away from sewers and other exposures. This and other types of adsorbents and absorbents are readily available through commercial suppliers.

2. Additional, commonly used patching compounds and materials are detailed below. In any discussion of patching compounds/materials, the reader should understand that such compounds/material are often made for uses other

than the sealing of hazardous material leaks; and neither the manufacturer nor the author makes any warranty, implied or otherwise, for their use with hazardous materials. Responders who use such materials normally confine their application to nonpressurized containers, select only compounds/materials that will not react with the leaking product, and practice application through drills and exercises in a safe atmosphere before ever attempting to patch/plug a leak of hazardous materials. This section is not intended to recommend or endorse the use of such materials/compounds with hazardous commodities, but merely to report such use.

a. Laboratory film is a stretchy film similar to very heavy Saran Wrap*TM*. It is commonly used in laboratories for covering test tubes, beakers, etc., to provide a moisture barrier that allows gases to pass through. Response personnel sometimes use it to wrap threads or valves. Laboratory film is available in various widths from laboratory supply firms.

b. Duct seal compound is an oil-based putty available in blocks and is normally used by electricians for sealing around service entries, junction boxes, flashing and similar applications. A permanent soft but strong adhesive used to seal out moisture, duct seal compound is generally available from electrical supply houses.

c. Certain "expanding" products available through model railroad hobby shops are normally used to make "mountains" on model railroad layouts. Once activated, such products expand both greatly and rapidly. For a large hole, a four-mil plastic bag can be inserted half-in/half-out of the hole with the closed end of the bag toward the inside of the hole. The compound is then mixed in the closed end of the bag and allowed to expand to a hard plastic-like material within the bag thus sealing the hole. The open end of the bag is kept open until expansion is complete, both to control the direction and area of expansion and to keep from breaking the bag.

d. Closed-cell polyurethane foam will expand when placed in contact with a number of petroleum products and will not allow the petroleum product to pass through. Jammed into a ruptured diesel or gasoline tank, the portion inside the tank will expand to block the hole.

e. There are a number of leak sealers available through auto supply stores designed to repair fuel tanks without removing the fuel or dismantling the tank. These compounds tend to be fast acting; most work at temperatures as low as 30 °F, and some are toxic or flammable and require care when using.

3. The following materials have been used, sometimes under extremely adverse conditions, to temporarily but successfully patch/plug leaks of hazardous materials. It should be noted that that all will work under water, some are temperature sensitive, and a few may require ultraviolet light for setup and thus can be used only in sunlight. Normal sources of supply include auto body shops, hardware stores, lumberyards, auto supply stores, and marine supply houses.

a. Epoxy-type products.

b. Marine sealers.

c. Plaster of Paris.

d. Dental impression material.

e. Clay.

f. Gasket seating compounds.

g. Duct tape.

h. Liquid adhesive sealers.

i. Autobody repair tape.

j. Autobody sealants.

k. Channel bonding adhesive.

l. Urethane foam.

E. Preventive Engineering Practices (PEP).

1. Preventive Engineering Practices (PEP) are a very important part of spill prevention maintenance. They may be thought of as an SPCC plan that is oriented toward equipment rather than procedures. They are specific to groups of toxic and hazardous substances and to the potential sources of the spill: storage areas, loading/unloading areas, in-house transfer, process and materials handling areas, drainage from plant sites and secondary containment structures, and waste storage, treatment and disposal facilities.

2. Preventive Engineering Practices (PEP) are divided into pre-release and post-release groups; both are designed to confine release within the facility's boundary. The difference between the two is that pre-release PEPs are of a general precautionary nature, whereas post-release PEPs are activated as spill control devices by a release. Typical pre-release PEPs include monitoring and alarm systems, nondestructive testing, marking and labeling all hazardous storage, process and flow equipment, and proper storage procedures. Typical post-release PEPs include secondary containment of liquids and solids by dikes and berms, flow diversion, vapor control and dust control.

3. The following is an outline of typical PEPs, both pre-release and post-release.

a. Bulk storage areas. Subject to leakage, runoff, leaching, blowing wind; depending on physical state of material stored--PEPs include:

(1) Tank material or lining compatible with stored material.

(2) Stockpiling of patching and plugging devices.

(3) High and low level alarms.

(4) Safe placement of storage vessels, remote from traffic, residential areas, surface water bodies.

(5) Fire protection systems--extinguishing agents, insulation against explosions from flame impingement.

(6) Corrosive monitoring and inspection.

(7) Secondary containment of adequate holding capacity (largest single container plus allowance for precipitation).

(8) Segregation of incompatible materials.

(9) Appropriate material for secondary containment-impervious to, not corrodible by, and compatible with liquids.

(10) Catch basins or drums under tank valves for storage of overflow and/or conducting overflow to sump/treatment facility.

b. Loading and Unloading Areas. PEPs include those listed for bulk storage areas and:

(1) Proper labeling/color-coding of pipes and fittings.

(2) Separate docks/gates for incompatible materials; different size or color connectors to avoid cross-connection.

(3) Non-interfering vehicle positioning.

(4) Pneumatic or vacuum conveying where possible.

(5) Proper hookups, non-interfering, flexible.

(6) Liquid and vapor disposal devices using foams, fans, etc.

c. In-House Transfer, Process and Material Storage Areas. PEPs primarily involve proper operation of equipment, as well as:

(1) Structural design of pressure vessels (fired and unfired) to withstand accidental overpressure without wall failure.

(2) Use of compatible materials for process equipment.

(3) Proper labeling/color-coding of vessels, piping, and flow components.

(4) Alarm systems, active and passive.

(5) Splash shields to guard against pressure release, venting sprays.

(6) Positive closure valves in critical places.

(7) Containment structures/holding ponds sufficient to hold volume of largest storage container or a day's volume of plant process liquid, whichever is larger.

d. Drainage Control. PEPs include diversion or collection of plant site runoff and controlled release of accumulated precipitation from secondary containment structures, as follows:

(1) Examine plant drainage topography and, if needed, regrade for drainage to waste treatment facilities or holding pond.

(2) Alternatively, dike entire plant boundary.

(3) Types of collection and diversion structures: curbs, culverts, gutters, sewers, drainage ditches.

(4) Open drums to catch minor spills from drain/draw-off valves on vessels.

(5) Control of drainage from secondary containment drainpipes with lockable valves or by pumping into vacuum truck for later discharge/disposal.

e. Waste Storage, Treatment, and/or.Disposal Facilities. PEPs include:

(1) Locations must be downgradient of depot (i.e., in an area where a spill or fumes have the least likely chance of affecting the work area of the depot).

(2) Capacity must be largest tank volume in facility or one day's volume of process liquid, whichever is larger; with precipitation allowance.

(3) Control of drainage/disposal from waste facilities.

12-4. SPILL INCIDENT REACTION AND NOTIFICATION PROCEDURES

A. General Procedures.

If a spill of HM/HW or PCBs occurs, the immediate reaction of the discoverer and spill response personnel is critical. Some basic rules should be followed immediately. They are:

1. Move and keep people away from the incident scene.

2. Do not walk into or touch any spilled material.

3. Avoid inhaling fumes, smoke, or vapors, especially in case of unknown material.

4. Do not assume that possible gases or vapors are harmless because of a lack of odor.

B. Specific Procedures.

1. Initially, the spill observer(s) should contact his supervisor or the supervisor's alternate. If neither is available, the emergency coordinator or Spill Response Team (SRT) should be notified.

2. With the aid of the supervisor or SRT, determine what items were spilled and what the immediate response will be (e.g., evacuate the area, or attempt cleanup).

3. If the spilled material is identified and determined (by supervisor or SRT) to be a small amount, attempts should be made to identify the substance, stop the flow (if possible) and contain the spill following the specific guidelines in Section 12-6 of this chapter or HM data file.

4. If the items cannot be readily identified, the more definitive SRT procedures for material identification should be followed.

5. If a small spill of multiple hazards is discovered or it is determined that the spill is beyond the capabilities of operating personnel, the following procedures should be followed.

a. Upon initial discovery and determination that the spill cannot be readily controlled using existing personnel and equipment, an emergency alarm system should be activated, and the emergency coordinator or alternate must be notified.

b. Personnel hearing the alarm must secure their work areas and report to predetermined locations to received further instructions.

c. If the spill is determined by the supervisor, emergency coordinator, or SRT to be major, only the SRT will effect cleanup using established guidelines as in Section 12-6, HM data file, or safety and health documentation.

d. If the initial observer or supervisor contacts the emergency coordinator or SRT, the following information should be provided if possible:

(1) Name of caller.

(2) Exact location of spill.

(3) National Stock Number (NSN)/nomenclature/amount of material.

(4) Container types and sizes involved.

(5) Injuries.

(6) What is currently being done.

6. Individual procedures should be developed and listed (and used in training), identifying each persons role in spill response/cleanup. This can be accomplished by listing each applicable individual's spill response title and corresponding procedures applicable to particular title as shown in Appendix B.

7. It will be the emergency coordinator's or SRT leader's responsibility to determine if the ISCP and emergency evacuation plan must be enlisted. These plans and associated notifications and actions were described in Section 12-3, "Spill Prevention Management."

8. Exhibits 1 and 2 highlight an initial notification, procedural summary which should be posted in all appropriate locations. Although both lead the user to the same result, the pathway is varied, making allowances for organizational considerations.

12-5. GENERAL PROCEDURES FOR SPILL REMOVAL

A. Guidelines for spill removal will be based on the compatibility groups developed and identified in Chapter 3 of this manual. Materials were brought together under these groups because they exhibit similar chemical characteristics which make them behave similarly in a spill situation, therefore the basis for addressing spill removal.

B. It must be noted that the information provided for the spill responses are general guidelines. Specific instructions cannot be given due to the wide variety of circumstances that may arise in an emergency spill situation. This may include mixing of two or more hazardous materials, the presence of fire, or the misidentification of a substance due to mislabeling. A trained, well-equipped emergency spill response team can better assess and correct the conditions around a spill situation on an item-by-item basis.

C. Hazardous materials (HM) that exhibit severe multiple hazard characteristics or those HM in which the EPA has set the Reportable Quantity, as identified in 40 CFR Parts 117 and 302, at or below 100 pounds/45.4 kilograms should only be handled by a spill response team because the equipment on-hand will generally be inadequate to properly handle the spill. In addition, personnel will need to exercise extreme caution due to the multiple hazard characteristics of the material.

D. All other HM falling into the compatibility groups generally can be handled by warehouse personnel in instances of minor spills. Distinguishing between a large or a small spill should be done by the environmental coordinator or SRT. Large spills or difficult spills, as discussed earlier, should only be handled by the SRT.

Exhibit 1. Spill/Incident Response Notification

The first person to notice or cause a hazardous material spill will:

1. Evacuate the area immediately.

NOTE: DO NOT RETURN TO SCENE OF SPILL WITHOUT PROTECTIVE CLOTHING AND EQUIPMENT.

2. Notify the fire department, providing the following information:

   A. Name of caller
   B. Exact location of spill/incident
   C. NSN/nomenclature/amount of material, if available

3. Notify onscene coordinator providing information in 2A through 2C above.

4. Stand by to direct the fire department to the spill/incident scene.

5. Keep all unauthorized personnel away from or out of the spill incident area.

Exhibit 2.

In the event of a chemical spill

Go to the nearest telephone and call Base Security at
(555) 555-5555 or A/V 555-5555

Be prepared to give the following information:

1. Your name and telephone number.
2. Location of spill.
3. Was anyone hurt.
4. What was spilled.
5. When did the spill occur.
6. What is currently being done.

Inform your supervisor

Return to the spill only if it is safe to do so!

At the scene of the spill, do the following:

1. See to the aid of any injured individuals--however, do not enter the spill area if the injured person was overcome by fumes.

2. Contain the spill only if it can be done without risk and it is necessary to avoid contamination of water or other areas.

3. See that no unauthorized persons enter the area.

4. Wait for the spill response personnel to arrive and be ready to direct them to the spill.

E. Spill response for some items that are included in the various compatibility groups is not addressed in this document because of the existence of currently standing DoD orders. Information concerning spill response for these items must be found in the respective DoD order.

1. RADIOACTIVE MATERIALS. Materials meeting these definitions have the following Hazardous Material Storage Compatibility Codes (HMSCC): A.01, Y.04.

For spill cleanup, refer to DLAM 4145.8., "Radioactive Commodities in the DoD Supply System".

2. CLASS A, B, C EXPLOSIVES; BLASTING AGENTS. Materials meeting these definitions have the following HMSCCs: B.01, B.02, B.03, B.04.

For spill cleanup, refer to DoD 6055.9., "Ammunition and Explosive Safety Standards."

3. COMPRESSED GASES. Materials meeting these definitions have the following HMSCCs: C.01 through C.04, E.01, E.02, and F.01 through F.03, and G.01.

For spill cleanup, refer to DLAR 4145.25., "Storage and Handling of Compressed Gases in Cylinders."

F. More specific spill response, cleanup and removal procedural information can be found in Section 12-6 of this chapter and/or the HM data file, or by calling CHEMTREC.

1. CHEMTREC stands for Chemical Transportation Emergency Center, a public service of the Chemical Manufacturers Association provided by it's offices in Washington, D.C., and operates 24 hours a day, seven days a week.

2. These instructions were developed as a guide for initial actions to be taken to help protect personnel in instances involving HM. The information given is intended to provide guidance primarily during the initial phases following an incident. To obtain additional assistance for the most effective handling of an incident, it is important that a call be made as soon as possible to:

CHEMTREC (800) 424-9300 - Toll Free
For Emergencies Only (202) 483-7616 - Collect

3. CHEMTREC can usually provide hazard information warnings and guidance when given the identification number or the name of the product and the nature of the problem. For more detailed information and/or assistance, or if product is unknown, attempt to provide as much of the following information as possible:

a. Name of caller or call-back number.

b. Nature and location of the problem.

c. Shipper or manufacturer.

d. Container type.

e. Rail car or truck number.

f. Carrier name.

g. Consignee.

h. Local conditions.

12-6. INDIVIDUAL HAZARD CLASS SPILL GUIDELINES

A. Poison Liquids, Class A. Materials meeting these definitions have the following HMSCCs: D.01 through D.14.

1. General Precautions. Follow all local authority instructions relating to HM spills. Proceed with caution. Restrict and/or evacuate the immediate spill area. Keep all unprotected personnel upwind of spill area. Eliminate all ignition sources. While wearing appropriate Personal Protect Equipment (PPE), prevent liquid from entering drains, adjacent storage areas, or confined spaces. Select cleanup equipment that will not suffer damage or react adversely with spilled material.

2. Neutralization/Cleanup. Plug source of spill or reposition container to halt liquid flow. Use an explosion-proof, liquid vacuum pump to mechanically pick up liquid. Spill pillows, absorbants, or sand may also be used to cover and pick up any liquid. Wash area with detergent or household bleach.

3. Containerizing Waste. Absorbants, neutralizers, and liquid are to be transferred into a DOT approved hazardous waste (HW) shipping container. Containers meeting these specifications are available within the Federal/Military Supply System, with the following National Stock Numbers (NSNs):

a. Disposal drum, 8110-01-101-4055, a nonreusable, DOT-approved container for the shipment and disposal of HW.

b. Recovery drum, 8110-01-101-4056, a polylined, reusable HW shipping container. Must be decontaminated before reuse, pursuant to 40 CFR 264.

4. Labeling. HW shipping containers are required to be appropriately labeled. A HW label must be attached to the container and be completely filled out. In addition to the HW label, a DOT label for major classifications, e.g., Flammable, Corrosive, Poison Gas, etc., is required to be on the container. In this case, a Poison label is required.

5. Manifesting. HW to be shipped offsite is required to be appropriately manifested according to 40 CFR 264. This manifest is originated by the generator, who is to ensure that the HW reaches its intended destination. Appendix A contains instructions for properly completing U.S. EPA Form 8700-22, the Uniform Hazardous Waste Manifest.

6. Special Precautions. Use only full-face, air-supplied respirators. Consideration for secondary flammable or corrosive characteristics must be given.

B. Flammable/Combustible Liquids. Materials meeting these definitions have the following HMSCCs: D.02, D.03, D.04 and D.14, G.01 through G.05, H.01 through H.05, I.01 through I.05, P.04, R.02, W.01, X.01,.

1. General Precautions. Follow all local authority instructions relating to HM spills. Proceed with caution. Restrict and/or evacuate the immediate spill area. Keep all unprotected personnel upwind of spill area. Eliminate all ignition sources. While wearing appropriate PPE, prevent liquid from entering drains, adjacent storage areas, or confined spaces. Select cleanup equipment that will not suffer damage or react adversely with spilled material.

2. Neutralization/Cleanup. Plug source of spill or reposition container to halt liquid flow. Use an explosion-proof, liquid vacuum pump to mechanically pick up liquid. Spill pillows, absorbants, or sand may also be used to cover and pick up any liquid. Wash affected area with detergent to remove any remaining spill residue.

3. Containerizing Waste. Absorbants, neutralizers, and liquid are to be transferred into a DOT-approved HW shipping container. Containers meeting these specifications are available within the Federal/Military Supply System, with the following NSNs:

a. Disposal drum, 8110-01-101-4055, a nonreusable, DOT-approved container for the shipment and disposal of HW.

b. Recovery drum, 8110-01-101-4056, a polylined, reusable HW shipping container. Must be decontaminated before reuse, pursuant to 40 CFR 264.

4. Labeling. HW shipping containers are required to be appropriately labeled. A HW label must be attached to the container and be completely filled out. In addition to the HW label, a DOT label for major classi- fications, e.g., Flammable, Corrosive, Poison Gas, etc., is required to be on the container. In this case, a Flammable or Combustible Liquid label is required.

5. Manifesting. HW to be shipped offsite is required to be appropriately manifested according to 40 CFR 264. This manifest is originated by the generator, who is to ensure that the HW reaches its intended destination. Appendix A contains instructions for properly completing U.S. EPA Form 8700-22, the Uniform Hazardous Waste Manifest.

6. Special Precautions. Keep spill areas well ventilated to prevent the buildup of explosive concentrations of vapors. Use only spark-proof tools and equipment. Consideration for any secondary characteristics of Poison B or corrosive must be given. Carbon dioxide or dry chemical-type extinguishers should be used if there is a fire.

C. Oxidizers, Solid and Liquid. Materials meeting these definitions have the following HMSCCs: and D.05 through D.08, J.01 through J.20

1. General Precautions. Follow all local authority instructions relating to HM spills. Proceed with caution. Restrict and/or evacuate the immediate spill area. Keep all unprotected personnel upwind of spill area. Eliminate all ignition sources. While wearing appropriate PPE, prevent material from entering drains, adjacent storage areas, or confined spaces. Select cleanup equipment that will not suffer damage or react adversely with spilled material.

2. Neutralization/Cleanup. If possible, plug source of spill or reposition container to halt material flow or leaking material with absorbent/adsorbent. Use an explosion-proof, liquid vacuum pump to mechanically pick up liquid. Spill pillows, absorbants, or sand may also be used to cover and pick up any liquid. Sweep and pick up any solid material. Wash affected area with detergent to remove any remaining spill residue.

3. Containerizing Waste. Absorbants, neutralizers and/or solids, and liquids are to be transferred into a DOT-approved HW shipping container. Containers meeting these specifications are available within the Federal/Military Supply System, with the following NSNs:

a. Disposal drum, 8110-01-101-4055, a nonreusable, DOT-approved container for the shipment and disposal of HW.

b. Recovery drum, 8110-01-101-4056, a polylined, reusable HW shipping container. Must be decontaminated before reuse, pursuant to 40 CFR 264.

4. Labeling. HW shipping containers are required to be appropriately labeled. A HW label must be attached to the container and be completely filled out. In addition to the HW label, a DOT label for major classifications, e.g., Flammable, Corrosive, Poison Gas, etc., is required to be on the container. In this case, an Oxidizer label is required.

5. Manifesting. HW to be shipped offsite is required to be appropriately manifested according to 40 CFR 264. This manifest is originated by the generator, who is to ensure that the HW reaches its intended destination. Appendix A contains instructions for properly completing U.S. EPA Form 8700-22, the Uniform Hazardous Waste Manifest.

6. Special Precaution. Respiratory Protection should be air-supplied as cartridge-type respirators are generally inappropriate. Ensure that solid oxidizing materials are not disposed with ordinary trash containing combustibles. Use only spark-proof tools and equipment to clean up

oxidizers. Consideration for secondary corrosive or Poison B hazard characteristics must be given. In case of fire, use dry chemical fire extinguishers.

D. Organic Peroxides. Materials meeting this definition have the following HMSCCs: K.01 through K.05.

1. General Precautions. Follow all local authority instructions relating to HM spills. Proceed with caution. Restrict and/or evacuate the immediate spill area. Keep all unprotected personnel upwind of spill area. Eliminate all ignition sources. While wearing appropriate PPE, prevent liquid from entering drains, adjacent storage areas, or confined spaces. Select cleanup equipment that will not suffer damage or react adversely with spilled material.

2. Neutralization/Cleanup. Plug source of spill or reposition container to halt liquid flow. Use an explosion-proof, liquid vacuum pump to mechanically pick up liquid. Spill pillows, absorbants, or sand may also be used to cover and pick up any liquid. Wash affected area with detergent to remove any remaining spill residue.

3. Containerizing Waste. Absorbants, neutralizers, liquids and/or solids are to be transferred into a DOT-approved HW shipping container. Containers meeting these specifications are available within the Federal/Military Supply System, with the following NSNs:

a. Disposal drum, 8110-01-101-4055, a nonreusable, DOT-approved container for the shipment and disposal of HW.

b. Recovery drum, 8110-01-101-4056, a polylined, reusable HW shipping container. Must be decontaminated before reuse, pursuant to 40 CFR 264.

4. Labeling. HW shipping containers are required to be appropriately labeled. A HW label must be attached to the container and be completely filled out. In addition to the HW label, a DOT label for major classifications, e.g., Flammable, Corrosive, Poison Gas, etc., is required to be on the container. In this case, an Organic Peroxide label is required.

5. Manifesting. HW to be shipped offsite is required to be appropriately manifested according to 40 CFR 264. This manifest is originated by the generator, who is to ensure that the HW reaches its intended destination. Appendix A contains instructions for properly completing U.S. EPA Form 8700-22, the Uniform Hazardous Waste Manifest.

6. Special Precautions. Maintain temperature limits recommended by manufacturer when storing or cleaning up waste organic peroxides. Keep spill areas well ventilated to prevent buildup of explosive concentrations of vapors. Use only spark-proof tools and equipment. Ensure that Organic Peroxides are not mixed with other materials as they are particularly reactive.

E. Flammable Solids/Dangerous When Wet/Pyrophorics. Materials meeting this definition have the following HMSCCs: D.10, and D.11, L.01 through L.05, M.01 through M.05, N.01 through N.05, .

1. General Precautions. Follow all local authority instructions relating to HM spills. Proceed with caution. Restrict and/or evacuate the immediate spill area. Keep all unprotected personnel upwind of spill area. Eliminate all ignition sources. While wearing appropriate PPE, prevent material from entering drains, adjacent storage areas, or confined spaces. Select cleanup equipment that will not suffer damage or react adversely with spilled material.

2. Neutralization/Cleanup. Plug source of spill or reposition container to halt flow of material. Do not use water or compounds containing water to clean up residue. Use only solvents recommended by manufacturer/supplier.

3. Containerizing Waste. Absorbants, neutralizers, and materials are to be transferred into a DOT-approved HW shipping container. Containers meeting these specifications are available within the Federal/Military Supply System, with the following NSNs:

a. Disposal drum, 8110-01-101-4055, a nonreusable, DOT-approved container for the shipment and disposal of HW.

b. Recovery drum, 8110-01-101-4056, a polylined, reusable HW shipping container. Must be decontaminated before reuse, pursuant to 40 CFR 264.

4. Labeling. HW shipping containers are required to be appropriately labeled. A HW label must be attached to the container and be completely filled out. In addition to the HW label, a DOT label for major classifications, e.g., Flammable, Corrosive, Poison Gas, etc., is required to be on the container. In this case, a Flammable Solid or Dangerous When Wet label is required.

5. Manifesting. HW to be shipped offsite is required to be appropriately manifested according to 40 CFR 264. This manifest is originated by the generator, who is to ensure that the HW reaches its intended destination. Appendix A contains instructions for properly completing U.S. EPA Form 8700-22, the Uniform Hazardous Waste Manifest.

6. Special Precautions. Use only spark-proof tools and equipment. Ensure that moisture is excluded from tool surface or waste container. Do not use water to clean up spill residue. Consideration for secondary Poison B or corrosive characteristics must be given.

F. Corrosive Liquids, Alkaline. Materials meeting this definition have the following HMSCCs: D.13, E.02, F.03, G.03, H.03, I.03, J.03, J.08, J.13, J.18, L.03, M.03, and N.03, Q.01 through Q.04 .

1. General Precautions. Follow all local authority instructions relating to HM spills. Proceed with caution. Restrict and/or evacuate the immediate spill area. Keep all unprotected personnel upwind of spill area. Eliminate all ignition sources. While wearing appropriate PPE, prevent material from entering drains, adjacent storage areas, or confined spaces. Select cleanup equipment that will not suffer damage or react adversely with spilled material.

2. Neutralization/Cleanup. Plug source of spill or reposition container to halt liquid flow. Use an explosion-proof, liquid vacuum pump to mechanically pick up liquid. Spill pillows, absorbants, or sand may also be used to cover and pick up any liquid. Wash affected area with detergent or mild acidic solution to remove any remaining residue.

3. Containerizing Waste. Absorbants, neutralizers, and liquid are to be transferred into a DOT-approved HW shipping container. Containers meeting these specifications are available within the Federal/Military Supply System, with the following NSNs:

a. Disposal drum, 8110-01-101-4055, a nonreusable, DOT-approved container for the shipment and disposal of HW.

b. Recovery drum, 8110-01-101-4056, a polylined, reusable HW shipping container. Must be decontaminated before reuse, pursuant to 40 CFR 264.

4. Labeling. HW shipping containers are required to be appropriately labeled. A HW label must be attached to the container and be completely filled out. In addition to the HW label, a DOT label for major classifications, e.g., Flammable, Corrosive, Poison Gas, etc., is required to be on the container. In this case, a Corrosive label is required.

5. Manifesting. HW to be shipped offsite is required to be appropriately manifested according to 40 CFR 264. This manifest is originated by the generator, who is to ensure that the HW reaches its intended destination. Appendix A contains instructions for properly completing U.S. EPA Form 8700-22, the Uniform Hazardous Waste Manifest.

6. Special Precautions. Neutralizers such as 5% acetic acid may be used in addition to absorbants. A mild acidic solution may also be used in addition to detergents to pick up remaining spill residue.

G. Corrosive Liquids, Acid. Materials meeting this definition have the following HMSCCs: D.12, E.02, F.03, G.02, H.02, I.02, J.02, J.07, J.12, J.17, L.03, M.02, and N.02, P.01 through P.04.

1. General Precautions. Follow all local authority instructions relating to HM spills. Proceed with caution. Restrict and/or evacuate the immediate spill area. Keep all unprotected personnel upwind of spill area. Eliminate all ignition sources. While wearing appropriate PPE, prevent material from entering drains, adjacent storage areas, or confined spaces. Select cleanup equipment that will not suffer damage or react adversely with spilled material.

2. Neutralization/Cleanup. Plug source of spill or reposition container to halt liquid flow. Use an explosion-proof, liquid vacuum pump to mechanically pick up liquid. Spill pillows, absorbants, or sand may also be used to cover and pick up any liquid. Wash affected area with detergent or mild alkaline solution to remove any remaining residue.

3. Containerizing Waste. Absorbants, neutralizers, and liquid are to be transferred into a DOT-approved HW shipping container. Containers meeting these specifications are available within the Federal/Military Supply System, with the following NSNs:

a. Disposal drum, 8110-01-101-4055, a nonreusable, DOT-approved container for the shipment and disposal of HW.

b. Recovery drum, 8110-01-101-4056, a polylined, reusable HW shipping container. Must be decontaminated before reuse, pursuant to 40 CFR 264.

4. Labeling. HW shipping containers are required to be appropriately labeled. A HW label must be attached to the container and be completely filled out. In addition to the HW label, a DOT label for major classifications, e.g., Flammable, Corrosive, Poison Gas, etc., is required to be on the container. In this case, a Corrosive label is required.

5. Manifesting. HW to be shipped offsite is required to be appropriately manifested according to 40 CFR 264. This manifest is originated by the generator, who is to ensure that the HW reaches its intended destination. Appendix A contains instructions for properly completing U.S. EPA Form 8700-22, the Uniform Hazardous Waste Manifest.

6. Special Precautions. Ensure that spilled acidic liquid will not cause immediate damage and/or failure to equipment used in its cleanup. Neutralizers like soda ash, sodium bicarbonate, or lime may be used in place of absorbants. Some mineral acids such as hydrochloric acid will require use of a plastic or lined recovery drum because of its reactivity with unprotected steel, producing explosive hydrogen gas. Mildly caustic solutions may be used to clean up any remaining spill residue.

H. Poison Class B/Pesticides, Liquid. Materials meeting this definition have the following HMSCCs: G.05, H.04, H.05, I.04, I.05, J.04, J.05, J.09, J.10, J.14, J.15, J.19, J.20, L.04, L05, M.04, M.05, N.04, N.05, P.02, P.03,R.01, R.02, Q.02, and Q.03, T.01, T.02.

1. General Precautions. Follow all local authority instructions relating to HM spills. Proceed with caution. Restrict and/or evacuate the immediate spill area. Keep all unprotected personnel upwind of spill area. Eliminate all ignition sources. While wearing appropriate PPE, prevent material from entering drains, adjacent storage areas, or confined spaces. Select cleanup equipment that will not suffer damage or react adversely with spilled material.

2. Neutralization/Cleanup. Plug source of spill or reposition container to halt liquid flow. Use an explosion-proof, liquid vacuum pump to mechanically pick up liquid. Spill pillows, absorbants, or sand may also be used to cover and pick up any liquid. Wash affected area with detergent or household bleach to remove any remaining residue.

3. Containerizing Waste. Absorbants, neutralizers, and liquid are to be transferred into a DOT-approved (HW) shipping container. Containers meeting these specifications are available within the Federal/Military Supply System, with the following NSNs:

a. Disposal drum, 8110-01-101-4055, a nonreusable, DOT-approved container for the shipment and disposal of HW.

b. Recovery drum, 8110-01-101-4056, a polylined, reusable HW shipping container. Must be decontaminated before reuse, pursuant to 40 CFR 264.

4. Labeling. HW shipping containers are required to be appropriately labeled. A HW label must be attached to the container and be completely filled out. In addition to the HW label, a DOT label for major classifications, e.g., Flammable, Corrosive, Poison Gas, etc., is required to be on the container. In this case, a Poison label is required.

5. Manifesting. HW to be shipped offsite is required to be appropriately manifested according to 40 CFR 264. This manifest is originated by the generator, who is to ensure that the HW reaches its intended destination. Appendix A contains instructions for properly completing U.S. EPA Form 8700-22, the Uniform Hazardous Waste Manifest.

6. Special Precautions. Wear full-face, air-supplied respirator for large spills or minor spills in confined spaces. Consideration for secondary flammable or corrosive characteristics must be given.

I. Poison Solids. Materials meeting this definition have the following HMSCCs: D.01, D.05 through D.13, J.04, J.08, J.14, J.19, L.04, M.04, N.04, P.02, Q.02, R.01.

1. General Precautions. Follow all local authority instructions relating to HM spills. Proceed with caution. Restrict and/or evacuate the immediate spill area. Keep all unprotected personnel upwind of spill area. Eliminate all ignition sources. While wearing appropriate PPE, prevent material from entering drains, adjacent storage areas, or confined spaces. Select cleanup equipment that will not suffer damage or react adversely with spilled material.

2. Neutralization/Cleanup. Plug source of spill or reposition container to halt flow of material. Wash affected area with detergent or household bleach to remove any remaining spill residue.

3. Containerizing Waste. Absorbants, neutralizers, and materials are to be transferred into a DOT-approved HW shipping container. Containers meeting these specifications are available within the Federal/Military Supply System, with the following NSNs:

a. Disposal drum, 8110-01-101-4055, a nonreusable, DOT-approved container for the shipment and disposal of HW.

b. Recovery drum, 8110-01-101-4056, a polylined, reusable HW shipping container. Must be decontaminated before reuse, pursuant to 40 CFR 264.

4. Labeling. HW shipping containers are required to be appropriately labeled. A HW label must be attached to the container and be completely filled out. In addition to the HW label, a DOT label for major classifications, e.g., Flammable, Corrosive, Poison Gas etc., is required to be on the container. In this case, a Poison label will be required.

5. Manifesting. HW to be shipped offsite is required to be appropriately manifested according to 40 CFR 264. This manifest is originated by the generator, who is to ensure that the HW reaches its intended destination. Appendix A contains instructions for properly completing U.S. EPA Form 8700-22, the Uniform Hazardous Waste Manifest.

6. Special Precautions. Consideration for any secondary flammable or corrosive characteristics must be given.

J. Corrosive Solids, Acid or Alkaline. Materials meeting this definition have the following HMSCCs: D.12, D.13, J.02, J.03, J.07, J.08, J.12, J.13, J.17, J.18, L.02, L.03, M.02, M.03 N.02, N.03, P.01 through P.03, Q.01 through Q.03.

1. General Precautions. Follow all local authority instructions relating to HM spills. Proceed with caution. Restrict and/or evacuate the immediate spill area. Keep all unprotected personnel upwind of spill area. Eliminate all ignition sources. While wearing appropriate PPE, prevent material from entering drains, adjacent storage areas, or confined spaces. Select cleanup equipment that will not suffer damage or react adversely with spilled material.

2. Neutralization/Cleanup. Plug source of spill or reposition container to halt flow of material. Wash affected area with a mild caustic solution if an acidic solid was spilled, or a mild acidic solution if an alkali solid was spilled.

3. Containerizing Waste. Absorbants, neutralizers, and materials are to be transferred into a DOT-approved HW shipping container. Containers meeting these specifications are available within the Federal/Military Supply System, with the following NSNs:

a. Disposal drum, 8110-01-101-4055, a nonreusable, DOT-approved container for the shipment and disposal of HW.

b. Recovery drum, 8110-01-101-4056, a polylined, reusable HW shipping container. Must be decontaminated before reuse, pursuant to 40 CFR 264.

4. Labeling. HW shipping containers are required to be appropriately labeled. A HW label must be attached to the container and be completely filled out. In addition to the HW label, a DOT label for major classifications, e.g., Flammable, Corrosive, Poison Gas, etc., is required to be on the container. In this case, a Corrosive label is required.

5. Manifesting. HW to be shipped offsite is required to be appropriately manifested according to 40 CFR 264. This manifest is originated by the generator, who is to ensure that the HW reaches its intended destination. Appendix A contains instructions for properly completing U.S. EPA Form 8700-22, the Uniform Hazardous Waste Manifest.

6. Special Precautions. Avoid exposing corrosive solids to moisture as they react exothermically. In solution with water they may exhibit corrosive characteristics such as their liquid counterparts.

K. Irritants. Materials meeting this definition have the following HMSCC: V.01.

1. General. Materials in this classification are such that a person will not remain in an area contaminated by them unless escape is impossible. Upon contact with fire or exposure to air, these liquid or solid materials give off intensely irritating fumes. Those which are shipped as liquids or gases might delay the clearance of wreckage if they leak, but otherwise they are not particularly hazardous.

2. To move leaking or broken packages, they may be approached with safety from the windward side provided there is a breeze, brisk enough to carry away the fumes, and the broken or leaking package is not in a confined space. The use of self-contained breathing apparatus and appropriate protective gear will reduce the chance of noxious contact.

3. Additional information about these materials will be found by consulting the manufacturer.

L. Etiological Agents. Materials meeting this definition have the following HMSCC: S.01.

1. General. An "etiologic agent" means a viable microorganism, or toxin, which causes or may cause human disease. Whenever packages bearing the "Etiologic Agents" label are discovered leaking, all unnecessary movement of the material must cease and the package must be isolated. Contact with the material must be avoided.

2. Immediately notify the Director, Center for Disease Control, 1600 Clifton Road, N.E., Atlanta, Georgia 30333, telephone: (404) 633-5313, for information on handling the incident.

M. Other Regulated Material (ORM). Material meeting these definitions have the following HMSCCs: Y.01, Y.02, and Y.03.

Cleanup of ORMs is defined in *Criteria for Items Requiring Compatible Hazardous Storage*, Chapter 3. Otherwise, personnel should follow the instructions provided in this section, i.e., if the ORM has a corrosive liquid hazard, handle as a corrosive liquid.

12-7. DECONTAMINATION PROCEDURES

After all spilled materials have been removed, all items that came in contact with the hazardous material must be decontaminated. This includes equipment and personal items. The following guidelines will assist in individualizing a decontamination plan (Table 1 Lists some common decontamination methods).

A. Decontamination removes the last traces of hazardous materials from the areas where it spilled, from cleanup materials (including forklifts, shovels, brooms, etc.) and from PPE, safety equipment, and clothing. Decontamination procedures for all chemicals stored on the installation, but especially for the commonly used chemicals, should be part of the Installation Spill Contingency Plan (ISCP) or Facility Spill Plan. Decontamination procedures provide four basic functions:

1. Minimizing worker contact with wastes during removal of personal protective clothing and equipment, and preventing exposures by cross-contamination with wastes in clean areas where personal protective clothing and equipment is not worn.

2. Preventing dispersal into surrounding areas or offsite, of contaminants that have accumulated on personnel, clothing, equipment, and vehicles working or being used in the contaminated areas.

3. Preventing inadvertent mixing of wastes with other potentially incompatible wastes or compounds.

4. Removal or detoxification of wastes from equipment, vehicles, buildings, and structures in order to prevent continued exposures and enable other future uses after activities involving potential contact with contaminants are completed.

B. In principle, the design of a contamination procedure is straightforward, but in practice, it requires evaluation of many different variables. A general decision logic, as shown in Figure 1, can be used to organize decontamination procedures on a site. Within the decision logic, several factors must be considered based on such items as the specific conditions of the site, characteristics of the material or waste, and the activities being conducted. The decontamination of personal protective equipment and clothing, equipment, vehicles, structures, and buildings frequently differs because of the differences in materials involved, the type of contamination, and the type of item being decontaminated. Table 2 is a list of factors that affect decontamination design requirements.

C. In addition to normal decontamination procedures, emergency decontamination procedures should be established. In an emergency situation, decontamination may not occur at the site when immediate treatment is required

Table 1. Common Decontamination Methods.

1. Contaminant removal:

   a. Scrubbing/scraping with brushes, sponges, etc. (commonly used in combination with solvent cleaning solutions)

   b. Water rinse (pressurized or gravity flow)

   c. Pressurized air jets

   d. Steam jets (commonly used with solvent cleaning solutions)

   e. Evaporation/vaporization

   f. Chemical leaching and extraction

2. Detoxification:

   a. Oxidation/reduction
   b. Neutralization
   c. Thermal degradation
   d. Halogen stripping
   e. Irradiation

3. Removal of contaminated surfaces and materials:

   a. Sand blasting

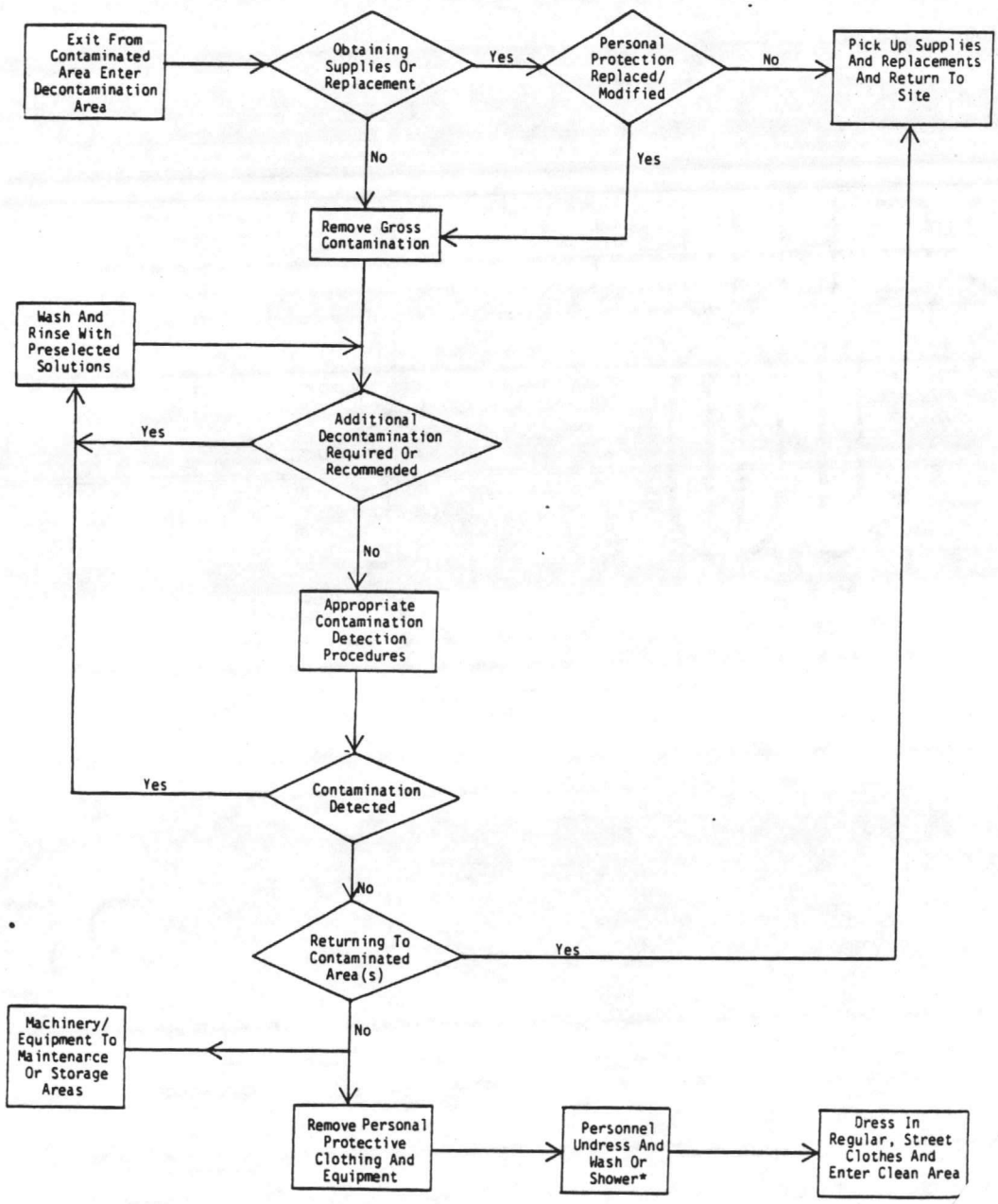
   b. Disposal of permeated materials (e.g., seats, floor mats, clothing, etc.)

   c. Disposable protective coverings/coatings (installed prior to activities to prevent or minimize contamination of uncontaminated surfaces or more extensive contamination of already contaminated surfaces)

4. Disinfection/sterilization (Infectious Wastes):

   a. Steam sterilization
   b. Dry heat sterilization
   c. Gas/vapor sterilization
   d. Irradiation
   e. Chemical disinfecting

Figure 1. Decontamination Procedure Logic.



* Site clothes should be washed separately from non-site and other family clothing.

Table 2. Factors Impacting Decontamination Design Requirements.

1. The chemical, physical, and toxicological properties of chemical wastes.
2. The pathogenicity of infectious wastes.
3. The amount and location of contamination.
4. The potential and location of exposure -- based on assigned duties, uses, activities, and functions.
5. The rates or potentials of wastes to permeate, degrade, or penetrate materials used for personal protective clothing and equipment, vehicles, tools, buildings, and structures.
6. The design and construction of personal protective clothing and equipment, vehicles, tools, buildings, and structures.
7. The proximity of incompatible wastes.
8. The purpose for leaving or removing equipment from the site.
9. The methods available for protection of workers during decontamination procedures.
10. The impact of the decontamination process and compounds on worker safety and health.

to save a life. If decontamination can be provided without interfering with essential first aid and lifesaving techniques, such as Cardio-Pulmonary Resuscitation (CPR), then it should be done. When necessary, due to the condition of the worker and the hazardous nature of the contaminants, clothing and equipment may be washed, rinsed, and/or cut off. Otherwise, the individual should be wrapped in a blanket or other suitable material. Wrapping serves to prevent contamination of ambulance and medical personnel. It is important to coordinate procedures for decontamination, protection of medical personnel, and disposal of contaminated clothing and equipment. These procedures are necessary to minimize the risk of exposure to emergency medical personnel. Such procedures should be established during planning of site activities prior to any site work. Figure 2 outlines the decision logic which should be followed in an emergency.

D. Some practical decontamination methods should be considered when developing or actually using various decontamination methods.

1. Outdoor surfaces may require final cleaning via steam and hot water, abrasive blast cleaning (dry or wet), high-pressure water, burning (not very successful), or surface absorption. Consult EPA/Coast Guard, HM data file, or safety and health personnel, since the waste stream may be hazardous.

2. Indoor surfaces may be cleaned by modified versions of the above methods. Some materials are not very soluble in water and some other solvent would be preferable.

3. Contaminated response equipment and clothing should be rinsed or wiped with some solvent of the spilled material (which does not react with or dissolve the equipment) after each incident. It should also be checked for cracking, wearing, etc., every one to three months.

4. Personal and/or supplied clothing which must be laundered and should be washed separately. It is generally best to run an empty tub full of water between launderings. Do not wash with children's clothes. Discard badly contaminated clothes.

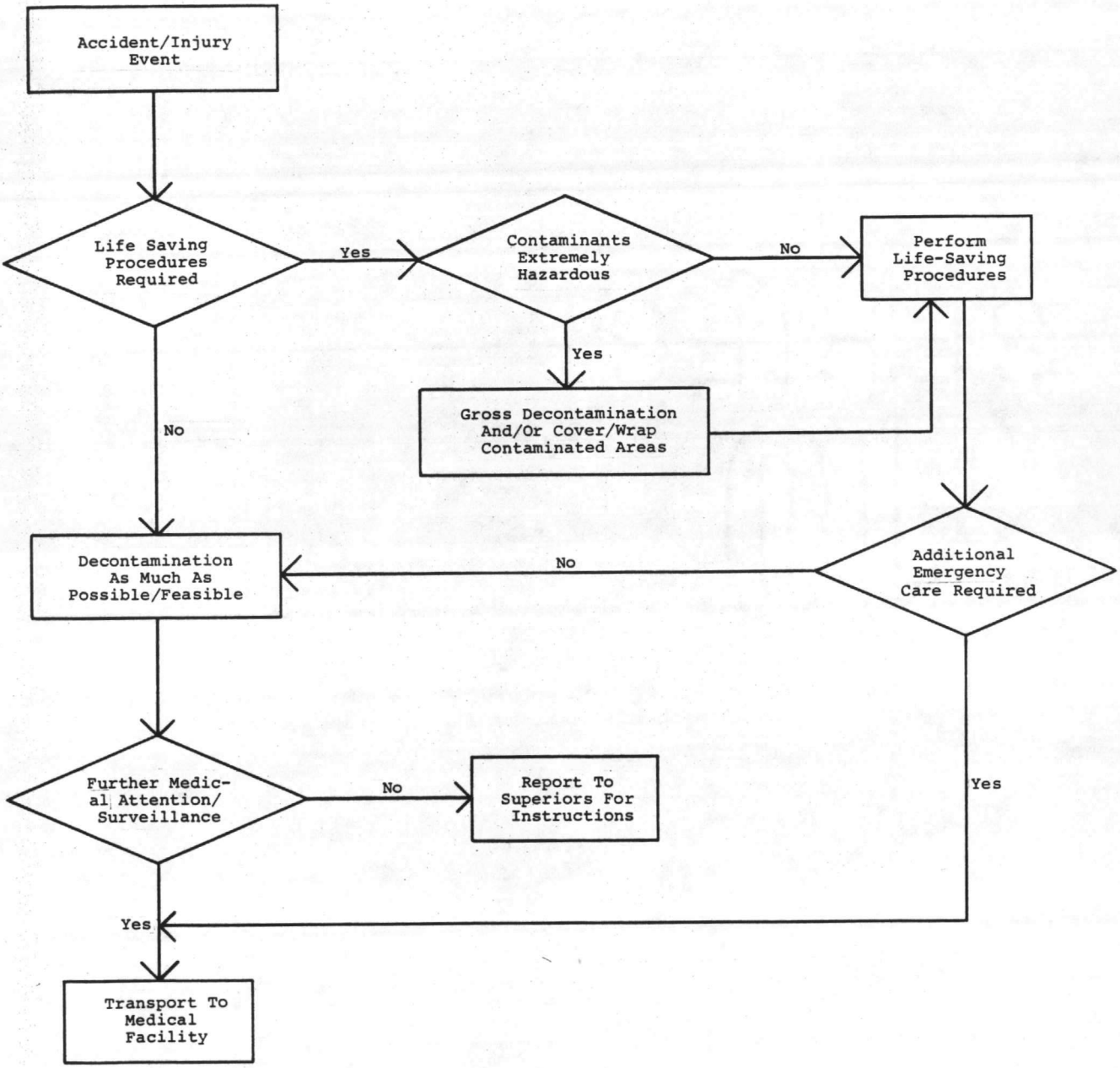
5. Exposed skin should be washed thoroughly with soapy water after spill response is completed (even temporarily). This applies even if no contamination is noticed.

6. Avoid touching the face or eyes during spill response without thoroughly washing hands. Don't eat without a complete change of clothes; don't use lunch areas while wearing contaminated clothing. Don't smoke during spill cleanup.

7. Don't forget that your shoes, watchband, cap, eyeglasses are part of your clothing and must be decontaminated. To avoid contaminating personal garments, use overboots, goggles, etc., during cleanup operations.

8. Don't wear contact lenses at any time around hazardous chemicals, especially when a spill has occurred. If you must, wear specially sealed goggles or full face mask and carry a contact lens extractor whose use you have explained to all your co-workers.

Figure 2. Emergency Decontamination Design Logic.



E. More extensive information on decontamination of individual HMSCC group items can be found in the HM data of Safety and Health files. Spill response team guidelines can also be consulted for more specific decontamination procedures.

12-8. SPILL RESPONSE AND PERSONAL PROTECTIVE EQUIPMENT

A. For the purpose of this section, equipment needs for spills will be divided into two parts, spill response team equipment and onhand small-spill equipment. This is done because equipment needs can be better addressed by dividing these and discussing them separately. The first part will address small spill tools, equipment and personal protective equipment (PPE) requirements and the second section will address large spills and equipment required for use by spill response teams.

1. Onhand, small-spill response equipment refers to the tools, equipment, and PPE maintained in the HM facility. This equipment can be used by the operators in the facility to handle small spills that do not require the attention of a spill-response team. This equipment will usually be kept on a portable spill cart that will contain all the equipment necessary to handle small-spill incidents (Table 3). The personnel authorized to use the equipment on a spill cart need to have appropriate training. Training guidelines for HM spill response may be found in Section 12-11.

2. The spill-response team equipment list (Table 4) consists of a general equipment list for a spill-response van. The equipment contained in this list is for use by specially-trained personnel in responding to HM incidents. Custody of the van with this equipment will be with an emergency service such as a fire department or emergency rescue function. This equipment will generally be used for those HM incidents which pose imminent danger to personnel, or involve large quantities of HM. This equipment list was compiled by surveying the inventory of several HM response vans, including some currently operated by DoD installations. Specialty training for the use of this equipment will need to be developed under a separate task.

B. Recommended Information and Reference Materials. These items are needed as a minimum to be accessible for spill team members or personnel who may be working in possible spill areas.

1. DOT Emergency Response Guidebook (DOT P5800.3)

2. Material safety data sheets (MSDS) for materials stored

3. Fire Protection Guide on Hazardous Materials, NFPA

4. Listing of current RQ values (40 CFR Parts 117 or 302 or Federal Register Vol. 50, No. 65, April 4, 1985)

5. Telephone numbers for:

   a. CHEMTREC: 800-424-9300 or (202) 483-7616

Table 3. Equipment List for Portable Spill Cart for Small Spills

General Equipment

Spill control pillows
Chemical absorbant material (loose)
Acid neutralizer
Caustic neutralizer
Various-sized drum plugs
Recovery drum
Drum bung wrench
Teflon thread sealant tape
Barricade tape and banners
Chem/Kleen-ups
Mercury spill kit (optional)
Radioactive spill kit (optional)
First aid kit
Chemical cleanup mops
Broom
Floor squeegee/bench squeegee
Mop bucket and wringer
Floor detergent
Rubber dust pan
Long reach tongs
Polyliners for waste bucket
Reusable waste bucket
Paper towels
Flashlight
ABC fire extinguisher (dry chemical)
Eye wash bottle

PPE

2 pair Tyvex coveralls
2 pair shoe covers
2 pair natural rubber gloves
2 pair neoprene gloves
2 pair chemical splash goggles
Respirators with organic and acid gas cartridges

Information

Instructions for equipment use
Emergency telephone numbers
Hospitals
Local fire department
Local spill emergency

Table 4. Equipment for a Hazardous Material Response Van

Tools and General Equipment

- Large band cutters
- Small band cutters
- Bolt cutters
- Pry bar
- Lead wool
- Duct tape
- 1/2-inch polypropylene rope: 200 ft
- Rubber dust pan
- Drum upender
- Chemical identification labels
- Waste labels
- Polyliners for pails and recovery drums
- Teflon thread sealant tape
- Coal shovel
- Sledge hammer
- Nonsparking lantern and flashlights
- Hazardous materials response Series A, B, C patches
- Various-sized drum plugs
- Gas leak putty
- 85-gal, 55-gal recovery drums
- 5-gal plastic pail
- Barricade tape and banner
- Extra drum bungs and seals

Nonsparking Tool Box With Nonsparking Tools

- 12-inch straight screw driver
- 10-inch Phillips screw driver
- Hatchet
- Bung wrenches
- Cold chisel
- Punch
- 10-inch crescent wrench
- 8-inch crescent wrench
- Claw hammer
- 14-inch pipe wrench
- 2-Way hazardous location radios
- Dead blow hammer
- Various small screw drivers
- Vice-grips, small, medium and large
- Razor knife
- Bonding or grounding wire with end clips
- Plastic 8-inch funnel
- Safety shears
- Safety wire

Table 4. Equipment for a Hazardous Material Response Van (Continued)

Personal Protective Equipment

- PVC gloves
- Neoprene gloves
- Nitrile gloves
- Natural rubber gloves
- PVA coveralls
- Tyvex coveralls
- Extra air tanks
- Face shields
- Full-face respirators
- 1/2-face respirators
- Pesticide cartridges
- Organic vapor cartridges
- Acid gas cartridges
- Radioactive dust cartridges
- PCB-asbestos cartridges
- Ammonia-chlorine cartridges
- Respirator cleaning pads
- Anti-fog lens solution
- Self-contained breathing apparatus (SCBA)
- Chemical splash goggles
- Rubber boots
- SCBA spare parts
- Decontamination equipment for PPE
- Polybags for disposal of disposable coveralls, gloves, respirator cartridges, and PPE cleaning supplies
- Radiation badges
- Hard hats

Sampling Equipment

- Combustible gas monitor
- Oxygen monitor
- Gas detector tubes and pump
- pH tester and/or test paper
- Energized circuit detector
- Extra batteries
- Temperature indicator
- Leak detection solution for gas leaks
- Mercury detection powder
- Explosimeter
- Radiation detector

Optional

- Organic vapor detector
- Portable gas chromatograph
- Portable photoionization detector

Table 4. Equipment for a Hazardous Material Response Van (Continued).

Absorbants, Neutralizers

- Sand
- Sodium bicarbonate
- Vermiculite
- Speedi-dry
- Spill pillows-universal
- "Safe-Step" adsorbent or similar material
- Acid neutralizer kit
- Caustic neutralizer kit
- 5% acetic acid
- Mercury spill kit
- Radioactive spill kit

Decontamination Supplies

- Two Nonsparking 2-1/2 gal buckets
- Chemical absorbing mop heads with mop handle
- Hazardous material plastic trash bags
- Floor squeegee
- Bench squeegee
- Broom
- Concentrated cleaning solution

First Aid Equipment

- Emergency eye washes
- First aid kit (industrial size)
- Emergency first aid guidebook
- Emergency ring cutter
- Instant hot and cold packs
- Burn relief spray
- Disposable emergency blankets
- Acid and caustic neutralizers for skin contact
- Plastic body bags
- Water gel fire blankets
- Antidotes for poisons/ pesticides:
  - Vitamin K1
  - Syrup of Ipecac
  - Atropine sulfate

b. Coast Guard: 800-424-8802

c. RCRA Superfund: 800-424-9346

d. National Response Center: 800-424-8802

e. Local police, fire, emergency rescue,and hospitals

f. Poison control center

g. Depot emergency response network personnel listing

6. An inventory checklist for all equipment and supplies should be developed. All missing or consumed material must be replaced immediately. Inspection of this equipment should at least be done on a monthly basis.

7. Appendix C describes and evaluates basic materials from which most PPE items are made. It also describes which hazardous items these materials resist and which products would attack or deteriorate the materials.

C. Additional Equipment Information.

Equipment can be selected, developed, or modified to reduce direct worker contact with hazardous materials/wastes and containers during handling and transport of such items. Containers can be moved by machines such as fork-lifts, barrel grapplers, cranes, etc. Splash plates, shields, and cab enclosures can prevent worker exposures to spills, splashes, and release under force (i.e., liquids and solids released under pressure, by explosions, or by the forceful rupture of containers).

12-9. TRAFFIC AND PERSONNEL CONTROL

A. In the event that an HM spill threatens life or major property damage, an evacuation procedure will be necessary to ensure the orderly egress of personnel. The evacuation plan may need implementation on the level of the entire installation or may involve just one building. An existing escape or evacuation plan, such as for a fire situation, may be adequate with some additional planning.

B. Emergency signaling systems are needed to alert personnel of an HM spill incident. Provisions for preventing personnel from coming in contact with gas or vapor clouds is also necessary, and the evacuation plan should have provisions to accomplish this.

C. An initial step in considering an emergency evacuation plan is to identify all possible sources of HM spills. This includes warehouses where large quantities of drums are stored; aboveground storage tanks of HM; or processes using dip tanks, baths, or high-volume HM use. Evacuation routes must be laid out considering the involvement of these points in a spill incident. Also, to be considered in the egress plan is any HM tank, truck, or bulk container traveling through the installation. If such a vehicle is

involved in a spill incident, it may preclude the use of exits and/or block roads. Contingencies must be developed in the event such an incident occurs. In establishing evacuation routes, it is necessary to determine the volumes of vehicular and/or foot traffic for all exits. Emergency routes should be detailed and posted for personnel references during an emergency.

D. In an emergency situation when evacuation of a building or the facility is necessary, employees should have standing instructions to report to a control area to be accounted for. This will be especially necessary in a situation in which some personnel may have been trapped or incapacitated. In such an event, the Emergency On-Scene Coordinator (OSC) as described in *Safety and Health* , Chapter 4, should take control of the situation and coordinate the emergency services. This will allow more efficient handling of the HM spill incident.

12-10. HEALTH AND SAFETY CONSIDERATIONS

A. General.

It is incumbent on any organization whose employees are involved in hazardous materials spill response and cleanup to consider those actions that must be taken to preserve the health and safety of its workers. The organization must adequately inform its personnel of the hazards and potential health effects to which they may be exposed. The organization must impress an attitude upon its employees that health and safety is everyone's job and that, ultimately, each individual is responsible for his or her own safety and health. The success of any such program will depend on a firm management commitment to the program, the employees' understanding of response remedial actions and safety responsibilities, competent personnel, and adequate funding. Clearly, training plays a major role, yet many other steps can and should be taken. These relate to medical surveillance, respiratory protection, maintenance of proper health and safety records, and accident prevention and investigation.

B. Specific.

1. Medical Surveillance. Before an individual is assigned to work in emergency response or at hazardous material/waste sites, one must assure that this is within that individual's physical and medical capacity. It also should be assured that those who are capable and already responding to environmental emergencies and working at hazardous material/waste sites are not chronically exposing themselves to toxic materials. To these ends, an entry-level physical examination and annual re-examinations are recommended.

a. The entry-level physical, given and evaluated before any assignment, determines an individual's capacity to work strenuously in hostile environments, under adverse conditions, while using respiratory protective devices. The entry-level examination also provides baseline medical and physiological parameters for each individual. These values then are used for comparison with results of the annual re-examinations. Because the specific chemicals to which an individual may be exposed are unknown, a truly definitive examination cannot be predetermined. Rather, a screening

examination in which various organs and systems are evaluated can be described. Specific further testing then depends on the results of the screening. The protocols recommended as a minimum for each examination are:

(1) Complete medical history and health questionnaire.

(2) Hands-on physical that includes vision, height, weight, and blood pressure.

(3) Screening audiometric examination.

(4) Resting electrocardiogram.

(5) Pulmonary function test (spirometry).

(6) Chest X-ray.

(7) Urinalysis and microscopic examination.

(8) Blood lead determination.

(9) Zinc protoporphyrin examination.

(10) Arsenic, mercury, and cadmium levels in urine.

(11) Complete blood count and differential.

(12) Serum chemistries (SMA-26) to determine electrolyte balance, general metabolic state, kidney and liver function.

b. The results of these tests should be evaluated by a physician, preferably a board-certified, occupational medicine specialist, and a determination made as to "fitness-for-duty" and potential exposures. An examination of this type will take about two hours and may cost between $250 and $450, depending on the facility chosen. Appropriate actions, including a physician's letter to the examinee explaining any findings and recommending future actions, are then taken.

2. Respiratory Protective Program. A proper respiratory protective program begins with a set of policies and procedures for selection and maintenance of respiratory protective devices and for fit-testing. There are many different types of respiratory protective devices. Some of these respiratory devices and discussions on their maintenance and proper fit-testing follows.

a. The first is a full-face gas mask with belt or back-mounted canister. These devices offer a protective factor of 100 in an individual properly fit-tested and generally can be used in atmospheres with up to two percent organic vapors. They also offer a long working life and are less susceptible to breakthrough than ultra-twin cartridge respirators. Gas masks, however, may not be used in oxygen-deficient atmospheres, at vapor levels exceeding their capacity, at vapor concentrations exceeding the protection

factor multiplied by the appropriate 8-hour TLV (threshold limit value) or to protect against vapors or gases that do not have sufficient warning properties.

b. Under these conditions, the second recommended device, a self-contained breathing apparatus (SCBA) must be used. The SCBA recommended is a positive pressure, pressure-demand unit. It offers a protection factor of 10,000. Positive pressure refers to a slight positive pressure in the face mask that tends to prevent entry of hazardous materials. Pressure demand refers to release of air for breathing only upon inhalation. A fit-test is not necessary for the use of an SCBA.

c. Gas masks and particularly SCBAs need routine maintenance. Gas masks should be checked at least monthly and immediately before and after use for suppleness of the mask itself, lack of cracks and pinholes in the mask and breathing tube, and proper functioning of all fittings and the exhalation valve. SCBAs also should be checked monthly and immediately before use as described for gas masks and for proper functioning of the regulator. It is strongly recommended that written procedures be developed for these tasks and that complete records be kept of all maintenance.

d. Fit-testing was mentioned previously as an important aspect of a proper respiratory protection program. Fit-testing refers to the ability of a given individual to wear a gas mask and have it fit properly. That is, there must be no air leaks or gaps that would allow the wearer to breath any air that did not first pass through the air-purifying canister. This usually is tested by having an individual don a mask and exposing him to banana oil (ethylacetate) and an irritant dust (tin chloride) to determine if the mask fits properly.

e. Not everyone will pass a fit test, and those who fail should be prohibited from using gas masks. The following schedule is recommended for fit-testing: initial or first assignment, every six months thereafter, and whenever facial contours may have changed, as after dental surgery, a weight gain or loss of 10 pounds or more, or any facial surgery. Here again, it is strongly recommended that written procedures be developed and that complete records be kept of all fit-testing results.

3. Accident Prevention and Investigation. Accidents can and will happen. They may range from a simple scratch or sprained ankle to severe trauma, such as a broken leg or acute exposure to highly toxic materials. Many of these accidents can be prevented. One method of prevention begins with a thorough investigation of each occurrence as soon after the incident as possible.

a. This investigation should be done by an accident investigation team and should focus on gathering the following information:

(1) Date, time and place of accident.

(2) Type of accident and extent of injury.

(3) Environmental conditions at the time.

(4) Mental and physical state of injured party and coworkers.

(5) Proximate cause of accident.

(6) Witnesses to the accident and their observations.

(7) Specific procedure(s) being followed at the time of the accident.

This information and that gathered from a full debriefing of the affected employee is then reviewed carefully, and a determination is made as to how this type of accident may be prevented in the future. Action may be as simple as wearing different gloves or as complex as rewriting a major corporate policy.

b. Of course, a complete record should be made of the accident, the subsequent investigation, and any changes to policy or procedure that have occurred. This record is then filed with copies of any forms and reports submitted to the Department of Labor, Occupational Safety and Health Administration, insurance carriers, and other agencies.

c. A second, and probably more important technique of accident prevention, requires sensitization of workers and supervisors alike to recognize potential accidents and to report near-misses. Here a similar investigation is performed, concentrating on those conditions that caused a near-miss or set up a potential accident occurrence, and the results are used as if an accident did occur. This is, of course, a more demanding path to follow as potential and near accidents may be difficult to recognize, employees may be unwilling to come forward if no injury occurred and the impetus by management to perform a full investigation is lacking. Yet, if potential accident scenarios and near-misses are evaluated and corrections made accordingly, a positive step towards prevention has been taken.

d. The investigations described above can obviously occur only if appropriate depot personnel are advised of an accident. The minor incidents and near-misses that should be evaluated and corrected may never be reported unless the depot takes some early positive actions. These actions are to give the worker a level of comfort with management such that the worker believes management wants to prevent accidents, the worker's thoughts and ideas are listened to, and any accidents, despite the cause, will not in and of themselves be used as a basis for punitive actions. If this worker attitude is not fostered by management and fostered sincerely, minor accidents and near-misses will not be reported and acted upon. This can lead to a false sense of security on management's part, which is an unhealthy situation.

12-11. HAZARDOUS MATERIALS SPILL RESPONSE TRAINING GUIDELINES

A. General.

1. All personnel including contractors and subcontractors working at oil and hazardous substance sites must take part in periodic spill prevention and response training programs (40 CFR 112.7, 264.16, 265.16). The

Spill Response Plan (SRP) must designate the major features of the training programs and, at a minimum, require that each worker be familiar with the following information as it applies to his/her work area:

a. The health effect of exposure to the oil and hazardous substances present.

b. Applicable first aid procedures to be used following exposure.

c. Protective equipment requirements and how to use and maintain the equipment.

d. Evacuation procedures, if required.

e. Combustibility of spill material and potential for flashback along vapor trails.

f. Applicable firefighting procedures and special hazards of combustion products.

g. Reactivity of spill material with common materials including water.

h. The use and maintenance of all alarms and monitoring equipment that impact on spill prevention and response.

i. Initial general spill response procedures as described in the SRP Plan. The training should also include the use and location of site-specific contingency plans.

j. Immediate spill response actions including the location of pump controls and valves to stop spill flows and the location and use of fire extinguishers, sorbents, neutralizing agents, and other immediate spill response procedures, as appropriate.

k. The many aspects of visual inspection that a worker can perform as part of a daily routine. This is not designed to replace the requirements for detailed inspections.

l. The purpose and requirements of good housekeeping.

m. <u>The use of the SRP Plan</u>. This should include the legal requirements that resulted in the plan, the spill prevention aspects of the plan, the spill response organization including the function of the On-Scene Coodinator (OSC) and Spill Response Team (SRT), the designated spill response procedures and the locations of spill response equipment.

2. The training program, as just described, should consist of formal classroom training, on-the-job training, and spill exercises. In many instances, this training can be combined with other training programs such as fire or safety. It is essential, however, that the portion of the training

required by the SRP Plan be conducted by someone familiar with oil and hazardous substance spill prevention and response, and hazardous waste management. Records of the type, extent, and frequency of each employee's training must be kept until closure of the applicable hazardous material/waste site or until three years after the date the employee last worked at the site.

3. The frequency of training programs must also be designated in the SRP and, minimally, they must be conducted as follows:

a. Once per year for all personnel working on, or in close proximity to, oil and hazardous substance sites.

b. Within 6 months for all personnel starting in a position with direct supervision. Training within two weeks is recommended.

c. Before starting work for personnel entering an unsupervised position.

d. After revision of training requirements in applicable laws.

e. After significant modification to oil and hazardous substance processes, or spill prevention and response procedures.

f. After a spill response in which deficiencies in training were noted.

g. When directed by the spill committee or the environmental protection committee.

B. Specific Procedures.

1. The following guidelines provide information on many fundamental aspects and components of effective training program design and implementation. Clearly, however, training needs must be correlated to manpower requirements and accompanying job descriptions. It is essential that those involved in the training development define such terms as job, duty, task, and element in the same way and that they carefully analyze each job relative to the particular type of instruction needed. An ideally developed program is one that will provide enough feedback to the instructor(s) to instill a satisfactory level of confidence in the trainee's performance. Generally speaking, an instructor should be an acknowledged expert or highly qualified individual. The instructor should be selected locally from site managers, safety officers, environmental officers, and other equivalent officers. The trainees should include the hands-on crew/staff individuals.

2. The overall goal of the hazardous material training program is to establish an acceptable level of confidence in the employee's performance relative to personnel safety, facility/equipment function, environmental protection, and mission accomplishment. The training program should include, but not be limited to the following areas:

a. Personal Safety. Personal safety provides information essential to protection of the individuals that are routinely or potentially exposed to the raw chemical commodity. Health hazards from chemicals are varied and require extreme caution when handling different items. Various presentations, practical exercises, Standard Operating Procedures (SOP), etc., should sufficiently repeat the safety requirements to instill confidence in the administration, the supervisors, and the trainees. Personnel involved in spill response/management should be provided a sufficient amount of personal safety information to enable said personnel to:

(1) Recognize potential chemical hazards and the potential health and fire hazards associated with spill response activities.

(2) Comprehend the chemical aspects of the material relative to toxicology and health effects; personal safety, selection and use of protective clothing and equipment; operational aspects of handling, storage treatment, and disposal; contingency plans; and marking and labeling.

(3) Obtain and utilize information from available data resources.

(4) Utilize the "Buddy" system.

(5) Understand medical surveillance - frequency and types of examinations.

(6) Recognize potential chemical hazards.

(7) Report chemical hazards to the proper personnel.

(8) Understand chemical aspects of their specific job, including handling of hazardous materials, use of safe job procedures, etc.

(9) Location and use of personal protective equipment, especially respiratory protection and protective clothing.

(10) Understand detailed spill response procedures to be followed in the event of a spill.

b. HM/HW release Prevention and Response. Training in this area is essential for personnel to be able to effectively respond in emergencies by clearly understanding the emergency procedures, equipment and system, and their relationship to the established contingency plan and emergency procedures. Personnel involved in spill response/management activities should be thoroughly familiar with the following HM/HW release prevention and response elements:

(1) Applicable regulatory requirements.

(2) Planning for emergencies.

(3) Preparation of an acceptable contingency plan.

(4) Relationship to the installation SPCC Plan.

(5) Location and use of emergency equipment.

(6) Duties of the Facility Emergency Coordinator.

(7) First aid measures (e.g., CPR).

(8). Locations of first aid stations, showers, communication systems, and firefighting equipment, and the operation of equipment as necessary.

(9) Evacuation procedures and incident reporting mechanisms to be followed in case of an emergency.

c. Decontamination Procedures. Training in this area is essential for personnel to properly decontaminate the facility after a spill and to follow personnel decontamination procedures. Personnel involved in spill response/management activites should be knowledgeable in the following areas relating to decontamination procedures.

(1) Facility decontamination procedures.

(2) Personal decontamination procedures.

(3) Good personal hygiene practices (e.g., shaving; clean long hair, glasses or contact lenses, and clothing.)

(4) Toxic materials.

(5) Reactive materials.

(6) Flammable/combustible materials.

(7) Corrosive materials.

(8) The potential health and fires hazards associated with spill response activities.

d. Facility Operation and Maintenance. This section should present information on the facility operation and maintenance aspects as it relates to day-to-day activities and emergencies. Several training aspects should be considered for inclusion in this section. Personnel involved in the spill response/management should be thoroughly familiar with the entire facility, including its appurtenances and operations. They must be familiar with elements which include the following:

(1) Functional process (Routine operations).

(2) Relationship to other facility operations.

(3) Loading and unloading at the process area.

(4) Process controls.

(5) Startup and shutdown procedures (routine).

(6) Emergency shutdown.

(7) Operating problems and solutions.

(8) Maintenance schedules.

(9) Spill cleanup procedures.

(10) Housekeeping practices and care of facility.

(11) Safety equipment.

(12) Mechanical equipment/failures.

(13) Fire hazards.

(14) Materials handling.

(15) Documentation requirements.

(16) Special tools, devices, and equipment.

(17) Equipment decontamination.

(18) Communications equipment.

e. High Hazard Operations. From time to time, the activity may be required to handle highly hazardous materials. These types of items are those that can cause serious irreversible effects to human health, the environment, or the facility structure or appurtenances. This can occur routinely in the event of an operational malfunction. Personnel involved in spill response/management should be aware of the following elements relating to high hazard operations.

(1) Need for systematic planning.

(2) Analysis of probable or possible failures.

(3) Hazard hunts.

(4) Failsafe operations.

(5) Simulated exercises/emergencies.

(6) Automatic controls.

(7) Emergency alarm signals and codes.

(8) Special contingency instructions.

(9) Degree of emergency/risk.

(10) Special documentation requirements

(11) An approved, written, sequential list of steps to be taken in an emergency.

(12) Special safety and contingency requirements.

(13) Special emergency procedures.

(14) Any other special requirements not normally a part of the routine operations.

f. Documentation Operations. The appropriate documentation is an essential aspect in controlling item movements, accountability, identification, etc. Control records must be kept current and maintained accurately. When possible, key points should be incorporated into automated systems for periodic summary printouts that can be used for management purposes. Personnel involved in spill response/management should be thoroughly familiar with the following reporting and recordkeeping elements:

(1) Incident reporting.

(2) Disposal turn-in documents.

(3) Developing and maintaining training records.

(4) Contingency Plan records.

(5) SOPs (e.g., spill response, DPDS turn-in procedures, etc.)

(6) DD Form 1348-1.

(7) DD Form 1225; Storage Quality Control Report.

(8) SF 361; Discrepancy in Shipment Report (DIREP).

(9) SF 363; Discrepancy in Shipment Confirmation (DISCON).

(10) SF 364; Reporting of Item and Packaging Discrepancies (ROD).

g. Demonstrations/Simulations. Actual spill control and response demonstrations/simulations for all personnel involved in spill response/management should occur in the following areas (if applicable):

(1) Container repair.

(2) Container overpacks and disposal.

(3) Basic chemical reactions.

(4) Minor spill cleanup.

(5) Cleanup materials/actions such as absorbents, dikes, dams, etc.

(6) Protective clothing.

(7) Respirators, self-contained breathing apparatus.

(8) Monitoring equipment such as explosimeters, organic vapor detectors, etc.

(9) Sampling and analysis procedures.

(10) An actual simulated emergency response action.

APPENDIX A

Instructions for Completion of the Uniform Hazardous Waste Manifest and Manifest Completion Checklist

INSTRUCTIONS FOR COMPLETING OF THE UNIFORM HAZARDOUS WASTE MANIFEST AND THE MANIFEST COMPLETION CHECKLIST

U.S. EPA FORM 8700-22

GENERAL INFORMATION

Federal regulation requires proper completion of all information on a manifest. Omissions, false coding, or illegibility is considered a violation. All generators are responsible under Federal law for the proper identification, labeling, manifesting, and ultimate disposal of all hazardous wastes they generate. The manifest system is designed to track hazardous waste from the point of generation until its final disposal (cradle to grave). In order to accomplish this goal, it is essential that all items on a manifest be properly completed.

Read all instructions before completing this form.

Federal regulations require generators and transporters of hazardous waste and owners or operators of hazardous waste treatment, storage, and disposal facilities to use Form 8700-22 and, if necessary, the continuation sheet (Form 8700-22A) for both interstate and intrastate transportation.

Federal regulations also require generators and transporters of hazardous waste and owners or operators of hazardous waste treatment, storage, and disposal facilities to complete the following information.

Generators

Item 1. Generator's U.S. EPA ID Number-Manifest Document Number

Enter the generator's U.S. EPA twelve-digit identification number and the unique five-digit number assigned to this manifest (e.g., 00001) by the generator.

Item 2. Page 1 of ___

Enter the total number of pages used to complete this manifest; i.e., the first page (EPA Form 8700-22) plus the number of continuation sheets (EPA Form 8700-22A), if any.

Item 3. Generator's Name and Mailing Address

Enter the name and mailing address of the generator. The address should be the location that will manage the returned manifest forms.

Item 4. Generator's Telephone Number

Enter a telephone number where an authorized agent of the generator may be reached in the event of an emergency.

Item 5. Transporter 1 Company Name

Enter the company name of the first transporter who will transport the waste.

Item 6. U.S. EPA ID Number

Enter the U.S. EPA twelve-digit identification number of the first transporter identified in Item 5.

Item 7. Transporter 2 Company Name

If applicable, enter the company name of the second transporter who will transport the waste. If more than two transporters are used to transport the waste, use a continuation sheet(s) (EPA Form 8700-22A) and list the transporters in the order they will be transporting the waste.

Item 8. U.S. EPA ID Number

If applicable, enter the U.S. EPA twelve-digit identification number of the second transporter identified in Item 7.

Note: If more than two transporters are used, enter each additional transporter's company name and U.S. EPA twelve-digit identification number in Items 24-27 on the continuation sheet (EPA Form 8700-22A). Each continuation sheet has space to record two additional transporters. Every transporter used between the generator and the designated facility must be listed.

Item 9. Designated facility Name and Site Address

Enter the company name and site address of the facility designated to receive the waste listed on this manifest. The address must be the site address, which may differ from the company mailing address.

Item 10. U.S. EPA ID Number

Enter the U.S. EPA twelve-digit identification number of the designated facility identified in Item 9.

Item 11. U.S. DOT Description [Including proper shipping name, hazard class, and ID number (UN/NA)]

Enter the U.S. DOT proper shipping name, Hazard Class, and ID number (UN/NA) for each waste as identified in 49 CFR 171 through 177.

Note: If additional space is needed for waste descriptions, enter these additional descriptions in Item 28 on the continuation sheet (EPA Form 8700-22A).

Item 12. Containers (No. and Type)

Enter the number of containers for each waste and the appropriate abbreviation from Table 1 for the type of container.

Table 1. Types of Containers

DM = metal drums, barrels, kegs
DW = wooden drums, barrels, kegs
DF = fiberboard or plastic drums, barrels, kegs
TP = tanks portable
TT = cargo tanks (tank trucks)
TC = tank cars
DT = dump truck
CY = cylinders
CM = metal boxes, cartons, cases (including roll-offs)
CW = wooden boxes, cartons, cases
DR = fiber or plastic boxes, cartons, cases
BA = burlap, cloth, paper or plastic bags

Item 13. Total Quantity

Enter the total quantity of waste described on each line.

Item 14. Unit (wt/vol)

Enter the appropriate abbreviation from Table 2 for the unit of measure.

Item 15. Special Handling Instructions and Additional Information

Generators may use this space to indicate special transportation, treatment, storage, disposal information or bill of lading information. States may not require additional, new or different information in this space. For international shipments, generators must enter the point of departure (city and State) for those shipments destined for treatment, storage, or disposal outside the jurisdiction of the United States.

Item 16. Generator's Certification

The generator must read, sign (by hand), and date the certification statement. If a mode other than highway is used, the word "highway" should be lined out and the appropriate mode (rail, water, or air) inserted in the space below. If another mode in addition to the highway mode is used, enter the appropriate additional mode (e.g., and rail) in the space below.

Table 2. Units of Measure

G = gallons (liquids only)	*[8.3 pounds]
P = pounds	
T = tons (2000 pounds)	
Y = cubic yards	*[.85 tons]
L = liters (Liquids only)	*[2.2 pounds]
K = kilograms	[2.2 pounds]
M = metric tons (1000 kg)	[2,200 pounds]
N = cubic meters	*[2,200 pounds]

*Specific gravity - 1.00 unless indicated in Box J

Note: All of the above information except the handwritten signature required in Item 16 may be preprinted.

Transporters

Item 17. Transporter 1 Acknowledgement of Receipt of Materials

Enter the name of the person accepting the waste on behalf of the first transporter. That person must acknowledge acceptance of the waste described on the manifest by signing and entering the date of receipt.

Item 18. Transporter 2 Acknowledgement of Receipt of Materials

Enter, if applicable, the name of the person accepting the waste on behalf of the second transporter. That person must acknowledge acceptance of the waste described on the manifest by signing and entering the date of receipt.

Note: International Shipment--Transporter Responsibilities:

Exports: Transporters must sign and enter the date the waste left the United States in Item 15 of Form 8700-22.

Imports: Shipments of hazardous waste regulated by RCRA and transported into the United States from another country must, upon entry, be accompanied by the U.S. EPA Uniform Hazardous Waste Manifest. Transporters who transport hazardous waste into the United States from another country are responsible for completing the manifest.

Owners and Operators of Treatment, Storage, or Disposal Facilities

Item 19. Discrepancy Indication Space

The authorized representative of the designated (or alternate) facility's owner or operator must note in this space any significant discrepancy between the waste described on the manifest and the waste actually received at the facility.

Owners and operators of the facilities located in unauthorized States (i.e., those States where the U.S. EPA administers the hazardous waste management program) who cannot resolve significant discrepancies within 15 days upon receiving the waste must submit to their Regional Administrator (see list below) a letter with a copy of the manifest at issue describing the discrepancy and attempts to reconcile it (40 CFR 264.72 and 265.72).

Owners and operators of facilities located in authorized States (i.e., those States that have received authorization from the U.S. EPA to administer the hazardous waste program) should contact their State agency for information on State Discrepancy Report requirements.

EPA Regional Administrators	State Covered
Regional Administrator, U.S. EPA Region I, J. F. Kennedy Fed. Bldg. Boston, MA 02203 [Tele: (617-223-7120)]	CT, MA, NH, RI, VT, ME
Regional Administrator, U.S. EPA Region II, 26 Federal Plaza New York, NY 10278 [Tele: (212) 264-2525)]	NY, NJ, Puerto Rico, Virgin Islands
Regional Administrator, U.S. EPA Region III, 6th and Walnut Sts. Philadelphia, PA 19106 [Tele: (215) 597-9800)]	DE, MD, PA, VA, WV, DC
Regional Administrator, U.S. EPA Region IV, 345 Courtland St., NE Atlanta, GA 30365 [Tele: (404) 881-4727]	AL, FL, GA, KY, MS, NC, SC, TN
Regional Administrator, U.S. EPA Region V, 230 S. Dearborn St. Chicago, IL 60604 [Tele: (312) 353-2000]	IL, IN, MI, MN, OH, WI
Regional Administrator, U.S. EPA Region VI, 1201 Elm Street Dallas, TX 75270 [Tele: (214) 767-2600]	AR, LA, NM, OK, TX

EPA Regional Administrators	State Covered
Regional Administrator, U.S. EPA Region VII, 716 Minnesota Ave. Kansas City, MO 66101 [Tele: (913) 236-2800]	IA, KS, MO, NE
Regional Administrator, U.S. EPA Region VIII, 1860 Lincoln Street Denver, CO 80295 [Tele: (303) 837-3895]	CO, MT, ND, SD, UT, WY
Regional Administrator, U.S. EPA Region IX, 215 Freemont Street San Francisco, CA 94105 [Tele: (415) 974-8153]	AZ, CA, HI, NV, American Samoa, Guam, Trust Territories of the Pacific
Regional Administrator, U.S. EPA Region X, 1200 Sixth Avenue Seattle, WA 98101 [Tele: (206) 442-5810]	AR, ID, OR, WA

Item 20. Facility Owner or Operator Certification of Receipt of Hazardous Materials Covered by this Manifest Except as Noted in Item 19

Print or type the name of the person accepting the waste on behalf of the owner or operator of the facility. That person must acknowledge acceptance of the waste described on the manifest by signing and entering the date of receipt.

Items A-K are not required by Federal regulations for intrastate or interstate transportation. However, States may require generators and owners or operators of treatment, storage, or disposal facilities to complete some or all of Items A-K as part of State manifest reporting requirements. Generators and owners and operators of treatment, storage, or disposal facilities are advised to contact State officials for guidance on completing the shaded areas of the manifest.

Generators

Item 21. Generator's U.S. EPA ID Number--Manifest Document Number

Enter the generator's U.S. EPA twelve-digit identification number and the unique five digit number assigned to this manifest (e.g., 00001) as it appears in Item 1 on the first page of the manifest.

Item 22. Page _____

Enter the page number of this continuation sheet.

Item 23. Generator's Name

Enter the generator's name as it appears in Item 3 on the first page of the manifest.

Item 24. Transporter _____ Company Name

If additional transporters are used to transport the waste described on this manifest, enter the company name of each additional transporter in the order in which they will transport the waste. Enter after the word "Transporter" the order of the transporter. For example, Transporter "3" Company name. Each continuation sheet will record the names of two additional transporters.

Item 25. U.S. EPA ID Number

Enter the U.S. EPA twelve-digit identification number of the transporter described in Item 24.

Item 26. Transporter _____ Company Name

If additional transporters are used to transport the waste described on this manifest, enter the company name of each additional transporter in the order in which they will transport the waste. After the word "Transporter," enter the order of the transporter. For example, Transporter "4" Company Name. Each continuation sheet will record the names of two additional transporters.

Item 27. U.S. EPA ID Number

Enter the U.S. EPA twelve digit identification number of the transporter described in Item 26.

Item 28. U.S. DOT Description Including Proper Shipping Name, Hazardous Class, and ID Number (UN/NA)

Refer to Item 11.

Item 29. Containers (No. and Type)

Refer to Item 12.

Item 30. Total Quantity

Refer to Item 13.

Item 31. Unit (wt/vol)

Refer to Item 14.

Item 32. Special Handling Instructions

Generators may use this space to indicate special transportation, treatment, storage, or disposal information or bill of lading information. States are not authorized to require additional, new, or different information in this space.

Transporters

Item 33. Transporter--Acknowledgement of Receipt of Materials

Enter the same number of the transporter as identified in Item 24. Enter also the name of the person accepting the waste on behalf of the transporter (company name) identified in Item 24. That person must acknowledge acceptance of the waste described on the manifest by signing and entering the date of receipt.

Item 34. Transporter--Acknowledgement of Receipt of Materials

Enter the same number as identified in Item 26. Enter also the name of the person accepting the waste on behalf of the transporter (company name) identified in Item 26. That person must acknowledge acceptance of the waste described on the manifest by signing and entering the date of receipt.

Owners and Operators of Treatment, Storage, or Disposal Facilities

Item 35. Discrepancy Indication Space

Refer to Item 19.

Items L-R are not required by Federal regulations for intrastate or interstate transportation. However, States may require generators and owners or operators of treatment, storage, or disposal facilities to complete some or all of Items L-R as part of State manifest reporting requirements. Generators and owners and operators of treatment, storage, or disposal facilities are advised to contact State officials for guidance on completing the shaded areas of the manifest.

MANIFEST CHECKLIST

This checklist is designed to evaluate the completeness of the manifests. It is not a substitute for the regulations.

	REQUIREMENT	OK
1.	manifest document #	____
2.	Generator's name	____
3.	Generator's EPA ID #	____
4.	Generator's mailing address	____
5.	Generator's phone number	____
6.	Generator's date of shipment	____
7.	TSD facility's name	____
8.	TSD facility's EPA ID #	____
9.	TSD facility's mailing address	____
10.	TSD facility's phone number	____
11.	Alternate facility designated, if necessary	____
12.	Transporter instructed to return waste to generator if alternate facility is not available?	____
13.	Name of each transporter	____
14.	EPA ID # of each transporter	____
15.	Mailing address of each transporter	____
16.	Phone # of each transporter	____
17.	Appropriate DOT shipping description for each hazardous waste	____

	REQUIREMENT	OK
21.	Quantity of each hazardous waste by units of volume or weight	____
22.	Type of container	____
23.	Number of containers	____
24.	Directions for action to be taken regarding spill or 24-hour phone # where spill information can be obtained	____
25.	Special handling instructions	____
26.	Where appropriate; additional comments	____
27.	Certification statement on manifest	____
28.	Generator's signature	____
29.	Date of generator's signature	____
30.	Transporter's signature acknowledging acceptance of waste	____
31.	Date of transporter's signature	____
32.	Alternate transporter's signature	____
33.	Date of alternate transporter's signature	____
34.	Signature of designated TSD facility	____

MANIFEST CHECKLIST (Continued)

REQUIREMENT	OK
18. Does word "Waste" preceed waste material being manifested?	____
19. DOT hazardous Class(es) for each waste	____
20. If DOT requires more than one label, is hazard class represented by each label listed on manifest?	____
35. Date of TSD facility signature	____
36. Contact EPA to verify EPA # for transporters and disposal sites	____
37. Contact base environmental planning section to review manifest	____

APPENDIX B

Example of Spill Response Personnel and Appropriate Duties

EXAMPLE OF SPILL RESPONSE PERSONNEL AND APPROPRIATE DUTIES

POSITION TITLE	PROCEDURAL STEPS
Discoverer	1. Notify the supervisor or alternate supervisor and give the following information concerning the spill: a. Location of spill. b. Name of item spilled. c. Approximate amount of substance spilled. d. Preliminary containment actions taken. 2. If the supervisor or alternate supervisor is not available, call Spill Emergency and report the spill incident.
Supervisor/Alternate Supervisor	1. Determine if the spill incident is a major or minor spill. 2. Whenever there is an imminent or actual emergency spill incident that requires notification, of facility personnel, activate the alarm. 3. If spill is minor and supervisor is knowledgeable of proper preliminary measures, have personnel use the proper personal protective equipment and limit the amount of hazardous substance spilling from its container. Contain the spill by one of the following methods: a. Plug the leak. b. Tighten the bungs. c. Elevate the container rupture. d. Dike the spilled substance with absorbent. 4. Direct the cleanup of minor spill incidents and followup with a written report through the team commander to the Environmental Protection Officer/Coordinator.

EXAMPLE OF SPILL RESPONSE PERSONNEL AND APPROPRIATE DUTIES

POSITION TITLE	PROCEDURAL STEPS
Environmental Protection Officer/Coordinator	1. Act as technical advisor to the team commander, assume control as team commander at major spill incidents. 2. Respond to all hazardous spill incidents when directed by the team commander or as notified through the Spill Emergency Net. 3. Report all reportable spills to the following agencies: a. EPA Region VIII. b. DLA headquarters. c. Applicable State, Division of Environmental Health. d. Applicable county health department. 4. Prepare and maintain the Hazardous Materials/Waste Plans. a. Spill Prevention Control and Countermeasures Plan (SPCC). b. Installation Spill Contingency Plan (ISCP). 5. Prepare and maintain operating procedures for the hazardous material spill team. 6. Prepare exercise scenarios and evaluate the performance of the spill response team during exercises. 7. Prepare incident reports and records. 8. Record all spill incidents which have occurred and prepare written reports on all major spills.

APPENDIX C

General Evaluation of Materials Comprising Various Types of Personal Protective Equipment (PPE)

Until a standard test and evaluation procedure is established by the American Society for Testing and Materials for chemical protective clothing, particularly for chemical permeation, much of the input for using a particular material will come from elastomer manufacturers. For general usage of various materials, the following guidelines are offered for common elastomers:

Natural rubber

Natural rubber is attacked by mineral and vegetable oils, benzene, toluene, and chlorinated hydrocarbons. It is severely attacked by strong oxidizing agents (nitric acid, concentrated sulfuric acid, dichromates, permanganates, sodium hypochlorites, chlorine dioxide). Natural rubber is not affected by most inorganic salt solutions, alkalies, and nonoxidizing acids. It has high resiliency and tensile strength and retains its mechanical properties at both high and low temperatures.

Acrylonitrile-butadiene (Nitrile rubber)

Nitrile rubbers are attacked by strong oxidizing agents, ketones, ethers, and esters. Nitrile rubbers have good resistance to oils, solvents, alkalies, and aqueous salt solutions. They swell slightly in aliphatic hydrocarbons, fatty acids, alcohols, and glycols. Their physical properties are not greatly affected by the swelling, and they can be used in gasoline and oil preparations.

Polyacrylic rubber

Polyacrylic rubbers are deteriorated by aqueous media, steam, glycols, and caustic environments. Polyacrylic rubbers have good resistance to petroleum products, aliphatic hydrocarbons, animal and vegetable fats and oils. They will swell in aromatic hydrocarbons, alcohols, and ketones. They have good flex resistance and low permeability to hydrogen, helium, and carbon dioxide, but they have fairly poor weathering characteristics since they are affected by water.

Butyl rubber

Vulcanized butyl rubber swells and deteriorates rapidly when exposed to aliphatic and aromatic solvents. Butyl rubber is quite resistant to many acid and alkali solutions and is very resistant to swelling by animal and vegetable oils. It has low permeability to gases. Butyl rubber is about equal to natural rubber in tear and abrasion resistance. It can be used in temperatures from -45 to +150 °C.

Chloroprene rubber (Neoprene)

It is attacked by chlorinated hydrocarbons, organic esters, aromatic hydrocarbons, phenols, ketones, concentrated nitric and sulfuric acids, and strong oxidizing agents. Neoprene is unaffected by aliphatic hydrocarbons, alcohols, glycols, fluorinated hydrocarbons, dilute mineral acids, concentrated caustics, and aqueous inorganic salt solutions. Neoprene has excellent resistance to abrasive wear, sunlight, and weathering. It can be used in temperatures from -10 to +110 °C.

Ethylene Propylene (EPR and EPDM) rubber

These elastomers provide resistance to water, acids, caustics, and phosphate-based hydraulic fluids. They offer mild resistance to aromatic hydrocarbons and are attacked by aliphatic and halogenated hydrocarbons. They have excellent weathering properties.

Fluoroelastomers (Viton)

They have fair to poor resistance to oxygenated solvents, alcohols, aldehydes, ketones, esters, and ethers. The fluoroelastomers provide excellent resistance for aliphatic hydrocarbons, chlorinated solvents, animal, mineral, and vegetable oils, gasoline, jet fuels, dilute acids, alkaline media, and aqueous inorganic salt solutions. Fluoroelastomers retain their physical properties over a temperature range from -68 to +205 °C. They have low permeability rates with air and low water absorption.

Polyurethane Diisocyanate Elastomers

These are commonly referred to as lurethane or polyester rubbers. They are softened by alcohols, have limited use in weak acid solutions, and are unacceptable in concentrated acid use. Caustic solutions degrade urethane rubbers. The solid polyurethanes are clear, flexible plastics with excellent resistance to most mineral and vegetable oils, greases, fuels, and aliphatic, aromatic, and chlorinated hydrocarbons. Urethanes have good weathering, abrasion resistance, load-bearing, and impact-resistance properties.

Research is constantly being pursued to develop new elastomers which will provide maximum chemical resistance. At this time, the most commonly used material for hazardous chemical protective garments is butyl rubber. Butyl rubber provides resistance to a large number of chemicals and maintains its physical properties over a wide range of temperature conditions.

Hazardous Materials Technical Center

CHAPTER 13

MATERIAL READINESS

Operated by the Dynamac Corporation
for the Defense Logistics Agency

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CHAPTER 13

MATERIAL READINESS

Chapter 13

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CHAPTER 13. MATERIAL READINESS

13-1. GENERAL

A. This chapter presents information and procedures for the maintenance of the material readiness condition for hazardous material in storage at DoD supply activities. The areas of material readiness are addressed as two separate functions under the heading of Preservation, Packaging, Packing and Marking (PPP&M); Care and Preservation (C&P) and Recoupment.

B. A successful material readiness maintenance program consists of proper material identification, regulatory and contractual compliance, the maintenance of an accurate hazardous material information data file, training, and workload coordination.

13-2. DEFINITIONS

The following definitions apply to the information presented in this chapter:

A. Marking - numbers, nomenclature, or symbols stamped, painted, or otherwise affixed to items or containers.

B. Packaging - the process and procedures used to protect material from deterioration, and/or damage. Includes cleaning, drying, preserving, packing, marking, and unitization.

C. Packing - assembly of items into a unit, intermediate, or exterior pack with necessary blocking, bracing, cushioning, weatherproofing, reinforcement, and marking.

D. Preservation - application of protective measures including cleaning, drying, preservative materials, barrier materials, cushioning, and containers; when necessary.

E. Recoupment - the process of regaining or recovering the useability of materials through repackaging, repacking, remarking, or repouring.

13-3. INTRODUCTION

A. C&P and Recoupment are considered essential processes within the overall DoD supply distribution system. Each process demands that careful attention be given to changes in material condition while in storage and that appropriate steps be taken to maintain the highest degree of material readiness. Personnel responsible for programs that affect C&P and recoupment must not only be aware of the regulatory and contractual requirements for packaging, packing, and preservation, but also of the hazards associated with the material for which they are responsible.

B. All personnel involved in C&P and Recoupment of hazardous materials must be thoroughly trained and demonstrate a satisfactory competency level in the disciplines of hazard identification, safety and health principles, and proper C&P and Recoupment procedures.

C. Programs of quality control and material surveillance must provide a systematic monitoring of hazardous material upon receipt and in storage to ensure that less than issuable condition material is identified and reworked at the earliest possible time.

D. Whenever possible, C&P and Recoupment processes should take place "in location" to prevent excess and unnecessary movement of hazardous materials. When movement of material is necessary and unavoidable, all material should be moved to an area especially designed and established to accommodate these procedures.

E. C&P processes do not require that personnel be exposed to leaking containers or containers where leakage is imminent. Such exposures will be restricted to the Recoupment process and personnel specifically trained to wear and use personal protective equipment and recoupment procedures.

13-4. CARE AND PRESERVATION

The care and preservation of hazardous material is the responsibility of all personnel associated with the receipt, storage, issue, packing, and movement of hazardous material. Communication channels must be available to all personnel for timely reporting of conditions and situations concerning changes in material readiness. However, only qualified personnel trained in the proper C&P procedures will be allowed to perform the actual requalification or recertification of material.

13-5. CARE AND PRESERVATION AT RECEIVING

A. The need for C&P may first surface during the receiving process (Chapter 7), as material is being inspected and reviewed for regulatory and contractual compliance. Discrepancies that require C&P action will be noted on a corrective action form and communicated to C&P personnel. If it is determined that corrective action can take place in the receiving area without delay, qualified C&P personnel will proceed to the appropriate area and correct the discrepancy. Actions of this type may include minor labeling, marking, and unitization.

B. When a delay in corrective action is contemplated, receiving personnel will assign the appropriate condition code per DoD 4140.17-M, Military Standard Requisitioning and Issue Procedures, to the material, complete the receiving process, and request a material movement document (MMD) and a location which is assigned to the C&P area or facility. Locating hazardous material in the C&P area or facility will be in accordance with the hazardous material compatibility matrix presented in Appendix D. A discrepancy report form citing corrective actions to be taken will be completed and attached to the number one container of the shipment, and the material and supporting documentation will be routed to the C&P area or facility.

C. C&P personnel will be responsible for the receipt of the material into their area or facility and locating it, according to the assigned location. Supervisory personnel in C&P will schedule corrective action to take place as soon as possible and, upon completion of corrective action, route the material to the appropriate, more permanent storage facility. The assignment of the more permanent storage location will also be governed by the MMD, and the hazardous material compatibility matrix.

D. Corrective action to be accomplished within the C&P area or facility may include major labeling or marking, unitization, and/or preservation of hazardous material. C&P personnel must search the hazardous material information data file for guidance related to transportation marking and labeling, specification packaging, and the appropriate military standard (MIL-STD) for unitization and nontransportation related marking and labeling.

E. In the event of spill or exposure, C&P personnel will initiate proper notification action to the installation spill response team, fire department, or medical unit, as appropriate.

13-6. CARE AND PRESERVATION IN STORAGE

A. Care and preservation in storage becomes increasingly important for hazardous material as the length of time in storage increases. Hazardous material, over time, can and will react with the container in which it is packaged which creates a greater potential for incident. Personnel assigned to storage areas must be conscious of changes to the conditions of the packagings which surround them. Many of these changes are slow, gradual changes which begin at the interior of the container and manifest at the exterior. Changes such as these require immediate corrective action and may be beyond the capabilities of C&P personnel. Other changes to material may affect only the information on the package exterior such as changes to shelf life data, i.e., data of test/inspection, or date of expiration. Changes which affect cyclic data such as shelf life information are best handled according to mandatory schedules established by Defense Agency and Supply Center manuals and regulations. DOD 4140.27-M, Shelf Life Management Manual, DLAM 4155.4 Appendices C, E, G, I, M, S, and T, Quality Control Depot Storage Standards; and DLAR 4155.16, Quality and Reliability Assurance at Defense Depots are examples of such manuals and regulations.

B. Material in storage which requires C&P action should be handled in the current storage location, if possible. If not possible, action will take place in C&P areas or facilities after the material has been moved in accordance with local procedure using the material movement document and assigned compatible location.

C. Material which has been transferred from storage to C&P, and has had all corrective action taken, should be promptly returned to storage in the storage facility.

13-7. RECOUPMENT

A. The recoupment of hazardous material should only be accomplished by qualified, duly certified personnel in facilities which have been specially designed, engineered, and constructed to accommodate such processes. Qualified, duly certified personnel are those individuals designated in writing (by local command) to have attended and passed a recognized course of classroom instruction and further demonstrated through on-the-job training or practical exercises that he/she is competent in recoupment methods, technologies, and emergency procedures. Such individuals will also be thoroughly examined by medical authorities and declared physiologically fit to perform duties under recoupment conditions.

B. The recoupment of hazardous materials should, whenever possible, be conducted within prescribed recoupment facilities. Such a limitation is necessary to prevent unnecessary exposure of personnel to hazardous gases, liquids, solids, and vapors, and to restrict the release of these hazards to facilities which are designed to handle and contain such exposures.

C. Prior to any recoupment process, personnel involved in the process will be thoroughly educated to the hazards involved, the equipment necessary to accomplish the action, the process deemed technically correct to conduct the process, and contingent plans established in the event of incident. Then, and only then, can a recoupment process begin.

D. Material to be processed will be carefully removed from holding areas in the recoupment facility and transferred to processing areas in the recoupment facility in quantities which can be immediately processed. Material which has been processed will be immediately returned to storage areas or processed for property disposal action in accordance with procedure.

E. Following the recoupment process, the area will be thoroughly cleaned and decontaminated; the equipment will be cleansed and placed in the proper tool rooms or lockers, or disposed of; and personnel will be properly decontaminated and provided with clean attire to begin any additional new processes.

F. All work will be properly supervised by an individual who is knowledgeable of the process taking place; who, if necessary, can summon assistance from outside support organizations such as medical teams, fire departments, or the safety and health office. Such supervisory personnel should not be actively involved in the process itself, but will be properly equipped to participate in emergency situations.

G. No process will be conducted 1) in a facility which has not be designed, engineered, or constructed to accommodate that process; 2) by personnel who are not properly trained or equipped; or 3) for which a license is required by regulatory authority and such license has not been obtained or has expired.

H. All markings and labels on new containers will be in accordance with the appropriate regulation governing the marking and labeling of that particular hazard.

I. All containers used in recoupment actions will be specific for the hazard or material involved with all necessary designating markings being clearly visible.

J. All work performed in the recoupment facility will be logged in a permanent record which identifies personnel involved, hazard involved, number of containers processed, date work began, date work completed, nature of work performed, and disposition of corrected material.

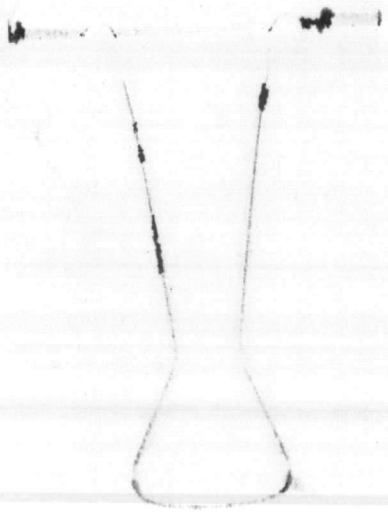
13-8. HOUSEKEEPING

A. Housekeeping procedures in C&P and Recoupment areas or facilities will ensure that all debris is promptly removed and appropriately disposed of. Tools, supplies, and equipment must be clean and decontaminated and stowed in the appropriate lockers or room, and personnel spaces such as locker rooms, decontaminating areas, hallways, and administrative spaces are to be cleaned after each use or at the end of the work shift, as appropriate.

B. No open containers will be left unattended in the processing area.

13-9. SECURITY

The facility will be properly secured at the end of the work period or whenever the facility is left unattended.



6280/5
NREAD

5 Nov 1985

Director, Natural Resources and Environmental Affairs Division,
Marine Corps Base, Camp Lejeune
Assistant Chief of Staff, Facilities (ATTN: Environmental Engineer)
Marine Corps Base, Camp Lejeune

UNDERGROUND TANKS; MANAGEMENT OF

Encl: (1) NEESA Info Bulletin IB 005-165 of 25 June 1985

1. The enclosure is forwarded for information. It is recommended that Environmental Engineer initiate action to provide organizations within Facilities Department guidance on how the subject tanks will be managed and how compliance with applicable regulations may be achieved. This appears to be a program which may have major funding and personnel impact on Facilities' organizations.

J. I. WOOTEN

Copy to:
PWO
BMO

Writer: D. D. Sharpe, NREAD 5003
Typist: J. Cross 5Nov85

INFORMATION BULLETIN

Naval Energy and Environmental Support Activity Port Hueneme, California 93043

IB 005-165

25 June 1985

Federal Register Environment-Related Items of Interest
(28 May - 18 May 1985)

28 May 50FR21772

UNDERGROUND TANKS--EPA proposes notification requirements for owners of underground storage tanks. The proposed regulations do not supersede notification requirements adopted by states. Under the EPA proposal, you would have to submit two forms. (See attachment A.)

The Form 7530-1 is for use by owners of tanks that are in use, or will be in use, by 8 May 1986.

The Form 7530-2 is for use by owners of tanks that are not in use, but still remain in the ground.

EPA believes that you should notify your states even if they do not have an underground tank regulatory program. The EPA intends to publish state addresses to receive your forms.

3 Jun 50FR23382

WASTEWATER TREATMENT--EPA issues new BOD_5, $BCOD_5$, or SS standards for wastewater treatment:

- 30 day average of not less than 85 percent removal if you use conventional activated sludge treatment processes or equivalent.

- 30 day average of not less than 65 percent removal if you use trickling filters or equivalent processes.

You can get a lower percent removal or a mass limit in place of percent removal if your treatment plant cannot meet the above percent removals because you have less concentrated influent, providing the lesser concentration is not due to excessive infiltration or inflow.

Your NPDES authority can modify your permit to reflect these new standards. Your NAVFAC Engineering Field Division (Code 114) can help you to negotiate new permit terms.

Enclosure (1)

United States Environmental Protection Agency
Washington, DC 20460

EPA - Notification for Underground Storage Tanks in Use

Form Approved
OMB No. xxxx-xxxx
Approval expires xx-xx-xx

1. Name and address of the facility	2. Business mailing address of facility, if different from location address	3. Owner of tank *(name, business address, and phone number)*	4. Contact person for the facility *(Name and phone number)*

5. Type of owner *(Mark "X" in appropriate box)*
☐ Non-Federal ☐ Federal *(Give GSA #)*

6. For State Use Only

Complete the following section(s) to the best of your knowledge using the examples provided as guidance. Check appropriate boxes and fill in blanks where applicable. If you need more space, photocopy this page or use a continuation sheet.

7. Tanks currently in use or that will be brought into use

a. Tank No.	b. Age *(yrs)* 0-5	6-10	11-15	16-20	20+	c. Total capacity *(gal)*	d. Material of construction: Steel	Fiberglass reinforced plastic	Other *(specify)*	e. Internal protection: Lined	Unlined	f. External protection: Coated	Wrapped	Cathodic protection	Other *(specify)*	g. Substance type: Hazardous substance name and/or Chemical Abstract Service (CAS) # if known	Petroleum products: Gasoline	Diesel	Kerosene	Other *(specify)*
Example	X					10,000		X			X								X	
Example		X				8,000	X				X			X		Trichloroethylene CAS #79016				
1																				
2																				
3																				
4																				
5																				
6																				
7																				
8																				

8. Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

a. Name and Official Title of owner or owner's authorized representative *(Type or print)*

b. Signature

c. Date signed

EPA Form 7530-1 (xx-85) This information is required by Section 9002 of the Resource Conservation and Recovery Act, as amended.

Instructions for Filing Notification for Underground Storage Tanks in Use

General Instructions

Complete this form only if you own an underground storage tank that is currently in use or that will be brought into use. For underground storage tanks taken out of operation permanently after January 1, 1974, but still in the ground, even if empty, use EPA Form 7530-2.

After reading these instructions, if you are unsure whether this applies to you, or if you have any questions, call the RCRA/Superfund Hotline, (800) 424-9346.

Who must notify

Any "owner" of an underground storage tank.

Definition of underground storage tank

Any one or a combination of tanks (including underground pipes connected thereto) which is used to contain an accumulation of regulated substances, and the volume of which (including the volume of the underground pipes connected thereto) is 10 percent or more beneath the surface of the ground. Excluded are:

1. farm or residential tanks of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes,

2. tanks used for storing heating oil for consumptive use on the premises where stored,

3. septic tanks;

4 pipeline facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1979, or which is an intrastate pipeline facility regulated under State laws;

5. surface impoundments, pits, ponds, or lagoons;

6. storm water or waste water collection systems;

7. flow-through process tanks;

8. liquid traps or associated gathering lines directly related to oil or gas production and gathering operations;

9. storage tanks situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

Definition of regulated substance

Any substance defined in section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (but not including any substance regulated as a hazardous waste under Subtitle C) and petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Farenheit and 14.7 pounds per square inch absolute). If you do not know whether your tank contains CERCLA hazardous substances, call the RCRA/Superfund Hotline, (800) 424-9346

Definition of Owner

(A) In the case of an underground storage tank in use on November 8, 1984, or brought into use after that date, any person who owns an underground storage tank used for the storage, use, or dispensing of regulated substances, and

(B) In the case of any underground storage tank in use before November 8, 1984, but no longer in use on that date, any person who owned such tank immediately before the discontinuation of its use.

Where to notify

[address to be filled in by State]

When to notify

1. For any underground storage tank currently in use, you must notify by May 8, 1986.

2. For any underground storage tank brought into use after May 8, 1986, you must notify within 30 days of bringing the tank into use.

3. For any underground storage tank taken out of use permanently after January 1, 1974 (but still in the ground), you must notify by May 8, 1986.

Penalties

This information is required by Section 9002 of the Resource Conservation and Recovery Act as amended. Any owner who knowingly fails to notify or submits false information shall be subject to a civil penalty not to exceed $10,000 for each tank for which notification is not given or false information is submitted.

Specific Instructions

Type or print in ink all items except 8b "Signature." Complete the following sections to the best of your knowledge using the examples provided as guidance. Enter "unknown" whenever you do not know the answer.

1. Name and Address of the Facility. Enter the name and the address of the facility where the tank or tanks are located. The address should include the name of the nearest cross street. The address should also include the name of the county in which the facility is located.

2. Business Mailing Address. Enter the name and mailing address of the facility if different from the location address.

3. Owner of Tank. Enter the name, address, and telephone number of the current tank owner.

4. Contact Person. Enter the name and business telephone number of the person responsible for operation of the tank or tanks.

5. Type of Owner. Mark "x" in the appropriate box to indicate whether the facility is owned by a Federal Agency. An installation is federally owned if the owner is the Federal Government, even if it is operated by a private contractor. Enter the GSA identification number in the space provided if the facility is Federally owned.

6. For State Use Only. Do not write in this block.

7. Tanks Currently in Use or That Will Be Brought into Use After May 8, 1986.

a. Tank No. Self explanatory

b. Age. Mark "x" in the appropriate box to indicate the approximate age of the tank.

c. Estimated Total Capacity. Enter the estimated capacity of the tank in gallons.

d. Material of Construction. Mark "x" in the appropriate box to indicate the type of construction of the tank. If the tank is neither constructed of steel nor fiberglass reinforced plastic, then enter the type of construction material in the "other" block.

e. Internal Protection. Mark "x" in the appropriate box to indicate whether the tank is internally protected with a lining or whether it is unlined.

f. External Protection. Mark "x" in the appropriate box to indicate whether the tank is equipped with cathodic protection or if the tank is coated or wrapped. Enter other types of external protection, such as secondary containment (e.g., double wall or vault) in the "other" block.

g. Substance Type. Indicate which type of "regulated substance" the tank is storing.

- If the tank is storing a hazardous substance, enter the name of the chemical. Also, if known, provide the Chemical Abstracts Service (CAS) registry number. When a mixture of several hazardous substances is stored in one tank, enter the name of the substance of greatest quantity.
- If the tank is storing petroleum products, mark "x" in the appropriate box to indicate the type of petroleum product that is stored. If your tank is storing petroleum products *other* than gasoline, diesel, or kerosene, then enter the name of the product in the "other" block.

8. Certification. This certification must be signed by the owner or an authorized representative of the facility. An authorized representative is a person responsible for the overall operation of the facility, as for example, a plant manager or superintendent, or a person of equivalent responsibility.

Washington, DC 20460

EPA Notification for Underground Storage Tanks No Longer in Operation

Tanks taken out of operation after January 1, 1974, but still in the ground.

Form Approved
OMB No. xxxx-xxxx
Approval expires xx-xx-xx

1. Name and address of the facility	2. Business mailing address of facility, if different from location address	3. Owner of tank *(name, business address, and phone number)*	4. Contact person for the facility *(Name and phone number)*

5. Type of owner *(Mark 'X' in appropriate box)*	6. For State Use Only
☐ Non-Federal ☐ Federal *(Give GSA #)*	

Complete the following section(s) to the best of your knowledge using the examples provided as guidance. Check appropriate boxes and fill in blanks where applicable. If you need more space, photocopy this page or use a continuation sheet.

7. Tanks taken out of use after January 1, 1974, but still in the ground.

a. Tank No.	b. Date of last use		c. Age when last used (yrs)						d. Total capacity (gal)	e. Material of construction			f. Internal protection		g. External protection				h. Substance left stored, if any						i. Estimated quantity (gal)
	Month	Year	0-5	6-10	11-15	16-20	20+			Steel	Fiberglass reinforced plastic	Other *(specify)*	Lined	Unlined	Coated	Wrapped	Cathodic protection	Other *(specify)*	Hazardous substance name and/or Chemical Abstract Service (CAS) # if known	Petroleum products				
																				Gasoline	Diesel	Kerosene	Other *(specify)*	
Example	6	75			X				8,000	X				X	X					X				120
1																								
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								

8. Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

a. Name and Official Title of owner or owner's authorized representative *(Type or print)*	
b. Signature	c. Date signed

EPA Form 7530-2 (xx-85) This information is required by Section 9002 of the Resource Conservation and Recovery Act, as amended.

Instructions for Filing Notification for Underground Storage Tanks No Longer in Operation

General Instructions

Complete this form only if you own an underground storage tank that was taken out of operation after January 1, 1974, but still in the ground, even if "empty." For underground storage tanks currently in use or to be brought into use, use EPA Form 7530-1.

After reading these instructions, if you are unsure whether this applies to you, or if you have any questions, call the RCRA/Superfund Hotline, (800) 424-9346.

Who must notify

Any "owner" of an underground storage tank.

Definition of underground storage tank

Any one or a combination of tanks (including underground pipes connected thereto) which is used to contain an accumulation of regulated substances, and the volume of which (including the volume of the underground pipes connected thereto) is 10 percent or more beneath the surface of the ground. Excluded are:

1. farm or residential tanks of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;

2. tanks used for storing heating oil for consumptive use on the premises where stored;

3. septic tanks;

4. pipeline facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1979, or which is an intrastate pipeline facility regulated under State laws;

5. surface impoundments, pits, ponds, or lagoons;

6. storm water or waste water collection systems;

7. flow-through process tanks;

8. liquid traps or associated gathering lines directly related to oil or gas production and gathering operations;

9. storage tanks situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

Definition of regulated substance

Any substance defined in section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (but not including any substance regulated as a hazardous waste under Subtitle C) and petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute). If you do not know whether your tank contains CERCLA hazardous substances, call the RCRA/Superfund Hotline, (800) 424-9346.

Definition of Owner

(A) In the case of an underground storage tank in use on November 8, 1984, or brought into use after that date, any person who owns an underground storage tank used for the storage, use, or dispensing of regulated substances, and

(B) In the case of any underground storage tank in use before November 8, 1984, but no longer in use on the date of enactment of such Amendments, any person who owned such tank immediately before the discontinuation of its use.

Where to notify

[address to be filled in by State]

When to notify

1. For any underground storage tank currently in use, you must notify by May 8, 1986.

2. For any underground storage tank brought into use after May 8, 1986, you must notify within 30 days of bringing the tank into use.

3. For any underground storage tank taken out of use permanently after January 1, 1974 (but still in the ground), you must notify by May 8, 1986.

Penalties

This information is required by Section 9002 of the Resource Conservation and Recovery Act as amended. Any owner who knowingly fails to notify or submits false information shall be subject to a civil penalty not to exceed $10,000 for each tank for which notification is not given or false information is submitted.

Specific Instructions

Type or print in ink all items except 8b "Signature." Complete the following sections to the best of your knowledge using the examples provided as guidance. Enter "unknown" whenever you do not know the answer.

1. Name and Address of the Facility. Enter the name and the address of the facility where the tank or tanks are located. The address should include the name of the nearest cross street. The address should also include the name of the county in which the facility is located.

2. Business Mailing Address. Enter the name and mailing address of the facility if different from the location address.

3. Owner of Tank. Enter the name, address, and telephone number of the tank owner at the time the tank was taken out of service.

4. Contact Person. Enter the name and business telephone number of the person responsible for operation of the tank or tanks.

5. Type of Owner. Mark "x" in the appropriate box to indicate whether the facility is owned by a Federal Agency. An installation is federally owned if the owner is the Federal Government, even if it is operated by a private contractor. Enter the GSA identification number in the space provided if the facility is Federally owned.

6. For State Use Only. Do not write in this block.

7. Tanks Taken Out of Operation After January 1, 1974 but Still in the Ground.

a. Tank No. Self explanatory.

b. Date of last use. Enter the date (by month and year) when the tank was taken out of operation.

c. Age When Last Used. Mark "x" in the appropriate box to indicate the age of the tank when it was taken out of service.

d. Estimated Total Capacity. Enter the estimated capacity of the tank in gallons.

e. Material of Construction. Mark "x" in the appropriate box to indicate the type of construction of the tank. If the tank is neither constructed of steel nor fiberglass reinforced plastic, then enter the type of construction material in the "other" block.

f. Internal Protection. Mark "x" in the appropriate box to indicate whether the tank is internally protected with a lining or whether it is unlined.

g. External Protection. Mark "x" in the appropriate box to indicate whether the tank is equipped with cathodic protection of if the tank is coated or wrapped. Enter other types of external protection such as secondary containment (e.g., double wall or vault) in the "other" block.

h. Substance Left Stored. Indicate which type of "regulated substance" has been left stored, if any, in the tank after it was taken out of operation.

- If the tank is storing a hazardous substance, enter the name of the chemical. Also, if known, provide the Chemical Abstracts Service (CAS) registry number. When a mixture of several hazardous substances is stored in one tank, enter the name of the substance of greatest quantity.
- If the tank is storing petroleum products, mark "x" in the appropriate box to indicate the type of petroleum product that is stored. If your tank is storing petroleum products *other* than gasoline, diesel, and kerosene then enter the name of the product in the "other" block.

Enter the estimated quantity of regulated substance left stored, if any, in the tank on the date it was taken out of operation.

8. Certification. This certification must be signed by the owner or an authorized representative of the facility. An authorized representative is a person responsible for the overall operation of the facility, as for example, a plant manager or superintendent, or a person of equivalent responsibility.

[FR Doc. 85–12705 Filed 5–24–85; 8:45 am]

BILLING CODE 6560-50-M

ASSISTANT CHIEF OF STAFF, FACILITIES
HEADQUARTERS, MARINE CORPS BASE

Danny-
Hanoce however you want. Just for my info does this effect Leased handles of AHL?

Thanks, Bob

I see this as a source of funding for State to offset cost of the LES program. Can't imagine objections to proposal.
P Sharpe

FYI - checking now to see if we pay for BOTH I.D. #'s.

2. Please initial, or comment, and return all papers to this office.

call if ?'s.

3. Your file copy.

Bob

"LET'S THINK OF A FEW REASONS
WHY IT CAN BE DONE"

ASSISTANT CHIEF OF STAFF, FACILITIES
HEADQUARTERS, MARINE CORPS BASE

DATE 10/10

TO:

BASE MAINT O
PUBLIC WORKS O
COMM-ELECT O
DIR., NAT. RESOURCES & ENV. AFFAIRS
DIR, FAMILY HOUSING
DIR, BACHELOR HOUSING
BASE FIRE CHIEF

ATTN: Mr. Wooten

1. Attached is forwarded for info/action.

FYI - checking now to see if we pay for BOTH I.D. #'s.

2. Please initial, or comment, and return all papers to this office.

call if ?'s.

3. Your file copy.

Bob

"LET'S THINK OF A FEW REASONS
WHY IT CAN BE DONE"

MCBCL 5216/21 (REV. 04-85)

ASSISTANT CHIEF OF STAFF, FACILITIES
HEADQUARTERS, MARINE CORPS BASE

DATE 10/10

TO:

BASE MAINT O	DIR, FAMILY HOUSING
PUBLIC WORKS O	DIR, BACHELOR HOUSING
~~COMM-ELECT O~~	BASE FIRE CHIEF
DIR., NAT. RESOURCES & ENV. AFFAIRS	

ATTN: Mr. Wooten

1. Attached is forwarded for (info)/action.

FYI - checking now to see if we pay for BOTH I.D. #'s.

2. Please initial, or comment, and return all papers to this office.

call if ?'s.

3. Your file copy.

Bob

"LET'S THINK OF A FEW REASONS
WHY IT CAN BE DONE"

MCBCL 5216/21 (REV. 04-85)

North Carolina Department of Human Resources
Division of Health Services
P.O. Box 2091 • Raleigh, North Carolina 27602-2091

James G. Martin, Governor
Phillip J. Kirk, Jr., Secretary

Ronald H. Levine, M.D., M.P.H.
State Health Director

September 18, 1985

MEMORANDUM

TO: North Carolina Hazardous Waste Generators, Transporters, Treaters, Storers and/or Disposers

FROM: William L. Meyer, Head
Solid & Hazardous Waste Management Branch
Environmental Health Section

SUBJECT: Proposed annual fees from Handlers of Hazardous Waste

Attached are proposed Rules to collect annual fees from handlers of hazardous waste. Also attached is information on public meetings and/or a hearing to receive public comment on these rules. The proposed rules would become effective on January 1, 1986. The minimum fee proposed is $600 and the maximum is $1200.

3499A

Legal Ad Deadline
30 Days Notice
Publish By Sept. 23

NOTICE OF: TWO PUBLIC MEETINGS AND ONE PUBLIC HEARING ON PROPOSED NORTH CAROLINA RULES 10C .0700 COLLECTION OF ANNUAL FEES FROM HANDLERS OF HAZARDOUS WASTE

The North Carolina Department of Human Resources, Division of Health Services will conduct two public meetings and one public Hearing on proposed rules concerning the collection of annual fees from handlers of hazardous waste. The public is invited to attend the meeting and hearing and comment on the proposed amendments to the rules.

Public Meetings	Location
October 23, 1985 (7:00 P. M.)	Auditorium, School of Allied Health East Carolina University Greenville, NC
October 24, 1985 (7:00 P. M.)	Mulls Convention Center Hwy 64-70 Hickory, NC
Public Hearing	
October 25, 1985 (1:30 P.M.)	Highway Building Auditorium One South Wilmington Street Raleigh, NC

Written and oral (for no more than 10 minutes) comments on each subject may be presented at the hearing.

The statutory authority for adoption of these rules is G.S. 130A-294 (a) (7).

The proposed rules are available for review at:

Solid & Hazardous Waste Management Branch
Room 213, Bath Building
306 N. Wilmington St.
Raleigh, N.C. 27602
(919) 733-2178

The subject of the proposed rules is:

- Fee Schedule-any person who handles hazardous waste for which an identification number is required under 10 NCAC 10F is subject to annual fees for each activity as follows:

Generators	$600
Transporters	600
Gen.& Trans.	900
Treatment, storage or disposal facility	1200

- Payment of fees - annually

- Sanctions

- Appeals

- Severability

For further information, write or call:

Solid and Hazardous Waste Mangement Branch
Room 213, Bath Building
306 North Wilmington Street
Raleigh, N. C. 27602
Telephone: 919/733-2178

PROCEDURES FOR COLLECTION OF ANNUAL FEES

FROM HANDLERS OF HAZARDOUS WASTE

Prepared by the N. C. Department of Human Resources
Division of Health Services
Environmental Health Section
Solid and Hazardous Waste Management Branch
(919) 733-2178

Effective January 1, 1986

10 NCAC 10C .0701 thru .0705 have been adopted as follows:

.0701 APPLICABILITY AND FEE SCHEDULE

(a) Any person who handles hazardous waste for which an identification number is required under 10 NCAC 10F is subject to annual fees for each activity as follows:

Generators	$	600.00
Transporters		600.00
Generators and Transporters		900.00
Treatment, Storage, and/or Disposal Facilities		1,200.00
Treatment, Storage, and/or Disposal Facilities that are also generators or transporters of hazardous waste.		1,200.00

(b) Small quantity generators, as defined in 10 NCAC 10F .0029, shall be exempt from these annual fee requirements.

(c) No person may be required to pay, in any fiscal year, more than $1,200 in fees for the handling of hazardous wastes under a single, site-specific identification number, under this Section.

History Note: Statutory Authority G. S. 130A-294(a)(7);
Eff. January 1, 1986.

.0702 PAYMENT OF FEES

(a) The annual fee is based on a fiscal year beginning July 1 and ending June 30 the next calendar year. The annual fee for fiscal year 1985-86 shall be due and payable on January 1, 1986. Thereafter, all annual fees will be due and payable on July 1 of each fiscal year.

(b) Any person notifying the Division of Health Services of hazardous waste handling or any person submitting a permit application for a treatment, storage or disposal facility, shall pay the appropriate annual fee within 30 days of notification or receipt, by the Division, of the permit application.

(c) Payment shall be by certified check or money order made payable to the Division of Health Services and mailed to the Solid and Hazardous Waste Management Branch, P.O. Box 2091, Raleigh, N. C., 27602-2091.

(c) All fees imposed by this section are nonrefundable.

History Note: Statutory Authority G.S. 130A-294(a)(7);
Eff. January 1, 1986.

.0703 SANCTIONS

(a) In addition to any other liability or penalty imposed by law, any person liable for any fee imposed by this section shall be automatically assessed a late payment penalty of ten percent (10%) of the appropriate fee, if the fee is not received within 30 days of the due date.

(b) Any person failing to pay the appropriate annual fee as required by this section shall be subject to the imposition of additional penalties of up ten thousand dollars ($10,000) for each day of noncompliance in accordance with N.C.G.S. 130A-22 and 10 NCAC 10G .0701.

(c) Failure to pay the penalty constitutes grounds for denial, suspension or revocation of a permit, and for administrative and judicial injunctive relief to collect fees and penalties and to prohibit further handling of hazardous wastes.

History Note: Statutory Authority G. S. 130A-18, G. S. 130A-22; G. S. 130A-23; Eff. 1983; G. S. 130A-294(a)(7); Eff. January 1, 1986.

.0704 APPEALS

Appeal procedures shall be in accordance with Article 3 of the Administrative Procedure Act and the rules in 10 NCAC 1B.

History Note: Statutory Authority G.S. 130A-294(a)(7); Eff. January 1, 1986.

.0705 SEVERABILITY

If any provision of these standards or its application to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of the standards that can be given effect without the invalid provisions or applications, and to this end the provisions of these standards are declared to be severable.

History Note: Statutory Authority G.S. 130A-294(a)(7) Eff. January 1, 1986.

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 1985
RATIFIED BILL

CHAPTER 582
HOUSE BILL 1384

AN ACT TO AUTHORIZE THE DEPARTMENT OF HUMAN RESOURCES TO IMPOSE A REASONABLE FEE ON ALL HANDLERS OF HAZARDOUS WASTE.

The General Assembly of North Carolina enacts:

Section 1. G.S. 130A-294(a) is amended by adding a new subdivision to read as follows:

"(7) Establish and collect annual fees from generators and transporters of hazardous waste and hazardous waste storage, treatment and disposal facilities regulated by this Article. The fees collected shall support the funding of the Department's hazardous waste management program. The maximum annual fee for each category shall be:

Generators	$600.00
Transporters	$600.00
Storage Facilities	$1200.00
Treatment Facilities	$1200.00
Disposal Facilities	$1200.00."

Sec. 2. This act is effective upon ratification.

In the General Assembly read three times and ratified, this the 3rd day of July, 1985.

ROBERT B. JORDAN III

Robert B. Jordan III
President of the Senate

LISTON B. RAMSEY

Liston B. Ramsey
Speaker of the House of Representatives

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TO JIW VIA Becker DB
We Already operate
on the premise
Stated Herein
DDS
Ready TO File

ROUTINE

R 212050Z OCT 85

FM DRMR MEMPHIS TN//DRMR-MO

TO AIG 4544

UNCLAS DRMR-MOH 659-85 PASS

AND MARKETING OFFICES.
SUBJ: RCRA WASTE MINIMIZATI

A. REFERENCE: DRMS-HP MESSA

(NOTAL).

1. AS YOU KNOW, THERE HAS BEEN CONSIDERABLE CONCERN REGARDING THE SIGNATORIES LIABILITY WHEN SIGNING THE WASTE MINIMIZATION STATEMENT ON THE UNIFORM HAZARDOUS WASTE MANIFEST (UHWM). IN SOME INSTANCES, BOTH THE HOST REPRESENTATIVE AND THE COR HAVE BEEN HESITANT TO SIGN OR CO-SIGN THE MANIFEST BECAUSE IT HAD BEEN PERCEIVED THAT DRMS HAD NO WASTE MINIMIZATION PROGRAM. THIS CONCERN HAS RESULTED IN SOME DELAYS IN CONTRACTOR PICK-UP.

2. BE ADVISED THAT, AS A GENERATOR, DRMS HAS ITS OWN WASTE MINIMIZATION PROGRAM IN PLACE VIA REUTILIZATION, TRANSFER, DONATION AND SALE AS WELL AS THROUGH THE RECYCLING EFFORTS OF MANY ULTIMATE DISPOSAL SERVICE CONTRACTORS. THIS PROGRAM ALSO INCLUDES USED HAZARDOUS PROPERTY WHICH IS REUSED OR SOLD WHENEVER KNOWN R/T/D/S MARKETS EXIST.
IN ADDITION, DRMS HAS REQUESTED THE MILITARY SERVICES TO PROVIDE LETTERS CERTIFYING THAT THEY HAVE WASTE MINIMIZATION PROGRAMS IN PLACE.

3. PLEASE DISSEMINATE THIS INFORMATION TO THE FIELD. THE DRMS PROGRAM PROVIDES THE NECESSARY ASSURANCES TO THE REGULATORY COMMUNITY THAT A DOD MINIMIZATION PROGRAM HAS BEEN IMPLEMENTED.

4. POINT OF CONTACT AT THE MEMPHIS REGION IS JOHNSIE NABORS, (AV) 683-6914.

BT

DLVR:DPDO CAMP LEJEUNE NC(4)...ACT

RTD:000-000/COPIES:0004

329875/294 1 OF 1 MATA0366 294/22:51Z 212050Z OCT 85
CSN:AUI800589 DRMR MEMPHIS T

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RECEIVED
OCT [illegible] 1985
DPDQ — LEJEUNE

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ROUTINE

R 212050Z OCT 85

FM DRMR MEMPHIS TN//DRMR-MOH//

TO AIG 4544

UNCLAS DRMR-MOH 659-85 PASS TO THE DEFENSE REUTILIZATION

AND MARKETING OFFICES.
SUBJ: RCRA WASTE MINIMIZATION CERTIFICATION STATEMENT

A. REFERENCE: DRMS-HP MESSAGE R021334Z OCT 85, SUBJ AS ABOVE,

(NOTAL).

1. AS YOU KNOW, THERE HAS BEEN CONSIDERABLE CONCERN REGARDING THE SIGNATORIES LIABILITY WHEN SIGNING THE WASTE MINIMIZATION STATEMENT ON THE UNIFORM HAZARDOUS WASTE MANIFEST (UHWM). IN SOME INSTANCES, BOTH THE HOST REPRESENTATIVE AND THE COR HAVE BEEN HESITANT TO SIGN OR CO-SIGN THE MANIFEST BECAUSE IT HAD BEEN PERCEIVED THAT DRMS HAD NO WASTE MINIMIZATION PROGRAM. THIS CONCERN HAS RESULTED IN SOME DELAYS IN CONTRACTOR PICK-UP.

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BT

DLVR:DPDO CAMP LEJEUNE NC(4)...ACT

RTD:000-000/COPIES:0004

329875/294 1 OF 1 MATA0366 294/22:51Z 212050Z OCT 85
CSN:AUIB00589 DRMR MEMPHIS T

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OCT [illegible] 1985
DPDQ — LEJEUNE

Subj: HAZARDOUS MATERIAL INFORMATION SYSTEM REQUIREMENTS

4. The RASC Programming Section indicated that background work on this project was available and could possibly be used as a starting point for the first requirement. Further, we are contacting the Cherry Point RASC to seek their help with (HM) supplies at MCAS. Point of contact in this matter is Mr. Bob Alexander, EnvEngr, ext. 3034/3035

R. A. TIEDOUT

Copy to:
AC/S BOSMAD
AC/S LOG
HREAD
AC/S MANPOWER (ATTN: BASE SAFETY)
BASE FIRE CHIEF

6280
NREAD
21 Oct 1985

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Defense Reutilization and Marketing Officer, Camp Lejeune

Subj: INSPECTION REPORT ON LONG TERM HAZARDOUS WASTE STORAGE FACILITIES AT BUILDINGS TP-451 AND TC-863

Ref: (a) Onsite Inspection on 17 Oct 1985 by Messrs. Becker and Martin, NREAD; Mr. Metts, Base FireProtDiv, and Mr. Eggers, DRMO
(b) CG MCB CLNC ltr FAC/REA/lf 6280 of 15 Jul 1983

Encl: (1) Inspection Checklist for Long Term Hazardous Waste Storage Facilities at TP-451/TC-863

1. The enclosure provides results of reference (a) conducted as required by reference (b).

2. During reference (a) it was noted that the exhaust fan in TP-451 has been repaired; however, the TP-451 facility is still in need of a resupply of absorbents.

3. Point of contact in this matter is Mr. Danny Sharpe, extensions 2195/5003.

J. I. WOOTEN
By direction

Copy to:
BaseFireCh
AC/S FAC
SJA
BMO (Attn: Fred Cone)
BaseSafetyMgr

Becker DTR
Betsy EQ

6280/2
FAC

28 OCT 1985

Assistant Chief of Staff, Facilities, Marine Corps Base,
Camp Lejeune
Director, Regional Automated Services Center

HAZARDOUS MATERIAL INFORMATION SYSTEM REQUIREMENTS

Ref: (a) Meeting btwn Lt Fernandez and Mr. Gonyer (RASC, Programming Section), Mr. Sharpe (NREAD), and Mr. Bob Alexander (FAC,MCB) on 8 Oct 85

Encl: (1) CMC Washington DC msg 090130Z Oct 85

1. As discussed in the referenced meeting, your assistance is requested in developing a hazardous material (HM) information system. Specifically, there is a need to combine supply data on hazardous materials used by FMF units at Camp Lejeune and MCAS, New River with data on hazardous characteristics of these materials. The latter data is available on computer tape from Defense Logistics Agency (DLA). Justification for this system is two-fold.

a. First, a $160K contract to develop a hazardous material plan is underway at Marine Corps Base and MCAS, New River. The contract will begin in December and the plan should be completed by June 1986. A pre-project meeting is scheduled for 2 December at which time Camp Lejeune must provide an accurate (HM) inventory to the contractor. We believe this inventory can be obtained by merging the DLA data with supply data from DSSC and SMU.

b. Second, we are directed by the enclosure to significantly reduce both the amount of hazardous waste generated and our disposal costs through better management of hazardous materials. Proper (HM) management depends on accurate (HM) identification. Information on hazardous characteristics of supply items must be made available to users of existing supply systems. Users can then accurately identify hazardous supplies during the turn-in process for recycling or disposal, which will greatly enhance the "marketing" of these items. Fire prevention and safety programs will also benefit greatly by these data.

6280/5
NREAD
28 Oct 1985

From: Director, Natural Resources and Environmental Affairs Division, Marine Corps Base, Camp Lejeune
To: Base Maintenance Officer, Marine Corps Base, Camp Lejeune

Subj: TROOP TRAINING PROJECT FOR POL STORAGE SITE AT 2d COMBAT ENGINEER BATTALION (CEB)

Encl: (1) Division Facilities Officer, 2dMarDiv, FMF, CLNC ltr of 6 Sep 1985

1. The subject project outlined in the enclosure is an appropriate solution to CEB's lack of an adequate POL storage area. The proposed site reviewed by this office earlier this year was located in the northeast corner of the CEB compound and is visible from Louis Road.

2. The number of required cinder blocks appears to be underestimated. The drainage sump will likely work best along the northern edge of the storage pad. A 4" drain valve may be more appropriate. NREAD agrees that a properly constructed pad at this site will be environmentally enhancing. The curbing is essential and prevents rain water runoff from flowing through the pad, therefore flushing POL residues into the adjacent stream.

J. I. WOOTEN

Copy to:
EnvironEngr

Writer: D. D. Sharpe, NREAD 5003
Typist: J. Cross 28Oct85

UNITED STATES MARINE CORPS
2d Marine Division, Fleet Marine Force
Camp Lejeune, North Carolina 28542-5500

IN REPLY REFER TO

6 Sept 85

MEMORANDUM

From: Division Facilities Officer
To: Base Maintenance Officer

Subj: TROOP TRAINING PROJECT FOR ENHANCEMENT OF POL WASTE STORAGE SITE

Encl: (1) CO, 2d Combat Engineer Bn ltr 11000 over S-4 of 7 Aug 85

1. The enclosure contains the 2d Combat Engineer Battalion's proposal for an expedient, economical method by which to enhance a potentially hazardous POL WASTE STORAGE SITE. It is requested that strong consideration be given to granting approval of this as a troop training project.

Respectfully.

T E Minor

T. E. MINOR
Major USMC

ENCLOSURE (1)

UNITED STATES MARINE CORPS
2d Combat Engineer Battalion
2d Marine Division, FMF
Camp Lejeune, North Carolina 28542-5522

IN REPLY REFER TO
11000
S-4
7 Aug 85

From: Commanding Officer
To: Commanding General. 2d Mar Div, FMF (Attn: FacO)

Subj: Design of P.O.L. WASTE STORAGE SITE: REQUEST FOR APPROVAL

Ref: (a) Site Survey and Proposal submitted by Lt Purcell, A Co. 2d CEB, dtd 2 Aug 85

Encl: (1) Drawing of proposed POL Storage Site
(2) Bill of Material (BOM)
(3) Design Guidance

1. In accordance with the information obtained via the reference and guidance from the 2d CEB FacO, The following POL Site Proposal is submitted for approval.

2. The guidelines used when designing this site are contained in Enclosure (3).

3. The proposed site is the existing site in the 1800 area (north corner of the west-southwest fenceline) where a 20'x 30' concrete slab with expansion joints is located. The MCB CLNC Environmental Protection Officer assured Lt. Purcell that these joints (seams) will not cause seepage in excess of environmental restrictions. At present there is no barrier to contain any spillage/seepage from flowing off the slab.

4. The following are recommended:

a. That the existing site be surveyed to establish a spillage/ seepage collection point at the lowest point of the slab.

b. That the expansion be hand coated with a thin layer of concrete to allow for possibility of more restrictive environmental regulations.

c. That one layer of cinder block be cemented on the rear and right side of the existing slab to prevent heavy rain fall from flowing across the slab.(Encl 1)

d. That a curb be constructed along the front and left side of slab to contain any spillage/seepage within the site, and that this curb be negotible by all fork lifts on the T/E of 2d CEB. (Encl 1)

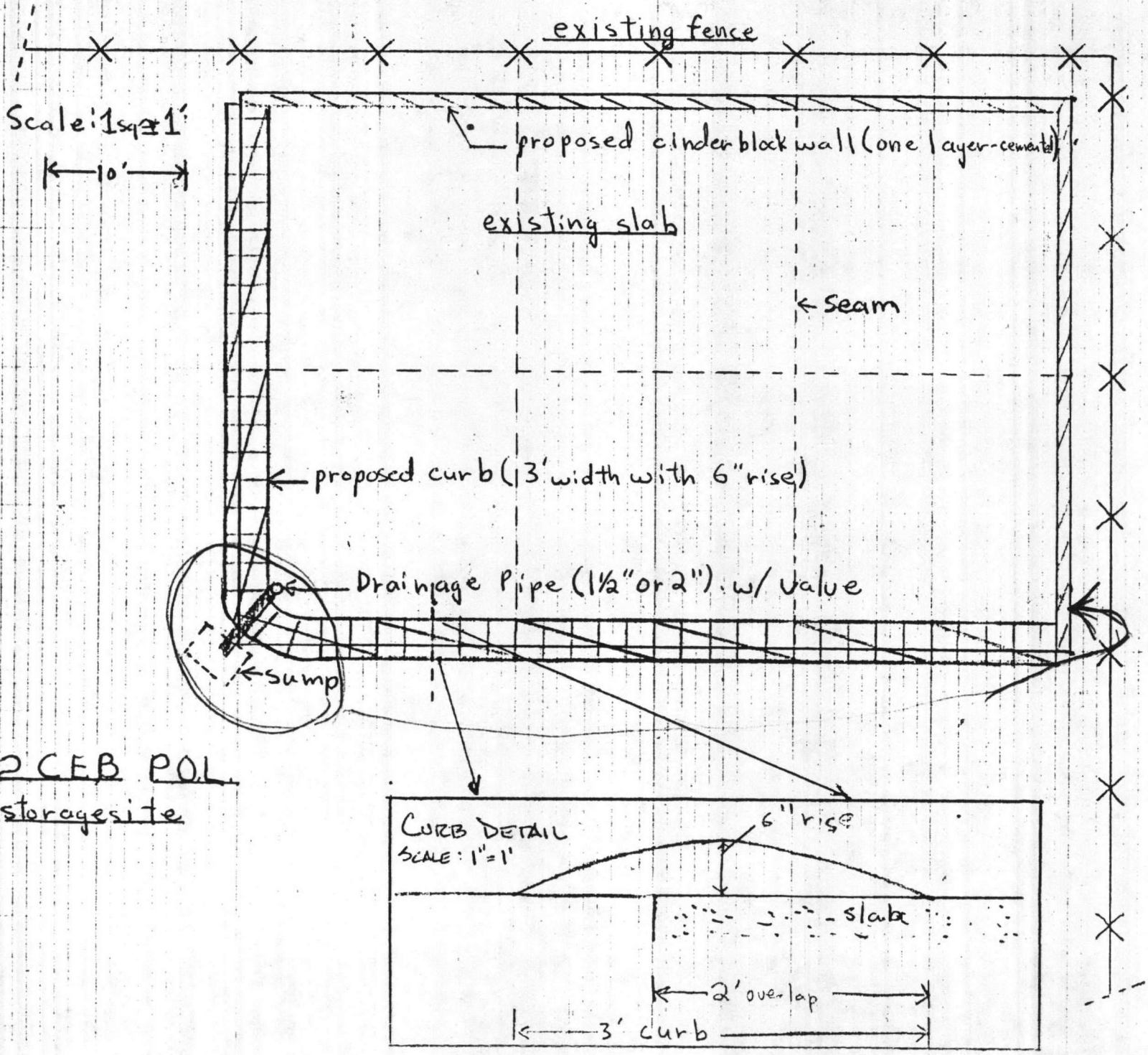
e. That the spillage/seepage collection point consist of a 1½"-2" pipe with valve and a depression outside the site to collect the run-off in a container for transfer to a 55 Gal. drum. (Encl 1)

f. That the materials for construction be limited to those contained in the BOM. (Encl 2)

5. This project will be preformed by personnel at 2d CEB as a troop training project.

6. Point of contact at this command is Lt Ewing at ext. 3993/5319 (S-4 Shop).

D. A. VOGEL
By direction



2 CEB POL
storagesite

DD Stamp Affixed
15 Oct 85

1

Enclosure (1)

BILL OF MATERIAL (BOM)

Concrete: 3 cu. yd.

Mortar: .5 cu. yd.

Total: 3.5 cu. yd.

Cinder Block

Total: 50 Lineal FT. of Block

Drainage system

4' of 1 1/2'' - 2" pipe w/valve

Design Guidelines

1. That 55 gal. drums would be used for storage of POL substances.

2. That the site should be accessable by forklift.

3. That all horizontal surfaces be impermeable.

4. That the design comply with environmental restrictions.

5. That a method to drain the site and collect the runoff be included.

6. That the cost of construction be limited to enhance the feasibility of construction in a timely manner.

WORK REQUEST (MAINTENANCE MANAGEMENT)
NAVFAC 9-11014/20 REV. 2-68) S/N 0105-LF-002-7510
Supersedes NAVDOCKS 2351

(PW Department see Instructions in NAVFAC MO-321)

D030

Requestor see Instructions on Reverse Side

PART I—REQUEST (Filled out by Requestor)

1. FROM	2. REQUEST NO.
CO, 2d CEB, 2d MAR DIV	340-85
3. TO CG, 2d MAR DIV CG, MCB (Attn: Base Maint.)	**4. DATE OF REQUEST** 6 Aug 85
5. REQUEST FOR ☐ COST ESTIMATE ☒ PERFORMANCE OF WORK	**5a. REQUEST WORK START** ASAP
6. FOR FURTHER INFORMATION CALL LT EWING (ext. 3993/5319)	**7. SKETCH/PLAN ATTACHED** ☒ YES ☐ NO

8. DESCRIPTION OF WORK AND JUSTIFICATION *(Including location, type, size, quantity, etc.)*

1. It is requeqted that the proposed POL storage site be approved for construction by personnel at 2d CEB. This site will consist of a concrete slab (existing) and a retaining wall around the perimeter to keep spillage/seepage from running off.

JUSTIFICATION: At this time there is no barrier to keep any spillage/seepage from running off the concrete slab. This does not comply with Environmental Regulations and needs to be corrected ASAP. Due to the limited amount of materials and construction, personnel at 2d CEB can do the work.

9. FUNDS CHARGEABLE	10. SIGNATURE (Requesting Official)
	D. A. VOGEL

PART II—COST ESTIMATE
(Filled out by Maintenance Control Division if estimate requested)

11. TO:	12. ESTIMATE NO.

13. COST ESTIMATE	
a. Labor	$
b. Material	$
c. Overhead and/or Surcharge	$
d. Equipment Rental/Usage	$
e. Contingency	$
f. TOTAL	$

14. SKETCH/PLAN ATTACHED ☐ YES ☐ NO

15.

☐ APPROVED. PROGRAMMING TO START IN _____

☐ APPROVED. BASED ON PRESENT WORKLOAD, THIS JOB CAN BE PROGRAMMED TO START IN _____, IF AUTHORIZED BY 25TH OF _____ AND FUNDS ARE MADE AVAILABLE.

☐ DISAPPROVED. *(See Reverse Side)*

16. SIGNATURE	17. DATE

PART III—ACTION (Filled out by Requestor)

18. TO:

19. AUTHORIZATION TO PROCEED IS ATTACHED *(Check one if other than PW funds are involved)* ☐ NAVCOMPT 140 ☐ OTHER	20. WORK REQUESTED ☐ HAS BEEN CANCELLED ☐ HAS BEEN DEFERRED ☐ WILL BE PERFORMED BY OTHERS
21. SIGNATURE	22. DATE

(See Part IV on Reverse Side)

6280
NREAD
2 Oct 1985

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Defense Reutilization and Marketing Officer, Camp Lejeune

Subj: INSPECTION REPORT ON LONG TERM HAZARDOUS WASTE STORAGE FACILITIES AT BUILDINGS TP-451 AND TC-863

Ref: (a) Onsite inspection on 30 Sep 1985 by Messrs. Becker and Martin, NREAD; Mr. Metts, BaseFireProtDiv, and Mr. Brinson, DRMO
(b) CG MCB CLNC ltr FAC/REA/lf 6280 of 15 Jul 1983

Encl: (1) Inspection Checklist for Long Term Hazardous Waste Storage Facilities at TP-451/TC-863

1. The enclosure provides results of reference (a) conducted as required by reference (b). It should be noted that proper completion of hazardous waste (HW) labels is an item carefully checked by State HW inspectors.

2. During reference (a) it was noted that one of the exhaust fans in TP-451 is inoperative. This should be repaired/replaced as soon as possible.

3. Point of contact in this matter is Mr. Danny Sharpe, extensions 2195/5003.

J. I. WOOTEN
By direction

Copy to:
BaseFireCh
AC/S FAC
SJA
BMO (Attn: Fred Cone)
BaseSafetyMgr

Writer: D. D. Sharpe, NREAD 2195
Typist: J. Cross 20ct85

PARTICIPANTS Messrs. Becker, Martin, Brinson and Metts DATE: 30 Sep 1985

FACILITIES AND EQUIPMENT	SAT	UNSAT	COMMENTS
1. FACILITY GROUNDS	X		
2. FACILITY SECURITY (LOCKS, DOORS, SIGNS, ETC.)	X		
3. EMERGENCY TELEPHONE AND FIRE ALARMS	X		Phone pole is being held up by two pieces of rope; needs repair.
4. UNLOADING PAD DRAIN VALVE	X		
5. EXHAUST FANS		X	One exhaust fan in TP-451 needs repair.
6. INTERIOR LIGHTING AND ELECTRICAL OUTLETS	X		
7. SAFETY SHOWERS/ EYE LAVAGES	X		
8. CURBS, GRATES, OTHER FIXTURES	X		
9. NON-SPARKING SHOVELS (2)	X		
10. ABSORBENT (EQUIVALENT OF FOUR 55-GAL BARRELS)	X		Need to restock supply in TP-451.
11. HAZ MAT PUMPS OR EQUIVALENT	X		
12. FIRE EXTINGUISHERS	X		
13. PROTECTIVE GEAR AND EQUIPMENT	X		Escape pack in TP-451 needs replacing.
14. EMPTY CONTAINERS AND OVERPACK DRUMS	X		

ENCLOSURE (1)

OPERATIONAL CONSIDERATIONS	SAT	UNSAT	COMMENTS
1. Required operator inspections and Inspection Log	X		
2. Emergency Contingency Plan Posting & Operator Familiarity	X		
3. Fire Department Phone number posting	X		
4. Condition of containers in use	X		
5. Presence of odors/vapors, residues in sumps, deck, etc.	X		
6. Unloading Pad Valve Operation	X		
7. Compatibility of Material Storage	X		
8. Implementation of previously recommended corrective action	X		
9. Facility Operators since last Inspection	X		George Eggers

ADDITIONAL COMMENTS, EXPLANATIONS, ETC:

Several hazardous waste labels were missing generator information, EPA ID numbers, EPA waste numbers and UN or NA numbers. Some labels were missing.

Scotch® 7664 "Post-it" Routing-Request Pad

ROUTING - REQUEST

Please
- ☐ READ
- ☐ HANDLE
- ☐ APPROVE

and
- ☐ FORWARD
- ☐ RETURN
- ☐ KEEP OR DISCARD
- ☐ REVIEW WITH ME

To NREAD

Date 8OCT85 From AC/S FACILITIES

UUUUUUUUUUUUUU
U I E D U
UUUUUUUUUUUUUU

T-6240

SS copies to + file

SECOND MAINTBN
SECOND CBTENGRBN
SECOND COMMBN
SECOND RADBN
SECOND MEDBN
SECOND FORECONCO
SECOND ANGLICO

OCT 0 8 1985

FAC ROUTING	ACTION	INFO	INT
FACO			
4A			
4B			
4C			
4D			
4L			
4FC			
4LC			
SEC			
CLK			

INFO CG MCB CAMP LEJEUNE NC

UNCLAS //N06240//

SUBJ: HAZARDOUS WASTE INSPECTION

A. CG 2D FSSG LTR 6280 48 DTD 13 SEP 83
B. BO 6240.5

1. ON 16 OCT 85 A NC STATE INSPECTOR OF THE SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH, NC DIVISION OF HEALTH SERVICES WILL CONDUCT A REINSPECTION OF CLNC. THE INITIAL INSPECTION WAS CONDUCTED 5 SEP 85. REF A REFERS.

2. ON 10 OCT 85 THE 2D FSSG HAZARDOUS MATERIALS COORDINATOR (SSGT LAMM) AND MR D. SHARP, OF THE MCB ENVIRONMENTAL CONTROL OFFICE WILL CONDUCT PRE INSPECTION IN THE FOL SEQUENCE:
MAINT BN, SUPPLY BN, ENGR BN, MT BN, LSB, COMM BN, H&S BN, RADIO BN, DENTAL BN, ANGLICO, CO, RECON CO, 2ND MEDBN

3. REQ COMMAND HAZARDOUS MATERIAL DISPOSAL COORDINATORS (HMDC) BE PRESENT FOR THIS INSPECTION. REQUEST HMDC TO HAVE FOL INFO AVAL:
A. REFS (A), (B)
B. LIST OF SITES THAT GENERATE/STORE HAZARDOUS WASTE
C. LIST OF NCOIC OF EACH SITE
D. LIST OF DOCUMENTED TRAINING FOR EA NCOIC, USE TRNG RECORD/SRB.

HOSP(4)...INFO FOR CG MCB CAMP LEJEUNE(10) 06240/ 1/0260
BCOS(1) BSDO(1) CEOB(1) NCBC(1) OICB(1) TRNG(1)

RTD:069-000/COPIES:0010

286496/277 1 OF 2 MATA0711 277/22137Z 042132Z OCT 85
CSN:RFSR00077 CG SECOND FSSG

UUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU
U UNCLASSIFIED U
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E. LIST OF HAZARDOUS MATERIALS HELD EA SITE
F. COPY REF B EA SITE
G. INSPECTION LOG (REF B REFERS)

4. POC THIS HQ IS SSGT L.L. LAMM G-4 SAFETY EXT 3456.

BT

UUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU
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T-6240

PRIORITY

P 042132Z OCT 85

FM CG SECOND FSSG

TO HQSVCBN SECOND FSSG
SECOND SUPBN
SECOND MAINTBN
SECOND LDGSPTBN
SECOND DENBN
SECOND ANGLICO

SECOND MAINTBN
SECOND CBTENGRBN
SECOND COMMBN
SECOND RADBN
SECOND MEDBN
SECOND FORECONCO

5S copies to 1st Sgt + facilitator

OCT 0 8 1985

FAC ROUTING			
	ACTION	INFO	INT
FACO			
4A			
4B			
4C			
4D			
4L			
4FC			
4LC			
SEC			
CLK			

INFO CG MCB CAMP LEJEUNE NC

UNCLAS //N06240//

SUBJ: HAZARDOUS WASTE INSPECTION

A. CG 2D FSSG LTR 6280 48 DTD 13 SEP 83
B. BO 6240.5

1. ON 16 OCT 85 A NC STATE INSPECTOR OF THE SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH, NC DIVISION OF HEALTH SERVICES WILL CONDUCT A REINSPECTION OF CLNC. THE INITIAL INSPECTION WAS CONDUCTED 5 SEP 85. REF A REFERS.

2. ON 10 OCT 85 THE 2D FSSG HAZARDOUS MATERIALS COORDINATOR (SSGT LAMM) AND MR D. SHARP, OF THE MCB ENVIRONMENTAL CONTROL OFFICE WILL CONDUCT PRE INSPECTION IN THE FOL SEQUENCE:
MAINT BN, SUPPLY BN, ENGR BN, MT BN, LSB, COMM BN, H&S BN, RADIO BN, DENTAL BN, ANGLICO, CO, RECON CO, 2ND MEDBN

3. REQ COMMAND HAZARDOUS MATERIAL DISPOSAL COORDINATORS (HMDC) BE PRESENT FOR THIS INSPECTION. REQUEST HMDC TO HAVE FOL INFO AVAL:
A. REFS (A), (B)
B. LIST OF SITES THAT GENERATE/STORE HAZARDOUS WASTE
C. LIST OF NCOIC OF EACH SITE
D. LIST OF DOCUMENTED TRAINING FOR EA NCOIC, USE TRNG RECORD/SRB.

HOSP(4)...INFO FOR CG MCB CAMP LEJEUNE(10) 06240/ 1/0260
BCOS(1) BSDO(1) CEOB(1) NCBC(1) OICB(1) TRNG(1)

RTD:069-000/COPIES:0010

286496/277 1 OF 2 MATA0711 277/22137Z 042132Z OCT 85
CSN:RFSR00077 CG SECOND FSSG

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E. LIST OF HAZARDOUS MATERIALS HELD EA SITE
F. COPY REF B EA SITE
G. INSPECTION LOG (REF B REFERS)

4. POC THIS HQ IS SSGT L.L. LAMM G-4 SAFETY EXT 3456.

BT

T-6240

6280
NREAD
26 Nov 1985

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Defense Reutilization and Marketing Officer, Camp Lejeune

Subj: INSPECTION REPORT ON LONG TERM HAZARDOUS WASTE STORAGE FACILITIES AT BUILDINGS TP-451 and TC-863

Ref: (a) Onsite inspection on 21 Nov 1985 by Messrs. Becker and Martin, NREAD; Mr. Metts, Base FireProtDiv; and Mr. George Eggers, DRMO
(b) CG MCB CLNC ltr PAC/REA/lf 6280 of 15 Jul 1983

Encl: (1) Inspection Checklist for Long Term Hazardous Waste Storage Facilities at TP-451/TC-863

1. The enclosure provides results of reference (a) as required by reference (b).

2. During reference (a), it was noted that the low supply of absorbents at the TP-451 facility has been corrected.

3. A work request should be submitted to the Base Telephone Officer for repair of the outside emergency telephone pole. Point of contact in this matter is Mr. Danny Sharpe, extensions 5003/2195.

J. I. WOOTEN
By direction

Copy to:
BaseFireCh
AC/S, FAC
SJA
BMO (Attn: Fred Cone)
BaseSafetyMgr
BaseTelephoneOff

Writer: D. Becker, NREAD 5003
Typist: J. Cross 25Nov85

INSPECTION CHECKLIST FOR LONG TERM HAZARDOUS WASTE/MATERIALS STORAGE FACILITIES AT TP-451/TC/863

PARTICIPANTS

DATE:

FACILITIES AND EQUIPMENT	SAT	UNSAT	COMMENTS
1. FACILITY GROUNDS	X		Empty crates beside TP-451 entrance need removal
2. FACILITY SECURITY (LOCKS, DOORS, SIGNS, ETC.)	X		
3. EMERGENCY TELEPHONE AND FIRE ALARMS	X		Telephone pole inside of fence needs repair
4. UNLOADING PAD DRAIN VALVE	X		
5. EXHAUST FANS	X		
6. INTERIOR LIGHTING AND ELECTRICAL OUTLETS	X		
7. SAFETY SHOWERS/ EYE LAVAGES	X		
8. CURBS, GRATES, OTHER FIXTURES	X		
9. NON-SPARKING SHOVELS (2)	X		
10. ABSORBENT (EQUIVALENT OF FOUR 55-GAL BARRELS)	X		
11. HAZ MAT PUMPS OR EQUIVALENT	X		
12. FIRE EXTINGUISHERS	X		
13. PROTECTIVE GEAR AND EQUIPMENT	X		Escape pack in TP-451 needs replacing
14. EMPTY CONTAINERS AND	X		

ENCLOSURE (1)

OPERATIONAL CONSIDERATIONS	SAT	UNSAT	COMMENTS
1. Required operator inspections and Inspection Log	X		
2. Emergency Contingency Plan Posting & Operator Familiarity	X		
3. Fire Department Phone number posting	X		
4. Condition of containers in use	X		
5. Presence of odors/vapors, residues in sumps, deck, etc.	X		
6. Unloading Pad Valve Operation	X		
7. Compatibility of Material Storage	X		
8. Implementation of previously recommended corrective action	X		
9. Facility Operators since last Inspection			Mr. George Eggers

ADDITIONAL COMMENTS, EXPLANATIONS, ETC:

T-6240

6240
NREAD
3 Dec 85

From: Director, Natural Resources and Environmental Affairs Division, Marine Corps Base, Camp Lejeune
To: Assistant Chief of Staff, Facilities, Marine Corps Base, Camp Lejeune

Subj: LEGAL ASPECTS OF HAZARDOUS WASTE

Ref: (a) HQMC sponsored NatRes/Env Workshop at Camp Pendleton on 18-22 Nov 85

Encl: (1) MC Recruit Depot San Diego, CA memo of Law (85-7) 5800 5E1C22 of 10 July 1985

1. During the refernece, Col Rufus C. Young, Jr. gave a presentation on the subject matter and handed out the enclosure which is provided for your information. It is recommended a copy be sent to Base SJA.

J. I. WOOTEN

T-6240

MARINE CORPS BASE/ MARINE CORPS AIR STATION
SITE VISIT FOR
HAZARDOUS MATERIAL AND USED OIL STUDY
ENVIRONMENTAL SAFETY AND DESIGNS, INC.

POC: MR. JIM SPEAKMAN, 901-372-7962

	3 DEC TUESDAY		4 DEC WEDNESDAY		5 DEC THURSDAY		6 DEC FRIDAY	
HAZ. MAT'L	0800	A/C FAC	0900	MCB	0800	2D MARDIV	0800	MCAS
	1300	DRMO	1300	2D FSSG	1400	B.FIRE		
USED OIL	0900	BMO	0900	PWO	0900	DRMO	OUTBRIEF (?)	

COMMAND HAZARDOUS MATERIAL DISPOSAL COORDINATORS WILL ARRANGE SITE VISITS AS TIME PERMITS.

T-6240

6240
NREAD
30 Dec 85

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Defense Reutilization and Marketing Officer, Camp Lejeune

Subj: INSPECTION REPORT ON LONG TERM HAZARDOUS WASTE STORAGE FACILITIES AT BUILDINGS TP-451 and TC-863

Ref: (a) Onsite inspection by Messrs. Becker and Martin, NREAD; Mr. Metts, BFireDept; Mr. Eggers, DRMO
(b) CG MCBLCNC ltr FAC/REA/hf 6280 of 15 July 83

Encl: (1) Inspection Checklist for Long Term Hazardous Waste Storage Facilities at TP-451/TC-863

1. The enclosure provides results of reference (a) as required by reference (b).

2. It was noted during reference (a) that a work request has been forwarded to Base Maintenance and Base Telephone concerning the repair work needed on the outside emergency telephone pole.

3. Point of contact in this matter is Mr. Danny Becker, Natural Resources and Environmental Affairs Division, extensions 5003/2195.

P. E. BLACK
By direction

Copy to:
AC/S FAC
BFireChief
SJA
BMO
BSafetyMgr
BTelephoneO

INSPECTION CHECKLIST FOR LONG TERM HAZARDOUS WASTE/MATERIALS STORAGE FACILITIES AT TP-451/TC/863

PARTICIPANTS

DATE: 24 Dec 85

FACILITIES AND EQUIPMENT	SAT	UNSAT	COMMENTS
1. FACILITY GROUNDS	X		
2. FACILITY SECURITY (LOCKS, DOORS, SIGNS, ETC.)	X		
3. EMERGENCY TELEPHONE AND FIRE ALARMS	X		Telephone pole inside of fence needs repair
4. UNLOADING PAD DRAIN VALVE	X		
5. EXHAUST FANS	X		
6. INTERIOR LIGHTING AND ELECTRICAL OUTLETS	X		
7. SAFETY SHOWERS/ EYE LAVAGES	X		
8. CURBS, GRATES, OTHER FIXTURES	X		
9. NON-SPARKING SHOVELS (2)	X		
10. ABSORBENT (EQUIVALENT OF FOUR 55-GAL BARRELS)	X		
11. HAZ MAT PUMPS OR EQUIVALENT	X		
12. FIRE EXTINGUISHERS	X		
13. PROTECTIVE GEAR AND EQUIPMENT	X		Escape pack in TP-451 needs replacing
14. EMPTY CONTAINERS AND OVERPACK DRUMS	X		

OPERATIONAL CONSIDERATIONS	SAT	UNSAT	COMMENTS
1. Required operator inspections and Inspection Log	X		
2. Emergency Contingency Plan Posting & Operator Familiarity	X		
3. Fire Department Phone number posting	X		
4. Condition of containers in use	X		
5. Presence of odors/vapors, residues in sumps, deck, etc.	X		
6. Unloading Pad Valve Operation	X		
7. Compatibility of Material Storage	X		
8. Implementation of previously recommended corrective action	X		According to the operator, work requests have been sent for the repair of the emergency pole.
9. Facility Operators since last Inspection			George Eggers

ADDITIONAL COMMENTS, EXPLANATIONS, ETC:

installing protected tanks for two years, at which time the ban is replaced by new regulations. The first year cost is $6.2 million and the annualized present value over 20 years is $1.1 million. The most likely estimate is zero.

14. Total Cost of the Final Rule

The sum of all the annualized costs ranges from a lower bound of $365 million to $2.1 billion. Table VI-2 shows these annualized costs as well as the first year costs, which range between $1.9 billion and $14.5 billion. Corrective action costs dominate both first year and annualized costs in each scenario. The Agency is soliciting comments on these cost estimates.

TABLE VI-2.—COSTS OF FINAL RULE

Provisions	Lower bound		Upper bound		Most likely	
	First year costs	Annualized FY	First year costs	Annualized FY	First year costs	Annualized FY
Liquids in landfills	$7,419,100	$5,106,663	$14,838,200	$10,213,326	$11,128,650	$7,659,995
Minimum technological requirements	9,675,600	63,473,700	9,675,600	63,473,700	9,675,600	63,473,700
Corrective action [1]	1,831,591,141	279,506,264	14,179,396,623	1,789,394,619	3,765,989,500	475,814,086
Dust suppression	16,440,000	16,440,000	34,930,000	34,930,000	25,685,000	25,685,000
Small quantity generators	332,500	332,500	1,400,000	1,400,000	542,750	542,750
Burning and blending	0	0	166,920	166,920	107,640	107,640
Exposure assessments	1,906,560	176,213	1,906,560	176,213	1,906,560	176,213
Delisting procedures	1,515,000	482,295	1,515,000	482,295	1,515,000	482,295
Hazardous waste exports	2,250	2,250	12,000	12,000	6,563	6,563
Waste minimization	140,980	140,980	2,482,910	2,482,910	204,954	204,954
Financial responsibility	100,400	100,400	240,560,947	240,560,947	9,803,280	9,803,280
Underground storage tanks	6,215,000	(871,076)	6,215,000	1,113,446	0	0
Grand total	1,875,338,531	364,890,189	14,493,099,760	2,144,406,376	3,826,565,497	583,956,476

[1] Cost of corrective action includes the cost of source control for certain facilities.

List of Subjects

40 CFR Part 260

Administrative practice and procedure, Confidential business information, Hazardous waste, Liquids in landfills.

40 CFR Part 261

Hazardous waste, Small quantity generators, Recycling, Delisting.

40 CFR Part 262

Hazardous materials transportation, Hazardous waste, Imports, Labeling, Packaging and containers, Reporting and recordkeeping requirements, Waste minimization.

40 CFR Part 264

Hazardous waste, Insurance, Packaging and containers, Reporting and recordkeeping requirements, Exposure assessments, Corrective action, Security measures, Surety bonds, Liner requirements.

40 CFR Part 265

Hazardous waste, Insurance, Packaging and containers, Corrective action, Reporting and recordkeeping requirements, Security measures, Surety bonds, Water supply.

40 CFR Part 266

Burning and blending.

40 CFR Part 270

Administrative practice and procedure, Confidential business information, Hazardous materials transportation, Hazardous waste, Reporting and recordkeeping requirements, Water pollution control, Water supply, Permit application requirements.

40 CFR Part 271

Administrative practice and procedure, Confidential business information, Hazardous materials transportation, Hazardous waste, Indians lands, Intergovernmental relations, Penalties, Reporting and recordkeeping requirements, Water pollution control, Water supply.

40 CFR Part 280

Underground storage tanks.

Dated: July 8, 1985.

Lee M. Thomas,

Administrator.

For the reasons set out in the Preamble, Title 40 of the Code of Federal Regulations is amended as follows:

PART 260—HAZARDOUS WASTE MANAGEMENT SYSTEM: GENERAL

1. The authority citation for Part 260 is revised as follows:

Authority: Secs. 1006, 2002(a), 3001 through 3007, 3010, 3014, 3015, 3017, 3018, 3019, and 7004, Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), 6921 through 6927, 6930, 6934, 6935, 6937, 6938, 6939 and 6974).

2. 40 CFR Part 260 is amended by revising § 260.22(a), (c)–(e) to read as follows:

§ 260.22 Petition to amend Part 261 to exclude a waste produced at a particular facility.

(a) Any person seeking to exclude a waste at a particular generating facility from the lists in Subpart D of Part 261 may petition for a regulatory amendment under this section and § 260.20. To be successful:

(1) The petitioner must demonstrate to the satisfaction of the Administrator that the waste produced by a particular generating facility does not meet any of the criteria under which the waste was listed as a hazardous or an actutely hazardous waste; and

(2) Based on a complete application, the Administrator must determine, where he has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste. A waste which is so excluded, however, still may be a hazardous waste by operation of Subpart C of Part 261.

* * * * *

(c) If the waste is listed with codes "I", "C", "R", or "E", in Subpart D,

(1) The petitioner must show that the waste does not exhibit the relevant characteristic for which the waste was listed as defined in § 261.21, § 261.22, § 261.23, or § 261.24 using any applicable methods prescribed therein. The petitioner also must show that the waste does not exhibit any of the other characteristics defined in § 261.21, § 261.22, § 261.23, or § 261.24 using any applicable methods prescribed therein;

(2) Based on a complete application, the Administrator must determine, where he has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be hazardous waste, that such

actors do not warrant retaining the aste as a hazardous waste. A waste hich is so excluded, however, still may e a hazardous waste by operation of ubpart C of Part 261.

(d) If the waste is listed with code "T" Subpart D,

(1) The petitioner must demonstrate at the waste:

(i) Does not contain the constituent or nstituents (as defined in Appendix VII Part 261) that caused the dministrator to list the waste, using the propriate test methods prescribed in ppendix III; or

(ii) Although containing one or more he hazrdous constituents (as defined Appendix VII of Part 261) that caused Administrator to list the waste, does meet the criterion of § 261.11(a)(3) en considering the factors used by Administrator in § 261.11(a)(3) (i) ough (xi) under which the waste was ed as hazardous; and

(2) Based on a complete application, Administrator must determine, re he has a reasonable basis to eve that factors (including additional stituents) other than those for which waste was listed could cause the e to be a hazardous waste, that factors do not warrant retaining waste as a hazardous waste; and

(3) The petitioner must demonstrate he waste does not exhibit any of haracteristics defined in § 261.21, 22, § 261.23, and § 261.24 using any cable methods prescribed therein;

A waste which is so excluded, ever, still may be a hazardous e by operation of Subpart C of Part

If the waste is listed with the code a Subpart D,

The petitioner must demonstrate he waste does not meet the ion of § 261.11(a)(2); and

Based on a complete application, dministrator must determine, he has a reasonable basis to e that additional factors (including onal constituents) other than those ich the waste was listed could the waste to be a hazardous that such factors do not warrant ng the waste as a hazardous and

The petitioner must demonstrate e waste does not exhibit any of aracteristics defined in § 261.21, 2, § 261.23, and § 261.24 using any able methods prescribed therein:

waste which is so excluded, er, still may be a hazardous y operation of Subpart C of Part

* * *

§ 260.22 [Amended]

3. Section 260.22(m) is hereby removed.

PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

4. The authority citation for Part 261 continues to read as follows:

Authority: Sections 1006, 2002(a), 3001, and 3002, of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended [42 U.S.C. 6905, 6912(a), 6921, and 6922].

5. Section 261.4(b)(1) is revised to read as follows:

§ 261.4 Exclusions.

* * * * *

(b) * * *

(1) Household waste, including household waste that has been collected, transported, stored, treated, disposed, recovered (e.g., refuse-derived fuel) or reused. "Household waste" means any material (including garbage, trash and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds and day-use recreation areas). A resource recovery facility managing municipal solid waste shall not be deemed to be treating, storing, disposing of, or otherwise managing hazardous wastes for the purposes of regulation under this subtitle, if such facility—

(i) Receives and burns only

(A) Household waste (from single and multiple dwellings, hotels, motels, and other residential sources) and

(B) Solid waste from commercial or industrial sources that does not contain hazardous waste; and

(ii) Such facility does not accept hazardous wastes and the owner or operator of such facility has established contractual requirements or other appropriate notification or inspection procedures to assure that hazardous wastes are not received at or burned in such facility.

* * * * *

§ 261.5 [Amended]

6. Section 261.5 is amended by redesignating paragraphs (h) and (i) as (i) and (j) respectively.

7. 40 CFR Part 261 is amended by revising § 261.5(b), (f) and (g) and adding (h) to read as follows:

§ 261.5 Special requirements for hazardous waste generated by small quantity generators.

* * * * *

(b) Except for those wastes identified in paragraphs (e), (f), (g), and (h) of this section, a small quantity generator's hazardous wastes are not subject to regulation under Parts 262 through 265 and Parts 270 and 124 of this chapter, and the notification requirements of section 3010 of RCRA, provided the generator complies with the requirements of paragraphs (f), (g) and (h) of this section.

* * * * *

(f) In order for hazardous wastes generated by a small quantity generator of acutely hazardous wastes in quantities equal to or less than those set forth in paragraph (e)(1) or (e)(2) of this section to be excluded from full regulation under this section, the generator must comply with the following requirements:

(1) Section 261.11 of this chapter;

(2) The small quantity generator may accumulate acutely hazardous waste on-site. If he accumulates at any time acutely hazardous wastes in quantities greater than those set forth in paragraph (e)(1) or (e)(2) of this section, all those accumulated wastes for which the accumulation limit was exceeded are subject to regulation under Parts 262 through 265 and Parts 270 and 124 of this chapter, and the applicable notification requirements of section 3010 of RCRA. The time period of § 262.34 for accumulation of wastes on-site begins when the accumulated wastes exceed the applicable exclusion limit;

(3) A small quantity generator may either treat or dispose of his hazardous waste in an on-site facility, or ensure delivery to an off-site storage, treatment or disposal facility, either of which is:

(i) Permitted under Part 270 of this chapter;

(ii) In interim status under Parts 270 and 265 of this chapter;

(iii) Authorized to manage hazardous waste by a State with a hazardous waste management program approved under Part 271 of this chapter;

(iv) Permitted, licensed, or registered by a State to manage municipal or industrial solid waste; or

(v) A facility which:

(A) Beneficially uses or reuses, or legitimately recycles or reclaims its waste; or

(B) Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation.

(g) In order for hazardous waste generated by a small quantity generator in quantities of less than 100 kilograms hazardous waste during a calendar month to be excluded from full regulation under this section, the generator must comply with the following requirements:

(1) Section 261.11 of this chapter;

(2) The small quantity generator may accumulate hazardous waste on-site. If he accumulates at any time more than a total of 1000 kilograms of this hazardous waste, all of those accumulated wastes for which the accumulation limit was exceeded are subject to regulation under Parts 262 through 265 and Parts 270 and 124 of this chapter, and the applicable notification requirements of section 3010 of RCRA. The time period of § 262.34 for accumulation of wastes on-site begins for a small quantity generator when the accumulated wastes exceed 1000 kilograms;

(3) A small quantity generator may either treat or dispose of his hazardous waste in an on-site facility, or ensure delivery to an off-site storage, treatment, or disposal facility, either of which is:

(i) Permitted under Part 270 of this chapter;

(ii) In interim status under Parts 270 and 265 of this chapter;

(iii) Authorized to manage hazardous waste by a State with a hazardous waste management program approved under Part 271 of this chapter;

(iv) Permitted, licensed, or registered by a State to manage municipal or industrial solid waste; or

(v) A facility which:

(A) Beneficially uses or reuses, or legitimately recycles or reclaims its waste; or

(B) Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation.

(h) In order for hazardous waste generated by a small quantity generator in a quantity greater than 100 kilograms but less than 1000 kilograms during a calendar month to be excluded from full regulation under this section, the generator must comply with the following requirements:

(1) Section 262.11 of this chapter;

(2) A small quantity generator may accumulate hazardous waste on-site. If he accumulates at any time more than a total of 1000 kilograms of his hazardous waste, all those accumulated wastes for which the accumulation limit was exceeded are subject to regulation under Parts 262 through 265 and Parts 270 and 124 of this chapter, and the applicable notification requirements of section 3010 of RCRA. The time period of § 262.34 for accumulation of hazardous waste on-site begins for a small quantity generator when the accumulated wastes exceed 1000 kilograms;

(3) Beginning August 5, 1985, for any hazardous waste shipped off-site, the generator must ensure that such waste is accompanied by a copy of the manifest (EPA form 8700–22) signed by him and containing the following information:

(i) The name and address of the generator of the waste;

(ii) The United States Department of Transportation description of the waste, including the proper shipping name, hazard class, and identification number (UN/NA);

(iii) The number and type of containers;

(iv) The quantity of waste being transported; and

(v) The name and address of the facility designated to receive the waste.

(4) A small quantity generator may either treat or dispose of his hazardous waste in an on-site facility, or ensure delivery to an off-site storage, treatment or disposal facility, either of which is:

(i) Permitted under Part 270 of this chapter;

(ii) In interim status under Parts 270 and 265 of this chapter;

(iii) Authorized to manage hazardous waste by a State with a hazardous waste management program approved under Part 271 of this chapter;

(iv) Permitted, licensed, or registered by a State to manage municipal or industrial solid waste; or

(v) A facility which:

(A) Beneficially uses or reuses, or legitimately recycles or reclaims its waste; or

(B) Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation.

* * * * *

8. 40 CFR Part 261 is amended by revising the introductory text and adding an OMB control number to the end of the section of § 261.33 to read as follows:

§ 261.33 Discarded commercial chemical products, off-specification species, container residues and spill residues thereof.

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded, when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment, or when, in lieu of their original intended use, they are produced for use as (or as a component of) a fuel, distributed for use as a fuel, or burned as a fuel.

* * * * *

(The reporting and recordkeeping requirements contained in this section were approved by OMB under control number 2050–0047.)

PART 262—STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE

9. The authority citation for Part 262 is revised as follows:

Authority: Secs. 1006, 2002, 3002, 3003, 3004, 3005, and 3017, of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6906, 6912, 6922, 6923, 6924, 6925, and 6937).

Appendix—[Amended]

10. The Uniform Hazardous Waste Manifest form in the Appendix to Part 262 is revised as follows:

BILLING CODE 6560-50-M

APPENDIX

Please print or type. *(Form designed for use on elite (12-pitch) typewriter.)* *Form Approved. OMB No. 2000-0404. Expires 7-31-86*

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. | Manifest Document No. | 2. Page 1 of | Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address

4. Generator's Phone ( )

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name | 6. US EPA ID Number

C. State Transporter's ID

D. Transporter's Phone

7. Transporter 2 Company Name | 8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address | 10. US EPA ID Number

G. State Facility's ID

H. Facility's Phone

11. US DOT Description *(Including Proper Shipping Name, Hazard Class, and ID Number)*	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
GENERATOR a.					
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this 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 international and national government regulations.

Unless I am a small quantity generator who has been exempted by statute or regulation from the duty to make a waste minimization certification under Section 3002(b) of RCRA, I also certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment.

Printed/Typed Name | Signature | Month Day Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

19. Discrepancy Indication Space

FACILITY

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

NRC Form 8700-22 (Rev. 4-85) Previous edition is obsolete.

NRCM CODE 6560-50-C

11. The Appendix to Part 262 is further amended by adding the following sentence to Item 16 of the instructions two spaces below the last sentence, and preceeding the Note.

* * * * *

Item 16. Generator's Certification

* * * * *

In signing the waste minimization certification statement, those generators who have not been exempted by statute or regulation from the duty to make a waste minimization certification under section 3002(b) of RCRA are also certifying that they have complied with the waste minimization requirements.

* * * * *

12. Section 262.41(a) is amended by revising (a)(6) and adding (a) (7) and (8) to read as follows:

§ 262.41 Biennial report.

(a) * * *

(6) A description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated.

(7) A description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such information is available for years prior to 1984.

(8) The certification signed by the generator or authorized representative.

* * * * *

§ 262.50 [Amended]

13. In Section 262.50, existing paragraphs (d) and (e) are redesignated as paragraphs (e) and (f).

14. Section 262.50 is amended by adding a new paragraph (d) and the OMB control number to the end of the section to read as follows:

§ 262.50 International shipments.

* * * * *

(d) Any person exporting hazardous waste identified or listed under this chapter shall file with the Administrator no later than March 1 of each year, a report summarizing the types, quantities, frequency, and ultimate destination of all such hazardous waste exported during the previous calendar year.

* * * * *

(The reporting and recordkeeping requirements contained in this section were approved by OMB under control number 2050–0024.)

PART 264—STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

15. The authority citation for Part 264 continues to read as follows:

Authority: Secs. 1006, 2002(a), 3004, 3005, of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), 6924, and 6925).

16. 40 CFR Part 264 is amended by adding a new paragraph § 264.1(f)(3) to read as follows:

§ 264.1 Purpose, scope, and applicability.

* * * * *

(f) * * *

(3) To a person who treats, stores, or disposes of hazardous waste in a State which is authorized under Subpart A or B of Part 271 of this chapter if the State has not been authorized to carry out the requirements and prohibitions applicable to the treatment, storage, or disposal of hazardous waste at his facility which are imposed pursuant to the Hazardous and Solid Waste Amendments of 1984. The requirements and prohibitions that are applicable until a State receives authorization to carry them out include all Federal program requirements identified in § 271.1(j).

* * * * *

17. In § 264.18, new paragraph (c) is added to read as follows:

§ 264.18 Location standards.

* * * * *

(c) *Salt dome formations, salt bed formations, underground mines and caves.* The placement of any noncontainerized or bulk liquid hazardous waste in any salt dome formation, salt bed formation, underground mine or cave is prohibited, except for the Department of Energy Waste Isolation Pilot Project in New Mexico.

18. 40 CFR Part 264 is amended by revising § 264.70 as follows:

§ 264.70 Applicability.

The regulations in this subpart apply to owners and operators of both on-site and off-site facilities, except as § 264.1 provides otherwise. Sections 264.71, 264.72, and 264.76 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources. Section 264.73(b) only applies to permittees who treat, store, or dispose of hazardous wastes on-site where such wastes were generated.

19. In § 264.73, new paragraph (b)(9) and an OMB control number are added to read as follows:

§ 264.73 Operating record.

* * * * *

(b) * * *

(9) A certification by the permittee no less often than annually, that the permittee has a program in place to reduce the volume and toxicity of hazardous waste that he generates to the degree determined by the permittee to be economically practicable; and the proposed method of treatment, storage or disposal is that practicable method currently available to the permittee which minimizes the present and future threat to human health and the environment.

(The reporting and recordkeeping requirements contained in paragraph (b)(9) were approved by OMB under control number 2050–0037.)

20. In 40 CFR Part 264, the heading for Subpart F is revised to read as follows:

Subpart F—Releases From Solid Waste Management Units

21. In 40 CFR Part 264, § 264.90 is amended by revising paragraphs (a) and (b) to read as follows:

§ 264.90 Applicability.

(a)(1) Except as provided in paragraph (b) of this section, the regulations in this subpart apply to owners or operators of facilities that treat, store or dispose of hazardous waste. The owner or operator must satisfy the requirements identified in paragraph (a)(2) of this section for all wastes (or constituents thereof) contained in solid waste management units at the facility, regardless of the time at which waste was placed in such units.

(2) All solid waste management units must comply with the requirements in § 264.101. A surface impoundment, waste pile, and land treatment unit or landfill that receives hazardous waste after July 26, 1982 (hereinafter referred to as a "regulated unit") must comply with the requirements of §§ 264.91–264.100 in lieu of § 264.101 for purposes of detecting, characterizing and responding to releases to the uppermost aquifer. The finanical responsibility requirements of § 264.101 apply to regulated units.

(b) The owner or operator's regulated unit or units are not subject to regulation for releases into the uppermost aquifer under this subpart if:

(1) The owner or operator is exempted under § 264.1; or

(2) He operates a unit which the Regional Administrator finds:

(i) Is an engineered structure,

(ii) Does not receive or contain liquid waste or waste containing free liquids,

(iii) Is designed and operated to exclude liquid, precipitation, and other run-on and run-off,

(iv) Has both inner and outer layers of containment enclosing the waste,

(v) Has a leak detection system built into each containment layer,

(vi) The owner or operator will provide continuing operation and maintenance of these leak detection systems during the active life of the unit and the closure and post-closure care periods, and

(vii) To a reasonable degree of certainty, will not allow hazardous constituents to migrate beyond the outer containment layer prior to the end of the the post-closure care period.

(3) The Regional Administrator finds, pursuant to § 264.280(d), that the treatment zone of a land treatment unit that qualifies as a regulated unit does not contain levels of hazardous constituents that are above background levels of those constituents by an amount that is statistically significant, and if an unsaturated zone monitoring program meeting the requirements of § 264.278 has not shown a statistically significant increase in hazardous constituents below the treatment zone during the operating life of the unit. An exemption under this paragraph can only relieve an owner or operator of responsibility to meet the requirements of this subpart during the post-closure care period; or

(4) The Regional Administrator finds that there is no potential for migration of liquid from a regulated unit to the uppermost aquifer during the active life of the regulated unit (including the closure period) and the port-closure care period specified under § 264.117. This demonstration must be certified by a qualified geologist or geotechnical engineer. In order to provide an adequate margin of safety in the prediction of potential migration of liquid, the owner or operator must base any predictions made under this paragraph on assumptions that maximize the rate of liquid migration.

(5) He designs and operates a pile in compliance with § 264.250(c).

* * * * *

22. A new § 264.101 is added to Part 264, Subpart F to read as follows:

§ 264.101 Corrective action for solid waste management units.

(a) The owner or operator of a facility seeking a permit for the treatment, storage or disposal of hazardous waste must institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in such unit.

(b) Corrective action will be specified in the permit. The permit will contain schedules of compliance for such corrective action (where such corrective action cannot be completed prior to issuance of the permit) and assurances of financial responsibility for completing such corrective action.

§ 264.221 [Amended]

23. In § 264.221, paragraphs (c), (d), and (e) are redesignated as paragraphs (f), (g), and (h), respectively.

24. In § 264.221, the introductory text of paragraph (a) is revised to read as follows:

§ 264.221 Design and operating requirements.

(a) Any surface impoundment that is not covered by paragraph (c) of this section or § 265.221 of this chapter must have a liner for all portions of the impoundment (except for existing portions of such impoundments). The liner must be designed, constructed, and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or ground water or surface water at any time during the active life (including the closure period) of the impoundment. The liner may be constructed of materials that may allow wastes to migrate into the liner (but not into the adjacent subsurface soil or ground water or surface water) during the active life of the facility, provided that the impoundment is closed in accordance with § 264.228(a)(1). For impoundments that will be closed in accordance with § 264.228(a)(2), the liner must be constructed of materials that can prevent wastes from migrating into the liner during the active life of the facility. The liner must be: * * *

* * * * *

25. Section 264.221 is amended by adding paragraphs (c), (d), and (e) to read as follows:

§ 264.221 Design and operating requirements.

* * * * *

(c) The owner or operator of each new surface impoundment, each new surface impoundment unit at an existing facility, each replacement of an existing surface impoundment unit, and each lateral expansion of an existing surface impoundment unit, must install two or more liners and a leachate collection system between such liners. The liners and leachate collection system must protect human health and the environment. The requirements of this paragraph shall apply with respect to all waste received after the issuance of the permit. The requirement for the installation of two or more liners in this paragraph may be satisfied by the installation of a top liner designed, operated and constructed of materials to prevent the migration of any constituent into such liner during the period such facility remains in operation (including any post-closure monitoring period), and a lower liner designed, operated, and constructed to prevent the migration of any constituent through such liner during such period. For the purpose of the preceding sentence, a lower liner shall be deemed to satisfy such requirement if it is constructed of at least a 3-foot thick layer of recompacted clay or other natural material with a permeability of no more than 1×10^{-7} centimeter per second.

(d) Paragraph (c) of this section will not apply if the owner or operator demonstrates to the Regional Administrator, and the Regional Administrator finds for such surface impoundment, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as such liners and leachate collection systems.

(e) The double liner requirement set forth in paragraph (c) of this section may be waived by the Regional Administrator for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the EP toxicity characteristics in § 261.24 of this chapter; and

(2)(i)(A) The monofill has at least one liner for which there is no evidence that such liner is leaking. For the purposes of this paragraph, the term "liner" means a liner designed, constructed, installed, and operated to prevent hazardous waste from passing into the liner at any time during the active life of the facility, or a liner designed, constructed, installed, and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, ground water, or surface water at any time during the active life of the facility. In the case of any surface impoundment which has been exempted from the requirements of paragraph (c) of this section on the basis of a liner designed, constructed, installed, and operated to prevent hazardous waste from passing beyond the liner, at the closure of such impoundment, the owner or operator must remove or decontaminate all waste residues, all contaminated liner material, and contaminated soil to the extent practicable. If all contaminated soil is not removed or decontaminated, the owner or operator of such

impoundment will comply with appropriate post-closure requirements, including but not limited to ground-water monitoring and corrective action;

(B) The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in § 144.3 of this chapter); and

(C) The monofill is in compliance with generally applicable ground-water monitoring requrements for facilities with permits under RCRA § 3005(c); or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

§ 264.222 [Removed]

26. Section 264.222 is removed.

§ 264.226 [Amended]

27. Section 264.226(b)(3) is removed, and paragraph (b)(4) is redesignated as (b)(3).

§ 264.227 [Amended]

28. Section 264.227(d)(2)(i) is amended by removing the phrase "or § 264.228(b)(2)."

§ 264.228 [Amended]

29. Section 264.228(b)(2) is removed and paragraphs (b)(3) and (b)(4) are redesignated as (b)(2) and (b)(3), respectively.

30. Section 264.228(d) is removed.

§ 264.252 [Removed]

31. Section 264.252 is removed.

§ 264.253 [Removed]

32. Section 264.253 is removed.

§ 264.254 [Amended]

33. Section 264.254(b)(2) is removed, and paragraphs (b)(3) and (b)(4) are redesignated as (b)(2) and (b)(3), respectively.

§ 264.301 [Amended]

34. Section 264.301 is amended by redesignating paragraphs (c), (d), (e), (f), and (g) as paragraphs (f), (g), (h), (i), and (j), respectively.

35. Section 264.301 is amended by revising the introductory text of paragraph (a) to read as follows:

§ 264.301 Design and operating requirements.

(a) Any landfill that is not covered by paragraph (c) of this section or § 265.301(a) of this chapter must have a liner system for all portions of the landfill (except for existing portions of such landfill). The liner system must have: * * *

* * * * *

36. Section 264.301 is amended by adding new paragraphs (c), (d), (e), and (k), to read as follows:

§ 264.301 Design and operating requirements.

* * * * *

(c) The owner or operator of each new landfill, each new landfill unit at an existing facility, each replacement of an existing landfill unit, and each lateral expansion of an existing landfill unit, must install two or more liners and a leachate collection system above and between the liners. The liners and leachate collection systems must protect human health and the environment. The requirement for the installation of two or more liners in this paragraph may be satisfied by the installation of a top liner designed, operated and constructed of materials to prevent the migration of any constituent into such liner during the period such facility remains in operation (including any post-closure monitoring period), and a lower liner designed, operated, and constructed to prevent the migration of any constituent through such liner during such period. For the purpose of the preceding sentence, a lower liner shall be deemed to satisfy such requirement if it is constructed of at least a 3-foot thick layer of recompacted clay or other natural material with a permeability of no more than 1×10^{-7} centimeter per second.

(d) Paragraph (c) of this section will not apply if the owner or operator demonstrates to the Regional Administrator, and the Regional Administrator finds for such landfill, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as such liners and leachate collection systems.

(e) The double liner requirement set forth in paragraph (c) of this section may be waived by the Regional Administrator for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the EP toxicity characteristics in § 261.24 of this chapter; and

(2)(i)(A) The monofill has at least one liner for which there is no evidence that such liner is leaking;

(B) The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in § 144.3 of this chapter); and

(C) The monofill is in compliance with generally applicable ground-water monitoring requirements for facilities with permits under RCRA 3005(c); or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

* * * * *

(k) Any permit under RCRA 3005(c) which is issued for a landfill located within the State of Alabama shall require the installation of two or more liners and a leachate collection system above and between such liners, notwithstanding any other provision of RCRA.

§ 264.302 [Removed]

37. Section 264.302 is removed.

§ 264.303 [Amended]

38. Section 264.303(b)(2) is removed, and paragraphs (b)(3), and (b)(4) are redesignated (b)(2) and (b)(3), respectively.

§ 264.310 [Amended]

39. Section 264.310(b)(2) is removed, and paragraphs (b)(3) and (b)(4), (b)(5) and (b)(6) are redesignated (b)(2), and (b)(3), (b)(4) and (b)(5), respectively.

40. Section 264.310(c) is removed.

41. Section 264.314 is amended by revising the introductory text of paragraph (a) to read as follows:

§ 264.314 Special requirements for bulk and containerized waste.

(a) Bulk or non-containerized liquid waste or waste containing free liquids may be placed in a landfill prior to May 8, 1985 only if:

* * * * *

42. Paragraph (b) of § 264.314 is redesignated paragraph (d), and a new paragraph (b) is added to read as follows:

§ 264.314 Special requirements for bulk and containerized waste.

* * * * *

(b) Effective May 8, 1985, the placement of bulk or non-containerized liquid hazardous waste or hazardous waste containing free liquids (whether or not absorbents have been added) in any landfill is prohibited.

* * * * *

43. Section 264.314 is amended by adding paragraph (e) and an OMB control number to read as follows:

§ 264.314 Special requirements for bulk and containerized waste.

* * * * *

(e) Effective November 8, 1985, the placement of any liquid which is not a hazardous waste in a landfill is prohibited unless the owner or operator of such landfill demonstrates to the Regional Administrator, or the Regional Administrator determines, that:

(1) The only reasonably available alternative to the placement in such landfill is placement in a landfill or unlined surface impoundment, whether or not permitted or operating under interim status, which contains, or may reasonably be anticipated to contain, hazardous waste; and

(2) Placement in such owner or operator's landfill will not present a risk of contamination of any underground source of drinking water (as that term is defined in § 144.3 of this chapter.)

(The reporting and recordkeeping requirements contained in this section were approved by OMB under control number 2050–0037.)

PART 265—INTERIM STATUS STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE AND DISPOSAL FACILITIES

44. The authority citation for Part 265 is revised to read as follows:

Authority: Secs. 1006, 2002(a) , 3004, 3005 and 3015, Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, as amended (42 U.S.C. 6905, 6912(a), 6924, 6925, and 6935).

45. Section 265.1 is amended by revising paragraph (c)(4) to read as follows:

§ 265.1 [Amended]

* * * * *

(c) * * *

(4) A person who treats, stores, or disposes of hazardous waste in a State with a RCRA hazardous waste program authorized under Subparts A or B of Part 271 of this chapter, except that the requirements of this part will continue to apply:

(i) As stated in paragraph (c)(2) of this section, if the authorized State RCRA program does not cover disposal of hazardous waste by means of underground injection; or

(ii) To a person who treats, stores, or disposes of hazardous waste in a State authorized under Subpart A or B of Part 271 of this chapter if the State has not been authorized to carry out the requirements and prohibitions applicable to the treatment, storage, or disposal of hazardous waste at his facility which are imposed pursuant to the Hazardous and Solid Waste Act Amendments of 1984. The requirements and prohibitions that are applicable until a State receives authorization to carry them out include all Federal program requirements identified in § 271.1(j).

* * * * *

46. In Part 265, Subpart B, a new § 265.18 is added to read as follows:

§ 265.18 Location standards.

The placement of any hazardous waste in a salt dome, salt bed formation, underground mine or cave is prohibited, except for the Department of Energy Waste Isolation Pilot Project in New Mexico.

47. Part 265, Subpart B, is amended by adding a new § 265.221 to read as follows:

§ 265.221 Design requirements.

(a) The owner or operator of a surface impoundment must install two or more liners and leachate collection system in accordance with § 264.221(c) of this chapter, with respect to each new unit, replacement of an existing unit, or lateral expansion of an existing unit that is within the area identified in the Part A permit application, and with respect to waste received beginning May 8, 1985.

(b) The owner or operator of each unit referred to in paragraph (a) of this section must notify the Regional Administrator at least sixty days prior to receiving waste. The owner or operator of each facility submitting notice must file a Part B application within six months of the receipt of such notice.

(c) Paragraph (a) of this section will not apply if the owner or operator demonstrates to the Regional Administrator, and the Regional Administrator finds for such surface impoundment, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as such liners and leachate collection systems.

(d) The double liner requirement set forth in paragraph (a) of this section may be waived by the Regional Administrator for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the EP toxicity characteristics in § 261.24 of this chapter; and

(2)(i)(A) The monofill has at least one liner for which there is no evidence that such liner in leaking. For the purposes of this paragraph the term "liner" means a liner designed, constructed, installed, and operated to prevent hazardous waste from passing into the liner at any time during the active life of the facility, or a liner designed, constructed, installed, and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, ground water, or surface water at any time during the active life of the facility. In the case of any surface impoundment which has been exempted from the requirements of paragraph (a) of this section on the basis of a liner designed, constructed, installed, and operated to prevent hazardous waste from passing beyond the liner, at the closure of such impoundment the owner or operator must remove or decontaminate all waste residues, all contaminated liner material, and contaminated soil to the extent practicable. If all contaminated soil it is not removed or decontaminated, the owner of operator of such impoundment must comply with appropriate post-closure requirements, including but not limited to ground-water monitoring and corrective action;

(B) The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in § 144.3 of this chapter); and

(C) The monofill is in compliance with generally applicable ground-water monitoring requirements for facilities with permits under RCRA § 3005(c); or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(e) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of paragraph (a) of this section and in good faith compliance with paragraph (a) of this section and with guidance documents governing liners and leachate collection systems under paragraph (a) of this section, no liner or leachate collection system which is different from that which was so installed pursuant to paragraph (a) of this section will be required for such unit by the Regional Administrator when issuing the first permit to such facility, except that the Regional Administrator will not be precluded from requiring installation of a new liner when the Regional Administrator has reason to believe that any liner installed pursuant to the requirements of paragraph (a) of this section is leaking.

48. Part 265 is amended by adding a new § 265.254 to read as follows:

§ 265.254 Design requirements.

The owner or operator of a waste pile is subject to the requirements for liners and leachate collection systems or equivalent protection provided in § 264.251 of this chapter, with respect to each new unit, replacement of an existing unit, or lateral expansion of an existing unit that is within the area indentified in the Part A permit application, and with respect to waste received beginning May 8, 1985.

49. Part 265 is amended by adding a new § 265.301 to read as follows:

§ 265.301 Design requirements.

(a) The owner or operator of a landfill must install two or more liners and leachate collection systems above and between such liners in accordance with § 264.301(c) of this chapter, with respect to each new unit, replacement of an existing unit, or lateral expansion of an existing unit that is within the area identified in the Part A permit application, and with respect to waste received beginning May 8, 1985.

(b) The owner or operator of each unit referred to in paragraph (a) of this section must notify the Regional Administrator at least sixty days prior to receiving waste. The owner or operator of each facility submitting notice must file a Part B application within six months of the receipt of such notice.

(c) Paragraph (a) of this section will not apply if the owner or operator demonstrates to the Regional Administrator, and the Regional Administrator finds for such landfill, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as such liners and leachate collection systems.

(d) The double liner requirement set forth in paragraph (a) of this section may be waived by the Regional Administrator for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the EP toxicity characteristics in § 261.24 of this chapter; and

(2)(i) (A) The monofill has at least one liner for which there is no evidence that such liner is leaking;

(B) The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in § 144.3 of this chapter); and

(C) The monofill is in compliance with generally applicable ground-water monitoring requirements for facilities with permits under RCRA § 3005(c); or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(e) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of paragraph (a) of this section and in good faith compliance with paragraph (a) of this section and with guidance documents governing liners and leachate collection systems under paragraph (a) of this section, no liner or leachate collection system which is different from that which was so installed pursuant to paragraph (a) of this section will be required for such unit by the Regional Administrator when issuing the first permit to such facility, except that the Regional Administrator will not be precluded from requiring installation of a new liner when the Regional Administrator has reason to believe that any liner installed pursuant to the requirements of paragraph (a) of this section is leaking.

§ 265.314 [Amended]

50. Paragraphs (b) and (c) of § 265.314 are redesignated as paragraphs (c) and (e), respectively, and paragraph (d) is reserved.

51. Section 265.314 is amended by revising the introductory text of paragraph (a), and by adding new paragraph (b) to read as follows:

§ 265.314 Special requirements for liquid bulk and containerized waste.

(a) Bulk or non-containerized liquid waste or waste containing free liquids may be placed in a landfill prior to May 8, 1985 only if:

* * * * *

(b) Effective May 8, 1985, the placement of bulk or non-containerized liquid hazardous waste or hazardous waste containing free liquids (whether or not absorbents have been added) in any landfill is prohibited.

* * * * *

52. Section 265.314 is amended by revising newly designated paragraph (e), adding a new paragraph (f), and adding an OMB control number to the end of the section to read as follows:

§ 265.314 Special requirements for bulk and containerized waste.

* * * * *

(e) The date for compliance with paragraph (a) of this section is November 19, 1981. The date for compliance with paragraph (c) of this section is March 22, 1982.

(f) Effective November 8, 1985, the placement of any liquid which is not a hazardous waste in a landfill is prohibited unless the owner or operator of such landfill demonstrates to the Regional Administrator, or the Regional Administrator determines, that:

(1) The only reasonably available alternative to the placement in such landfill is placement in a landfill or unlined surface impoundment, whether or not permitted or operating under interim status, which contains, or may reasonably be anticipated to contain, hazardous waste; and

(2) Placement in such owner or operator's landfill will not present a risk of contamination of any underground source of drinking water (as that term is defined in § 144.3 of this chapter).

(The reporting and recordkeeping requirements contained in this section were approved by OMB under control number 2050–0037)

PART 266—STANDARDS FOR THE MANAGEMENT OF SPECIFIC HAZARDOUS WASTES AND SPECIFIC TYPES OF HAZARDOUS WASTE MANAGEMENT FACILITIES

53. The authority citation for Part 266 continues to read as follows:

Authority: Secs. 1006, 2002(a), and 3004, of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), and 6924).

54. In Part 266, Subpart C, the text of 266.23 is redesignated as paragraph (a) and a new paragraph (b) is added to read as follows:

§ 266.23 Standards applicable to users of materials that are used in a manner that constitutes disposal.

* * * * *

(b) The use of waste or used oil or other material, which is contaminated with dioxin or any other hazardous waste (other than a waste identified solely on the basis of ignitability), for dust suppression or road treatment is prohibited.

55. In Part 266, Subpart D is amended by adding § 266.31 as set forth below.

§ 266.31 Prohibitions.

(a) [Reserved]

(b)(1) Except as provided in paragraph (b)(2) of this section, no fuel which contains any hazardous waste may be burned in any cement kiln which is located within the boundaries of any incorporated municipality with a population greater than 500,000 (based on the most recent census statistics)

unless such kiln fully complies with regulations under this chapter that are applicable to incinerators.

(2) This requirement does not apply to petroleum refinery hazardous wastes containing oil which are converted into petroleum coke at the same facility at which such wastes were generated, unless the resulting coke product would exceed one or more of the characteristics of hazardous waste in Part 261, Subpart C.

56. In Part 266, Subpart D, § 266.34 is amended by adding paragraph (d) and adding an OMB control number to the end of the section.

§ 266.34 [Amended]

* * * * *

(d) Labelling. (1) Except as provided in paragraphs (d)(2)–(4) of this section, after February 6, 1985, it shall be unlawful for any person who produces, distributes, or markets any fuel that contains a hazardous waste to distribute or market such fuel if the invoice or the bill of sale fails:

(i) To bear the following statement: "WARNING: THIS FUEL CONTAINS HAZARDOUS WASTE", and

(ii) To list the hazardous wastes contained therein. Such statement must be located in a conspicuous place on every such invoice or bill of sale and must appear in conspicuous and legible type in contrast by typography, layout, or color with other printed matter on the invoice or bill of sale.

(2) This requirement does not apply to fuels produced from petroleum refining hazardous waste containing oil if

(i) Such materials are generated and reinserted on-site into the refining process;

(ii) Contaminants are removed; and

(iii) Such refining waste containing oil is converted along with normal process streams into petroleum-derived fuel products at a facility at which crude oil is refined into petroleum products and which is classified as a number SIC 2911 facility under the Office of Management and Budget Standard Industrial Classification Manual.

(3) This requirement does not apply to fuels produced from oily materials resulting from normal petroleum refining production and transportation practices; if

(i) Contaminants are removed; and

(ii) Such oily materials are converted along with normal process streams into petroleum-derived fuel products at a facility at which crude oil is refined into petroleum products and which is classified as a number SIC 2911 facility under the Office of Management and Budget Standard Industrial Classification Manual.

(4) This requirement does not apply to petroleum refinery hazardous wastes containing oil which are converted into petroleum coke at the same facility at which such wastes were generated, unless the resulting coke product would exceed one or more of the characteristics of hazardous waste in Part 261, Subpart C.

(The reporting and recordkeeping requirements contained in this section were approved by OMB under control number 2050–0047)

PART 270—EPA ADMINISTERED PERMIT PROGRAMS: THE HAZARDOUS WASTE PERMIT PROGRAM

57. The authority citation for Part 270 is revised to read as follows:

Authority: Secs. 1006, 2002, 3005, 3007, 3019, and 7004 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912, 6925, 6927, 6939, and 6974).

58. In Part 270, § 270.10 is amended by revising paragraphs (a) and (c), the paragraph heading of (e), paragraphs (e)(1), (f)(1), (f)(3), adding (j), amending paragraph (e)(4) by adding two sentences to the end and by adding an OMB control number to the end of the section to read as follows:

§ 270.10 General application requirements.

(a) *Permit application.* Any person who is required to have a permit (including new applicants and permittees with expiring permits) shall complete, sign, and submit an application to the Director as described in this section and §§ 270.70 through 270.73. Persons currently authorized with interim status shall apply for permits when required by the Director. Persons covered by RCRA permits by rule (§ 270.60), need not apply. Procedures for applications, issuance and administration of emergency permits are found exclusively in § 270.61. Procedures for application, issuance and administration of research, development, and demonstration permits are found exclusively in § 270.65.

* * * * *

(c) *Completeness.* The Director shall not issue a permit before receiving a complete application for a permit except for permits by rule, or emergency permits. An application for a permit is complete when the Director receives an application form and any supplemental information which are completed to his satisfaction. An application for a permit is complete notwithstanding the failure of the owner or operator to submit the exposure information described in paragraph (j) of this section.

* * * * *

(e) *Existing HWM facilities and interim status qualifications.* (1) Owners and operators of existing hazardous waste management facilities or of hazardous waste management facilities in existence on the effective date of statutory or regulatory amendments under the act that render the facility subject to the requirement to have a RCRA permit must submit Part A of their permit application no later than —

(i) Six months after the date of publication of regulations which first require them to comply with the standards set forth in 40 CFR Parts 265 or 266, or

(ii) Thirty days after the date they first become subject to the standards set forth in 40 CFR Part 265 or 266, whichever first occurs.

* * * * *

(4) * * * Notwithstanding the above, any owner or operator of an existing HWM facility must submit a Part B permit application in accordance with the dates specified in § 270.73. Any owner or operator of a land disposal facility in existence on the effective date of statutory or regulatory amendments under this Act that render the facility subject to the requirement to have a RCRA permit must submit a Part B application in accordance with the dates specified in § 270.73.

* * * * *

(f) *New HWM facilities.* (1) Except as provided in paragraph (f)(3) of this section, no person shall begin physical construction of a new HWM facility without having submitted Part A and Part B of the permit application and having received a finally effective RCRA permit.

* * * * *

(3) Notwithstanding paragraph (f)(1) of this section, a person may construct a facility for the incineration of polychlorinated biphenyls pursuant to an approval issued by the Administrator under section (6)(e) of the Toxic Substances Control Act and any person owning or operating such a facility may, at any time after construction or operation of such facility has begun, file an application for a RCRA permit to incinerate hazardous waste authorizing such facility to incinerate waste identified or listed under Subtitle C of RCRA.

* * * * *

(j) *Exposure information.* (1) After August 8, 1985, any Part B permit application submitted by an owner or operator of a facility that stores, treats,

or dispose of hazardous waste in a surface impoundment or a landfill must be accompanied by information, reasonably ascertainable by the owner or operator, on the potential for the public to be exposed to hazardous wastes or hazardous constituents through releases related to the unit. At a minimum, such information must address:

(i) Reasonably foreseeable potential releases from both normal operations and accidents at the unit, including releases associated with transportation to or from the unit;

(ii) The potential pathways of human exposure to hazardous wastes or constituents resulting from the releases described under paragraph (i); and

(iii) The potential magnitude and nature of the human exposure resulting from such releases.

(2) By August 8, 1985, owners and operators of a landfill or a surface impoundment who have already submitted a Part B application must submit the exposure information required in paragraph (j)(1) of this section.

(Reporting and recordkeeping requirements contained in this section were approved by OMB under control number 2050–0007.)

§ 270.17 [Amended]

59. Section 270.17 is amended by removing paragraph (c), redesignating paragraphs (d), (e), (f), (g), (h), (i) and (j) as (c), (d), (e), (f), (g), (h), and (i) respectively.

60. Section 270.18 is amended by revising paragraph (b) to read as follows:

§ 270.18 Specific Part B information requirements for waste piles.

* * * * *

(b) If an exemption is sought to § 264.251 and Subpart F of Part 264 as provided by § 264.250(c) or § 264.90(2), an explanation of how the standards of § 264.250(c) will be complied with or detailed plans and an engineering report describing how the requirements of § 264.90(b)(2) will be met.

* * * * *

61. Section 270.18 is amended by removing paragraph (d), redesignating paragraphs (e), (f), (g), (h), (i) and (j) as (d), (e), (f), (g), (h) and (i) respectively.

62. Section 270.18 is amended by revising newly designated paragraph (d) to read as follows:

* * * * *

(d) A description of how each waste pile, including the liner and appurtenances for control of run-on and run-off, will be inspected in order to meet the requirements of § 264.254(a) and (b). This information should be included in the inspection plan submitted under § 270.14(b)(5).

* * * * *

63. Section 270.21 is amended by revising paragraph (h) to read as follows:

§ 270.21 Specific Part B information requirements for landfills.

* * * * *

(h) If bulk or non-containerized liquid waste or wastes containing free liquids is to be landfilled prior to May 8, 1985, an explanation of how the requirements of § 264.314(a) will be complied with;

* * * * *

64. Section 270.30 is amended by revising the first sentence of paragraph (j)(2) to read as follows:

§ 270.30 Conditions applicable to all permits.

* * * * *

(j) * * *

(2) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, the certification required by § 264.73(b)(9) of this chapter, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, certification, or application. * * *

* * * * *

65. Section 270.32 is amended by revising paragraph (b) to read as follows:

§ 270.32 Establishing permit conditions.

* * * * *

(b) (1) Each RCRA permit shall include permit conditions necessary to achieve compliance with the Act and regulations, including each of the applicable requirements specified in 40 CFR Parts 264, 266, and 267. In satisfying this provision, the Director may incorporate applicable requirements of 40 CFR Parts 264, 266, and 267 directly into the permit or establish other permit conditions that are based on these parts.

(2) Each permit issued under section 3005 of this act shall contain terms and conditions as the Administrator or State Director determines necessary to protect human health and the environment.

* * * * *

66. Section 270.41 is amended by adding a new paragraph (a)(6) to read as follows:

§ 270.41 Major modification or revocation and reissuance of permits.

* * * * *

(a) * * *

(6) Notwithstanding any other provision in this section, when a permit for a land disposal facility is reviewed by the Director under § 270.50(d), the Director shall modify the permit as necessary to assure that the facility continues to comply with the currently applicable requirements in Parts 124, 260–266, and 270.

* * * * *

67. Section 270.50 is amended by adding a new paragraph (d) to read as follows:

§ 270.50 Duration of permits.

* * * * *

(d) Each permit for a land disposal facility shall be reviewed by the Director five years after the date of permit issuance or reissuance and shall be modified as necessary, as provided in § 270.41.

68. Section 270.60 is amended by adding new paragraphs (b)(3) and (c)(3)(vii) to read as follows:

§ 270.60 Permits by rule.

* * * * *

(b) * * *

(3) For UIC permits issued after November 8, 1984, complies with 40 CFR 264.101.

(c) * * *

(3) * * *

(vii) for NPDES permits issued after November 8, 1984, 40 CFR 264.101.

* * * * *

69. In Part 270, Subpart F, a new § 270.65 is added to read as follows:

§ 270.65 Research, development, and demonstration permits.

(a) The Administrator may issue a research, development, and demonstration permit for any hazardous waste treatment facility which proposes to utilize an innovative and experimental hazardous waste treatment technology or process for which permit standards for such experimental activity have not been promulgated under Part 264 or 266. Any such permit shall include such terms and conditions as will assure protection of human health and the environment. Such permits:

(1) Shall provide for the construction of such facilities as necessary, and for operation of the facility for not longer than one year unless renewed as provided in paragraph (d) of this section, and

(2) Shall provide for the receipt and treatment by the facility of only those types and quantities of hazardous waste which the Administrator deems necessary for purposes of determining the efficacy and performance

capabilities of the technology or process and the effects of such technology or process on human health and the environment, and

(3) Shall include such requirements as the Administrator deems necessary to protect human health and the environment (including, but not limited to, requirements regarding monitoring, operation, financial responsibility, closure, and remedial action), and such requirements as the Administrator deems necessary regarding testing and providing of information to the Administrator with respect to the operation of the facility.

(b) For the purpose of expediting review and issuance of permits under this section, the Administrator may, consistent with the protection of human health and the environment, modify or waive permit application and permit issuance requirements in Parts 124 and 270 except that there may be no modification or waiver of regulations regarding financial responsibility (including insurance) or of procedures regarding public participation.

(c) The Administrator may order an immediate termination of all operations at the facility at any time he determines that termination is necessary to protect human health and the environment.

(d) Any permit issued under this section may be renewed not more than three times. Each such renewal shall be for a period of not more than 1 year.

70. Section 270.70 is amended by revising the introductory text of paragraph (a) and by adding paragraph (c) to read as follows:

§ 270.70 Qualifying for interim status.

(a) Any person who owns or operates an "existing HWM facility" or a facility in existence on the effective date of statutory or regulatory amendments under the Act that render the facility subject to the requirement to have an RCRA permit shall have interim status and shall be treated as having been issued a permit to the extent he or she has: * * *

* * * * *

(c) Paragraph (a) of this section shall not apply to any facility which has been previously denied a RCRA permit or if authority to operate the facility under RCRA has been previously terminated.

71. Section 270.73 is amended by adding paragraphs (c), (d), (e), and (f) and by adding an OMB control number to the end of the section to read as follows:

§ 270.73 Termination of interim status.

* * * * *

(c) For owners or operators of each land disposal facility which has been granted interim status prior to November 8, 1984, on November 8, 1985, unless:

(1) The owner or operator submits a Part B application for a permit for such facility prior to that date; and

(2) The owner or operator certifies that such facility is in compliance with all applicable ground-water monitoring and financial responsibility requirements.

(d) For owners or operators of each land disposal facility which is in existence on the effective date of statutory or regulatory amendments under the Act that render the facility subject to the requirement to have a RCRA permit and which is granted interim status, twelve months after the date on which the facility first becomes subject to such permit requirement unless the owner or operator of such facility:

(1) Submits a Part B application for a RCRA permit for such facility before the date 12 months after the date on which the facility first becomes subject to such permit requirement; and

(2) Certifies that such facility is in compliance with all applicable ground water monitoring and financial responsibility requirements.

(e) For owners or operators of each incinerator facility on November 8, 1989, unless the owner or operator of the facility submits a Part B application for a RCRA permit for an incinerator facility by November 8, 1986.

(f) For owners or operators of any facility (other than a land disposal or an incinerator facility) on November 8, 1992, unless the owner or operator of the facility submits a Part B application for a RCRA permit for the facility by November 8, 1988.

(The reporting and recordkeeping requirements contained in this section were approved by OMB under control number 2050-0037.)

PART 271—REQUIREMENTS FOR AUTHORIZATION OF STATE HAZARDOUS WASTE PROGRAMS

72. The authority citation for Part 271 continues to read as follows:

Authority: Secs. 1006, 2002(a), and 3006 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), and 6926).

73. Section 271.1 is amended by revising paragraphs (a) and (f) and adding paragraph (j) to read as follows:

§ 271.1 Purpose and scope.

(a) This subpart specifies the procedures EPA will follow in approving, revising, and withdrawing approval of State programs and the requirements State programs must meet to be approved by the Administrator under Sections 3006 (b) and (f) of RCRA.

* * * * *

(f) Except as provided in § 271.3(a)(3), upon approval of a State permitting program, the Administrator shall suspend the issuance of Federal permits for those activities subject to the approved State program.

* * * * *

(j) Requirements and prohibitions which are applicable to the generation, transportation, treatment, storage, or disposal of hazardous waste and which are imposed pursuant to the Hazardous and Solid Waste Amendments of 1984 (HSWA) include:

(1) Any requirement or prohibition which has taken effect under HSWA, and

(2) All regulations specified in Table 1.

Note.—See §§ 264.1(f)(3), 265.1(c)(4)(ii), 271.3(a), 271.21(e), and 271.121(c)(3) for applicability.

TABLE 1.—REGULATIONS IMPLEMENTING THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984

Date	Title of regulation	Federal Register reference
1-14-85	Dioxin-Containing Wastes.	50 FR 1978-2006.
July 15, 1985	Codification Rule	50 FR [insert Federal Register, page numbers].

74. Section 271.3 is amended by revising paragraph (a) to read as follows:

§ 271.3 Availability of final authorization.

(a) States approved under this subpart are authorized to administer and enforce their hazardous waste program in lieu of the Federal program, except as provided below:

(1) Any requirement or prohibition which is applicable to the generation, transportation, treatment, storage, or disposal of hazardous waste and which is imposed pursuant to the Hazardous and Solid Waste Amendments of 1984 takes effect in each State having a finally authorized State program on the same date as such requirement takes effect in other States. These requirements and prohibitions are identified in § 271.1(j).

(2) The requirements and prohibitions in § 271.1(j) supersede any less stringent provision of a State program. The Administrator is authorized to carry out each such Federal requirement and prohibition in an authorized State

except where, pursuant to Sections 3006(b) or 3006(g)(2) of RCRA, the State has received final or interim authorization to carry out the particular requirement or prohibition. Violations of Federal requirements and prohibitions effective in authorized States are enforceable under Sections 3008, 3013 and 7003 of RCRA.

(3) Until an authorized State program is revised to reflect the amendments made by the Hazardous and Solid Waste Amendments of 1984 and such program revisions receive final or interim authorization pursuant to sections 3006(b) or 3006(g)(2) of RCRA, the Administrator shall have the authority in such State to issue or deny permits or those portions of permits affected by the requirements and prohibitions established by the Hazardous and Solid Waste Amendments of 1984.

* * * * *

75. Section 271.17 is amended by adding a new paragraph (c) to read as follows:

§ 271.17 Sharing of information.

* * * * *

(c) The State program must provide for the public availability of information obtained by the State regarding facilities and sites for the treatment, storage, and disposal of hazardous waste. Such information must be made available to the public in substantially the same manner, and to the same degree, as would be the case if the Administrator was carrying out the provisions of Subtitle C of RCRA in the State. Interim authorization under § 271.24 is not available to demonstrate compliance with this section.

76. Section 271.19 is amended by adding a new paragraph (f) to read as follows:

§ 271.19 EPA review of State permits.

* * * * *

(f) Notwithstanding the above provisions, EPA shall issue permits, or portions of permits, to facilities in authorized States as necessary to implement the Hazardous and Solid Waste Amendments of 1984.

77. Section 271.21(e)(1)(ii) is removed, paragraph (e)(1)(iii) is redesignated as (e)(1)(ii), and paragraphs (e)(1)(i) and (e)(2) are revised to read as follows:

§ 271.21 Procedures for revision of State programs.

* * * * *

(e)(1)(i) Official State applications for final authorization shall be reviewed on the bases of Federal self-implementing statutory provisions that were in effect 12 months prior to the State's submission of its official application and the regulations in 40 CFR Parts 124, 260–266, 270 and 271 that were promulgated 12 months prior to the State's submission of its official application. Where a State program meets the requirements of section 3006(b) of RCRA and this subpart it may receive final authorization for any provision of its program corresponding to a Federal provision in effect on the date of the State's authorization. For purposes of the Federal requirements identified in § 271.1(j), a State may seek interim authorization under § 271.21 in lieu of final authorization.

* * * * *

(2) Any authorized State program which requires revision because of a Federal program change to this Part or 40 CFR Parts 124, 260–266, or 270 shall be modifed within one year (or two years if a State statutory amendment is required) of the date of promulgation of the Federal regulation. Authorized States shall have one year (two years if a statutory amendment is required) from the effective date of self-implementing RCRA statutory amendments to modify their programs. For purposes of the Federal requirements identified in § 271.1(j), a State may satisfy this requirement for modification by applying for interim authorization under § 271.24 or by revising its program as provided in this section.

* * * * *

78. Part 271 is amended by adding a new § 271.24 to Subpart A to read as follows:

§ 271.24 Interim authorization under section 3006(g) of RCRA.

Any State which is applying for or has been granted final authorization pursuant to Section 3006(b) of RCRA may submit to the Administrator evidence that its program contains (or has been amended to include) any requirement which is substantially equivalent to a requirement identified § 271.1(j). Such States may request interim authorization under Section 3006(g) of RCRA to carry out the State requirement in lieu of the Administrator carrying out the Federal requirement in the State.

79. Section 271.121 is amended by revising paragraphs (a), (c)(3) and (f) as follows:

§ 271.121 Purpose and scope.

(a) This subpart specifies requirements a State program must meet in order to obtain interim authorization under Section 3006(c) of RCRA. A State must meet all the requirements of this Subpart in order to qualify for interim authorization. The requirements a State program must meet in order to obtain final authorization under Section 3006(b) of RCRA are specified in Subpart A. In addition, § 271.138 addresses the availability of interim authorization under Section 3006(g)(2) of RCRA for States with interim authorization under Section 3006(c) of RCRA.

* * * * *

(c) * * *

(3) States meeting the requirements of this Subpart will be allowed to administer a permit program in lieu of the corresponding Federal hazardous waste permit program for each component for which they have received interim authorization, except as provided below:

(i) Any requirement of prohibition which is applicable to the generation, transportation, treatment, storage, or disposal of hazardous waste and which is imposed pursuant to the amendments made by the Hazardous and Solid Waste Amendments of 1984 takes effect in each State having an interim authorized State program on the same date as such requirement takes effect in other States. These requirements and prohibitions are identified in § 271.1(j).

(ii) The requirements and prohibitions in § 271.1(j) supersede any less stringent provision of the State program. The Administrator is authorized to carry out each Federal requirement and prohibition identified in § 271.1(j) in an authorized State except where the State has received interim authorization under Section 3006(g)(2) of RCRA to carry out the particular requirement or prohibition. Violations of Federal requirements and prohibitions effective in authorized States are enforceable under Sections 3008, 3013, and 7003 of RCRA.

(iii) Until an authorized State program is revised to reflect the amendments made by the Hazardous and Solid Waste Amendments of 1984 and such program revisions receive interim authorization under Section 3006(g)(2) of RCRA, the Administrator shall have the authority in such State to issue or deny permits or those portions of permits affected by the requirements and prohibitions established by the Hazardous and Solid Waste Amendments of 1984.

* * * * *

(f) Except as provided in paragraph (c)(3) of this section, upon approval of a State program for a component of Phase II, the Administrator shall suspend the issuance of Federal permits for those activities subject to the approved State program.

* * * * *

80. Section 271.122 is amended by revising paragraph (b)(1) to read as follows and by removing the note which follows (b)(1):

§ 271.122 Schedule.

* * * * *

(b)(1) Interim authorization for Phase I and Phase II expires on January 31, 1986.

* * * * *

81. Section 271.134 is amended by adding a new paragraph (f) to read as follows:

§ 271.134 EPA review of State permits.

* * * * *

(f) Notwithstanding the above provisions, EPA shall issue permits, or portions of permits, to facilities in authorized States as necessary to implement the Hazardous and Solid Waste Amendments of 1984.

82. Part 271 is amended by adding a new § 271.138 to read as follows:

§ 271.138 Interim authorization under section 3006(g) of RCRA.

(a) Any State which, before the date of enactment of the Hazardous and Solid Waste Amendments of 1984, has an existing hazardous waste program which has been granted interim authorization for all components of Phase II may submit to the Administrator evidence that such existing program contains (or has been amended to include) any requirement which is substantially equivalent to a requirement referred to in § 271.1(j) of this chapter. Such States may request interim authorization under section 3006(g) of RCRA to carry out such requirement in lieu of the Administrator carrying out the Federal requirement in the State.

(b) Any such interim authorization under section 3006(g) expires on January 31, 1986, if a State program with interim authorization under section 3006(c) reverts to EPA on that date. See § 271.122(b)(2) of this chapter.

(The reporting and recordkeeping requirements contained in this section were approved by OMB under control number 2050–0037.)

83. 40 CFR Part 280 is added as follows:

PART 280—UNDERGROUND STORAGE TANKS

Sec.

280.1 Definition and exemptions.

280.2 Interim prohibition.

Authority: Secs. 9001 and 9003(g) of the Solid Waste Disposal Act, as revised by the Resource Conservation and Recovery Act, as amended [42 U.S.C. 6991 and 6993(g)].

§ 280.1 Definitions and exemptions.

"Person" has the same meaning as provided in Section 1004(15) of the Resource Conservation and Recovery Act, as amended, except that such term includes a consortium, a joint venture, a commercial entity, and the United States Government.

"Regulated substance" means

(a) Any substance defined in Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (but not including any substance regulated as a hazardous waste under Subtitle C of the Resource Conservation and Recovery Act, as amended), and

(b) Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

"Release" means any spilling, leaking, emitting, discharging, escaping, leaching, or disposing from an underground storage tank into ground water, surface water, or subsurface soils.

"Underground storage tank" means any one or combination of tanks (including underground pipes connected thereto) which is used to contain an accumulation of regulated substances, and the volume of which (including the volume of the underground pipes connected thereto) is 10 per centum or more beneath the surface of the ground. Such term does not include any

(a) Farm or residential tank of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes,

(b) Tank used for storing heating oil for consumptive use on the premises where stored,

(c) Septic tank,

(d) Pipeline facility (including gathering lines):

(e) Regulated under the Natural Gas Pipeline Safety Act of 1968 (49 U.S.C. App. 1671, et. seq.), or

(f) Regulated under the Hazardous Liquid Pipeline Safety Act of 1979 (49 U.S.C. App. 2001, *et. seq.*), or

(g) Which is an intrastate pipeline facility regulated under State laws comparable to the provisions of law referred to in clause (e) and (f) of this definition,

(h) Surface impoundment, pit, pond, or lagoon,

(i) Storm water or waste water collection system,

(j) Flow-through process tank,

(k) Liquid trap or associated gathering lines directly related to oil or gas production and gathering operations, or

(l) Storage tank situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the undesignated floor.

(m) Any pipes connected to any tank which is described in paragraphs (a) through (l) of this section.

§ 280.2 Interim prohibition.

(a) Between May 7, 1985 and the effective date of the standards promulgated by the Administrator under section 9003(e) of the Hazardous and Solid Waste Amendments of 1984, no person may install an underground storage tank for the purpose of storing regulated substances unless such tank (whether of single or double wall construction):

(1) Will prevent releases due to corrosion or structural failure for the operational life of the tank;

(2) Is cathodically protected against corrosion, constructed of noncorrosive material, steel clad with a noncorrosive material, or designed in a manner to prevent the release or threatened release of any stored substance; and

(3) The material used in the construction or lining of the tank is compatible with the substance to be stored.

(b) Notwithstanding paragraph (a) of this section, if soil tests conducted in accordance with ASTM Standard G57–78, or another standard approved by the Administrator, show that soil resistivity in an installation location is 12,000 ohm-cm or more (unless a more stringent standard is prescribed by the Administrator by rule), a storage tank without corrosion protection may be installed in that location during the period referred to in paragraph (a) of this section.

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OPNAV 5216/144A (Rev. 8-81)
S/N 0107-LF-052-2320

OF THE NAVY

Memorandum

DATE: 8 Jul 85

FROM: Commanding General, Marine Corps Base, Camp Lejeune

TO: Distribution List

SUBJ: HAZARDOUS WASTE TRAINING

Ref: (a) CG, MCB memo 5 Jun 85

Encl: (1) Hazardous Waste Managers Seminar Roster for 25-26 Jul 85
(2) Hazardous Waste Facility Operators' Course Roster for 29 Jul - 1 Aug 85
(3) Blank DD 1556's
(4) Sample DD-1556 HWMS
(5) Sample DD-1556 HWFOC

1. The reference requested nominations to the Hazardous Waste Managers Seminar scheduled for 25-26 July 1985 and the Hazardous Waste Facility Operators' Course scheduled for 29 July - 1 August 1985. Enclosures (1) and (2) designate those nominees selected to attend each course. Classes will be held from 0800-1630 daily at the Hadnot Point NCO Club, Building 425.

2. Due to the limited class size, those nominees who have not previously attended this course were given first consideration. All other nominees will be placed on an alternate list. Alternates may receive notification to attend the course up to the day prior to the commencement date of the session.

3. Any selectee who is unable to attend their designated session is requested to notify the Civilian Personnel Division, Training Branch (Ext 1539) as soon as possible. This will facilitate timely notification of alternate selectees.

4. Respective personnel offices must prepare a Request, Authorization, Agreement, Certification of Training and Reimbursement, DD-1556 enclosure (3), as shown in enclosures (4) and (5) for each selectee. Return completed DD-1556's to the Civilian Personnel Division, Training Branch for certification not later than 19 July 1985.

☆U.S. GOVERNMENT PRINTING OFFICE: 1985 — 505-012/18049

5. For further information, the point of contact is Mr. Moran, Training Branch, ext 1539.

J. F. SHARPE
By direction

AC/S, LOG
DRMO
MAIN
NREA
CO, MCAS(H)
CO, NavHosp
CO, NAVDENCLINIC
CO, 2dMarDiv
CO, 2d FSSG

Hazardous Waste Managers Seminar

MCAS(H)

2ndLt A. A. Fairley
2ndLt G. D. Storz
2ndLt K.K. Frankovich
COW-3 R. W. Starks
WO L. D. Morgan

Maintenance

R. E. Avant
A. L. Rouse
L. D. Shepard
G. S. Johnson, Jr.
Glenee L. Smith

2nd Mar Div

Capt H. Fechteler
Capt R. E. Tedeschi
GySgt C. D. Tindal
MGySgt M. P. Kaup
SSgt G. Johnson
Capt W. M. Gordy
1stLt D. R. Hallings
GySgt W. Anderson
SSgt J. W. Speer
GySgt R. Combs

NREA

D. D. Sharpe
~~J. J. Wooten~~ TAD - notified CPO

Naval Dental Clinic

DTC R. G. Panepinto

Naval Hospital

Lt Sean Major
LTJG L. Hazuaka
Gregory Winters

DRMO

SSgt L. L. Lamm

Logistics

SSgt R. Thompson
GySgt Comeaux

ENCLOSURE (1)

Hazardous Waste Facility Operators Course

MCAS(H)

Cpt A. S. Belanger
LCpl J. A. Contero
GySgt A. Anthony
GySgt C. D. Boots
Cpl M. E. Gorski
LCpl J. N. Monk
LCpl E. L. Timmons

Logistics

Mike Speight
Jim Brown
David Lassiter

Naval Dental Clinic

DT2 J. Houston

2d FSSG

SSgt J. Friday
PFC L. D. Green

2d Mar Div

LCpl T. L. Moore
PFC T. S. Butler
LCpt H. G. Hernandex
Cpl H. R. Palmer, Jr.
Sgt Z. F. Hooker
Sgt M. M. Lane, Jr.
PFC A. Ricks
Cpl J. A. Ifaif
LCpl J. R. Young

Maintenance

C. G. Beasley
D. B. Oglesby

Natural Resources

T. H. Barbee
G. B. Honeycutt
Extra Space - GS-9

ENCLOSURE (2)

HAZARDOUS WASTE MANAGERS' SEMINAR
Camp Lejeune, NC

HOUR	SUBJECT	INSTRUCTOR
Thursday, 25 July 85		
0800-0830	INTRODUCTORY REMARKS	Rack o zin ski
0830-0900	COURSE OVERVIEW	R.W. Rakoczynski
0900-1030	HW PROBLEM	L.M. Czarnecki
1030-1200	HW LAWS AND REGULATIONS	R.W. Rakoczynski
1200-1300	LUNCH	
1300-1400	LOCAL HW REGULATIONS	
1400-1430	HEALTH & ENVIRONMENTAL EFFECTS	R.W. Rakoczynski
1430-1530	PERSONAL SAFETY	L.M. Czarnecki
1530-1630	HW IDENTIFICATION	R.W. Rakoczynski
Friday, 26 July 85		
0800-0900	DOT CLASSIFICATION & LABELING	L.M. Czarnecki
0900-1000	ENGINEERING FIELD DIVISION REPRESENTATIVE	
1000-1100	HW PACKAGING & HANDLING	R.W. Rakoczynski
1100-1200	HW STORAGE	R.W. Rakoczynski
1200-1300	LUNCH	
1300-1430	HW TRANSPORTATION	K.J. Pasterak
1430-1500	SPILL RESPONSE, CLEANUP & DECONTAMINATION	L.M Czarnecki
1530-1600	FIRE RESPONSE	R.W. Rakoczynski
1600-1630	REVIEW AND DISCUSSION	

Add

RETURN TO NREAD T-6240

Julian
FYI
T

6240
NREAD

NOV 15 1985

Mr. Jimmy Carter
Environmental Chemist
Soil and Hazardous Waste Management Branch
Division of Health Services
Post Office Box 2091
Raleigh, North Carolina 27602-2091

Dear Sir:

This provides information required by paragraph 11, page 3 of your letter of October 23, 1985 as amended by a telephone conversation between you and Mr. Danny Sharpe of this office on November 8, 1985. The following information is provided:

- EPA ID Number: NC6170022580

- Date of Treatment: October 7, 1985

- Description/Quantity of Waste: Four pounds of Methyl Ethyl Ketone Peroxide and three gallons of Ether.

- Name of Emergency Coordinator: Mr. Danny D. Sharpe, Supervisory Ecologist, Natural Resources and Environmental Affairs Division, Assistant Chief of Staff, Facilities

- Public Notice Release: Published in the Globe on November 14, 1985 (See enclosure (1))

- Problem Alleviated: The materials described above were destroyed per method described in Emergency Permit No. NC6170022580E1. No residues of the chemicals were left after disposal.

- Hazardous Waste Manifest: The chemicals were disposed of aboard Camp Lejeune and did not require transportation on public highways; therefore, a hazardous waste manifest was not required.

Questions regarding his matter should be referred to Mr. Danny Sharpe, telephone (919) 451-5003.

Sincerely,

R. A. TIEBOUT
Colonel, U. S. Marine Corps
Assistant Chief of Staff, Facilities
By direction of the Commanding General

Encl: (1) Copy of Public Notice

Drafter: D. Sharpe, NREAD, 5003 Typist: T.Hardison, 15 Nov 85

RETURN TO NREAD T-6240

6240
NREAD

NOV 15 1985

Mr. Jimmy Carter
Environmental Chemist
Soil and Hazardous Waste Management Branch
Division of Health Services
Post Office Box 2091
Raleigh, North Carolina 27602-2091

Dear Sir:

This provides information required by paragraph 11, page 3 of your letter of October 23, 1985 as amended by a telephone conversation between you and Mr. Danny Sharpe of this office on November 8, 1985. The following information is provided:

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- Date of Treatment: October 7, 1985

- Description/Quantity of Waste: Four pounds of Methyl Ethyl Ketone Peroxide and three gallons of Ether.

- Name of Emergency Coordinator: Mr. Danny D. Sharpe, Supervisory Ecologist, Natural Resources and Environmental Affairs Division, Assistant Chief of Staff, Facilities

- Public Notice Release: Published in the Globe on November 14, 1985 (See enclosure (1))

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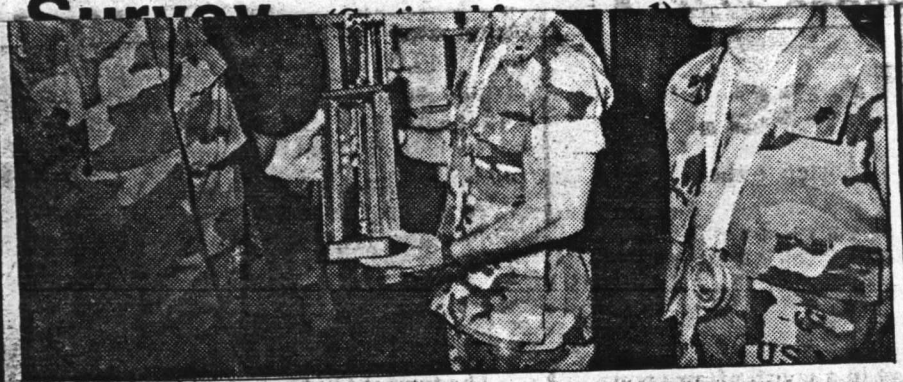
Sincerely,

R. A. TIEBOUT
Colonel, U. S. Marine Corps
Assistant Chief of Staff, Facilities
By direction of the Commanding General

Encl: (1) Copy of Public Notice

Drafter: D. Sharpe, NREAD, 5003 Typist: T.Hardison, 15 Nov 85

UPDATE



First Lieutenant Rand W. Hammel, Weapons Company, 2d Battalion, 8th Marine Regiment, presents the Fleet Marine Force Atlantic first place trophy for FMFLant rifle competition to Major General Dennis J. Murphy, 2d Marine Division commanding general. Four 2d Marine Division Marines earned the trophy in competition last month with a score of 936 out of a possible 1,000. The team included: 1stLt. Hammel; Sergeant Joseph L. Elsey, Headquarters, 8th Marine Regiment (shown to the left of 1stLt. Hammel); Sergeant Robert B. Dixon, Headquarters, 8th Marines; and Sergeant Greg A. Hutto, 2d Combat Engineer Battalion. (Photo by Sgt. Paul Younghaus)

income of not more than $25,000 in the 1985 taxable year. They must be the dependent children of active duty or reserve Marines in good standing, or

for the 1986-87 academic year must be postmarked not later than Feb. 1, 1986.

Emergency permit issued

The North Carolina Department of Human Resources has issued an emergency permit to Marine Corps Base, Camp Lejeune to thermally treat approximately three gallons of ethyl ether and four pounds of mythyl ethyl ketone peroxide. Treatment took place on Oct. 7, 1985 on Camp Lejeune property.

An emergency permit under 40 CFR 270.61 as adopted in 10 NCAC 10F .0034(f)2 was warranted because there was an imminent and substantial endangerment to human health and the environment. The permit was drafted in accordance with the N.C. Hazardous Waste Management Rules.

Persons wishing to comment upon the permit issuance or the permit conditions, are invited to submit same in writing to the State of North Carolina, Department of Human Resources, Division of Health Services, Solid and Hazardous Waste Management Branch, Permitting Office, ATTENTION: William L. Meyer, P.O. Box 2091, Raleigh, N.C. 27602. All comments will be considered in the formulation of future emergency permits.

CAMP LEJEUNE GLOBE

The **Globe** *is published every Thursday in cooperation with the Joint Public Affairs Office, Camp Lejeune, N.C. by Shopco Publishing Company of Jacksonville, N.C.*

All queries concerning news items should be directed to the Joint Public Affairs Office at 451-5655.

Everything advertised in this publication must be made available for purchase, use or patronage without regard to race, creed, color, national origin or sex of the publishers, user or patron. A confirmed violation or rejection of the policy by an advertiser will result in the refusal to print advertising from that source.

Commanding General..BGen. Joseph B. Knotts
Director, JPAO.....Maj. Dale Baird
Press Officer.....2dLt. Robert Johnson Jr.
Press Chief.....GySgt. Kenn Boss
Editor.....Cpl. Jamee Osborn
Assistant Editor.....Cpl. Eve Middleton
Sports Editor.....LCpl. Brian G. F. Harkins

ENCL(1)

North Carolina Department of Human Resources
Division of Health Services
P.O. Box 2091 • Raleigh, North Carolina 27602-2091

James G. Martin, Governor
Phillip J. Kirk, Jr., Secretary

Ronald H. Levine, M.D., M.P.H.
State Health Director

October 23, 1985

Mr. Danny Sharpe
Marine Corps Base, Camp Lejeune
Camp Lejeune, NC 28542

Attention: Director of Natural Resources
Environmental Affairs Division

Re: Emergency Permit #NC6170022580E1

Attached is a copy of the emergency permit issued to Marine Corps Base, Camp Lejeune, for the treatment of reactive chemicals on October 7, 1985. This permit document was not sent with the original cover letter dated October 8, 1985, as it should have been.

The reporting requirements stated in that letter of October 8, 1985, would have been due on October 21, 1985. Since the permit document was inadvertently not sent, those reporting requirements (the information specified in condition eleven of the permit) will be due within 14 days after the receipt of this letter.

If you have any questions, please contact me at (919) 733-2178.

Sincerely,

Jimmy Carter, Environmental Chemist
Solid and Hazardous Waste Management Branch
Environmental Health Section

JC:ct/3276A
Attachment

cc: Doug Holyfield

Permit No. NC6170022580 E1
Date Issued: October 8, 1985

STATE OF NORTH CAROLINA

DEPARTMENT OF HUMAN RESOURCES

Division of Health Services

P. O. Box 2091 Raleigh 27602

EMERGENCY HAZARDOUS WASTE PERMIT

OPERATOR		OWNER
Marine Corps Base,	AND	Marine Corps Base,
Camp Lejeune		Camp Lejeune
Camp Lejeune, NC		Campe Lejeune, NC

are hereby issued a permit pursuant to 40 CFR 270.61 as adopted in 10 NCAC 10F .0034(f)2 to thermally treat approximately twenty pounds of reactive chemicals on Camp Lejeune property subject to the conditions set forth in this permit and in N. C. General Statutes 130-166.18(c) and all applicable rules promulgated thereunder.

William L Meyer

William L. Meyer, Head
Solid & Hazardous Waste Management Branch
Environmental Health Section
Document No. 0582A

Conditions of Permit:

The issuance of this permit will result in environmental benefits and the listed conditions are designed to protect public health and the environment. Issuance under 40 CFR 270.61 as adopted in 10 NCAC 10F .0034(f)2, is warranted because there is an imminent and substantial endangerment to human health and the environment.

1. Duration of Permit [40 CFR 270.50 and 270.61 as adopted in 10 NCAC 10F .0034]
   -This permit is issued for a period of one day(s), October 7, 1985.
   -This permit may be terminated by the issuing authority at any time if he or she determines that the termination is appropriate and necessary to protect human health and the environment.

2. Duty to Comply [40 CFR 270.30 as adopted in 10 NCAC 10F .0034(f)2]
   -The permittee shall comply with all conditions of this permit. All words used in this permit shall have the meaning and definitions set forth in 40 CFR Parts 260.10 and 270.2 as adopted in 10 NCAC 10F .0002 and .0034. The filing of a request by the permittee for a permit modification, revocation, and reissuance, or termination, or a notification of planned changes or anticipated non-compliance, does not stay any condition of this permit. Any permit non-compliance constitutes a violation of the Act and is grounds for enforcement action including permit termination, revocation, and reissuance, or modification or for denial of a permit renewal application. In addition, criminal or civil actions may be brought in appropriate instances.

3. Duty to Mitigate [40 CFR 270.30 as adopted in 10 NCAC 10F .0034]
   -The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from non-compliance with this permit.

4. Personnel Training [40 CFR 264.16 as adopted in 10 NCAC 10F .0032(c)]
   -Contact with the wastes shall be limited to personnel adequately trained in the handling of hazardous wastes.

5. Emergency Coordinator [40 CFR 264.55 as adopted in 10 NCAC 10F .0032(e)]
   -The permittee will ensure that at all times there will be at least one employee on the premises with responsibility for coordinating all emergency response measures. The emergency coordinator must in addition to carrying out the responsibilities specified in 40 CFR 264.56 as adopted in 10 NCAC 10F .0032(e), be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, and the location layout. This person must have the authority to commit the resources needed to carry out contingency actions.

Conditions of Permit (continued)

6. Proper Operation and Maintenance [40 CFR 264.31 as adopted in 10 NCAC 10F .0032(d)]
   -The permittee must maintain and operate the facility to minimize the possibility of unplanned fire, explosion, or sudden or non-sudden release of hazardous waste or hazardous waste constituent to air, soil, and surface water which could threaten human health or the environment.

7. Security [40 CFR 264.14 as adopted in 10 NCAC 10F .0032(c)]
   -The permittee must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portions of the facility by providinga 24-hour surveillance system which continuously monitors and controls entry onto the active portion of the facility or the permittee must have an artificial or natural barrier which completely surrounds the active portion of the facility and a means of control entry, at all times, through the gates or other entrances to the active portion of the facility.

8. Access to Communications or Alarm System [40 CFR 264.34 as adopted in 10 NCAC 10F .0032(d)]
   -Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, the permittee must ensure that all personnel involved in the operation will have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee.

9. Specific Treatment
   Specific treatment shall consist of buring approximately three gallons of ethyl ether and approximately four pounds of methyl ethyl ketone peroxide on wooden pollets using a gasoline/diesel fuel mixture initiated by a remote control detonation.

10. Arrangements with Local Authorities [40 CFR 264.37 as adopted in 10 NCAC 10F .0032(d)]
    -The permittee shall notify local police and fire departments of the details of the detonation activity.

11. Reporting
    -The permittee shall submit to the North Carolina Department of Human Resources, Solid & Hazardous Waste Management Branch within 14 days after the termination of this permit, the following information in writing:
    (a) EPA I.D. number
    (b) Actual dates of treatment
    (c) Description and quantity of waste
    (d) Name of emergency coordinator
    (e) A certification that the public notice condition (item 14) was complied with.
    (f) A certification that the emergency has been alleviated and no residue remains at the treatment facility.
    (g) A copy of the manifest for wastes disposed of or treated off-site.

12. Property Rights
-The issuance of this permit does not convey any property rights of any sort or any exclusive privilege.

13. Duty to Reapply
-This permittee shall apply for and obtain a new permit if the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit.

14. Public Notice [40 CFR 270.61 and 124.11 as adopted in 10 NCAC 10F .0034(f)2 and .0035(8)]
-The enclosed public notice shall be run within 10 days of the receipt of this written permit in the following newspaper:

The Globe
c/o Joint Public Affairs
Marine Corps Base, Camp Lejeune
Camp Lejeune, NC

PUBLIC NOTICE
STATE OF NORTH CAROLINA
DEPARTMENT OF HUMAN RESOURCES
DIVISION OF HEALTH SERVICES
SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH
P. O. BOX 2091
RALEIGH, N.C. 27602
TELEPHONE: (919) 733-2178

NOTICE OF ISSUANCE OF EMERGENCY PERMIT UNDER THE NORTH CAROLINA HAZARDOUS WASTE MANAGEMENT RULES.

The North Carolina Department of Human Resources has issued an emergency permit to Marine Corps Base, Camp Lejeune to thermally treat approximately three gallons of ethyl ether and four pounds of methyl ethyl ketone peroxide. Treatment took place on October 7, 1985 on Camp Lejeune property.

An emergency permit under 40 CFR 270.61 as adopted in 10 NCAC 10F .0034(f)2 was warranted because there was an imminent and substantial endangerment to human health and the environment. The permit was drafted in accordance with the N.C. Hazardous Waste Management Rules.

Persons wishing to comment upon the permit issuance or the the permit conditions, are invited to submit same in writing to the permitting office, ATTENTION: William L. Meyer. All comments will be considered in the formulation of future emergency permits.

6280/2
FAC

7 NOV 1985

Assistant Chief of Staff, Facilities, Marine Corps Base,
Camp Lejeune
Joint Public Affairs Officer

PUBLIC NOTICE OF EMERGENCY PERMIT FOR DESTRUCTION OF REACTIVE CHEMICALS

Encl: (1) AC/S, Fac Memo to CG 6280/2 FAC dtd 5 Nov 1985

1. Request your assistance in publishing the subject notice in the next edition of the Globe. The notice is required per State of North Carolina hazardous waste guidelines as described in the enclosure.

2. For further information in this matter, please contact Mr. Bob Alexander, ext. 3034.

R. A. TIEBOUT

Copy to:
NREA
SJA
EnvEngr

UNITED STATES MARINE CORPS
Marine Corps Base
Camp Lejeune, North Carolina 28542-5001

6280/2
FAC
5 NOV 1985

MEMORANDUM FOR THE COMMANDING GENERAL
CHIEF OF STAFF

Subj: PUBLIC NOTICE OF EMERGENCY PERMIT FOR DESTRUCTION OF REACTIVE CHEMICALS

Encl: (1) NC Dept of Human Resources ltr dtd 23 Oct 85 with proposed public notice

1. In compliance with the N.C. Hazardous Waste Management rules the Base must publish an after-the-fact notice for the destruction of these chemicals.

2. The enclosure granted the emergency permit for disposal of small quantities of unstable chemicals by means of explosion, which was completed by Marine Corps Base Explosive Ordnance Officer. The reporting requirements were inadvertently not sent with the State's approval for the chemical disposal.

3. I recommend that the enclosed notice be published in the next edition of the Globe. A response of 12 November 1985 must be met. With your concurrence, we will forward the proposed notice to the Joint Public Affairs Officer for publishing.

Very respectfully,

R. A. TIEBOUT
AC/S, Facilities

	Concur	Nonconcur
CS	X	

	Approved	Disapproved
CG	K	

Copy to:
AC/S Trng
NREAD

ENCLOSURE (1)

North Carolina Department of Human Resources
Division of Health Services
P.O. Box 2091 • Raleigh, North Carolina 27602-2091

James G. Martin, Governor
Phillip J. Kirk, Jr., Secretary

Ronald H. Levine, M.D., M.P.H.
State Health Director

October 23, 1985

Mr. Danny Sharpe
Marine Corps Base, Camp Lejeune
Camp Lejeune, NC 28542

Attention: Director of Natural Resources
Environmental Affairs Division

Re: Emergency Permit #NC6170022580E1

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If you have any questions, please contact me at (919) 733-2178.

Sincerely,

Jimmy Carter, Environmental Chemist
Solid and Hazardous Waste Management Branch
Environmental Health Section

JC:ct/3276A
Attachment

cc: Doug Holyfield

PUBLIC NOTICE
STATE OF NORTH CAROLINA
DEPARTMENT OF HUMAN RESOURCES
DIVISION OF HEALTH SERVICES
SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH
P. O. BOX 2091
RALEIGH, N.C. 27602
TELEPHONE: (919) 733-2178

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Persons wishing to comment upon the permit issuance or the the permit conditions, are invited to submit same in writing to the permitting office, ATTENTION: William L. Meyer. All comments will be considered in the formulation of future emergency permits.

6240
NREAD

30 October 1985

Director, Natural Resources and Environmental Affairs Division,
Marine Corps Base, Camp Lejeune
Joint Public Affairs Officer, Marine Corps Base, Camp Lejeune
Via: Assistant Chief of Staff, Facilities, Marine Corps Base, Camp Lejeune

COMPLIANCE WITH STATE ENVIRONMENTAL REGULATIONS

Encl: (1) Notice of Issuance of Emergency Permit under the NC Hazardous Waste Management Rules

1. It is requested that the enclosure be published without change in the format of a legal notice in the 7 November 1985 issue of the Globe. Delay in publishing the enclosure would result in a violation of state hazardous waste regulations.

2. Point of contact regarding this matter is Mr. Danny Sharpe, extensions 1690 or 2083.

JULIAN I. WOOTEN

PUBLIC NOTICE
STATE OF NORTH CAROLINA
DEPARTMENT OF HUMAN RESOURCES
DIVISION OF HEALTH SERVICES
SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH
P. O. BOX 2091
RALEIGH, N.C. 27602
TELEPHONE: (919) 733-2178

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ENCLOSURE (1)

8dw Danny DS

6280
FAC
31 OCT 1985

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Commander, Atlantic Division, Naval Facilities Engineering Command, Norfolk, VA 23511-6287 (Code 09A2)

Subj: NORTH CAROLINA ENVIRONMENTAL PERMIT DIRECTORY

Encl: (1) NC Environmental Permit Directory, 1985
(2) Environmental Permit Information, Camp Lejeune, NC

1. We are forwarding enclosures (1) and (2) for your use. The directory will aid coordination between project planners, A/E firms and North Carolina environmental agencies. Further, enclosure (1) will be useful during project reviews by other LANTDIV offices, especially Code 114.

2. In most cases, permit applications should be drafted by the A/E firm and forwarded to Camp Lejeune (Attn: AC/S, Facilities) for signature and submission to the appropriate agency. We are forwarding enclosure (2) pertaining specifically to permits for projects planned at Camp Lejeune. Please contact Mr. Bob Alexander, AV 484-3034 if there are questions or comments.

R. A. TIEBOUT
By direction

Copy to:
CMC (LFL)
LANTDIV (Code 114) (2)

Blind copy to:
PWO (3)
ROICC, JAXNC Area
SJA
BMO (4)
NREAD (2)

ENVIRONMENTAL PERMIT INFORMATION
FOR PROJECTS PLANNED AT
MARINE CORPS BASE, CAMP LEJEUNE

A Supplement to N.C. Environmental Permit Directory, 1984

1. Modifications to sewage treatment plants and extensions to sewerage systems require approval of project plans and specs by the N.C. Division of Environmental Management (NCDEM). Advance coordination during design is necessary to ensure the project can be constructed per State standards.

2. Modifications to water treatment plants and extensions to water distribution systems require approval of project plans and specifications by the N.C. Division of Health Services (NCDHS).

3. Water supply well site approval is required by NCDHS prior to construction. MCB Base Maintenance Division, Utilities Branch will arrange the onsite visit with the NCDHS, Greenville, NC office.

4. A water supply well construction permit is required by NCDEM and issued by the Wilmington Regional Office at the address in the appendix.

5. Air quality permits may be required for any source using air pollution controls, i.e., solvent baths or paint spray booths, etc. We suggest the designer contact the NCDEM, Raleigh office as indicated on page 17.

6. NCDEM Permits require a $50 or $100 Permit Processing Fee. This fee should be paid at the time of forwarding the permit application to Camp Lejeune for signature. NCDEM will usually indicate the amount of the fee during the design review process.

7. Coastal Quality/CAMA Permit (pgs 20-22). Per 15 NCAC 17K, Camp Lejeune is exempt from permit requirement, but we must submit a Consistency Statement along with project drawings to North Carolina Division of Coastal Management (NCDCM), Raleigh (Attn: Mr. Steve Benton). The Consistency Statement has the same effect as a permit application. Once approved, the statement usually stipulates certain enforceable practices which must be included in project plans and specifications. As with permit applications, the statement should be prepared during design, coordinated with NCDCM, Morehead City (Mr. Jim Mercer, 919-726-7021), and forwarded to Camp Lejeune for submission to NCDCM.

8. U.S. Corps of Engineer permits are required any time the project affects wetlands as well as navigable waters such as stream crossings for utility lines. Wetland areas should be identified at the beginning of onsite field work, topo surveys, etc. MCB will assist in this identification as needed.

9. For navigable waters, an important point on page 31 is the "State/Corps Coordination": Submission of the application to either the Wilmington District office or the N.C. Division of Coastal Management, Morehead City will accomplish the needed coordination for your project with both offices.

10. Sedimentation Control Plans (pg 10): Contact the NCDEM, Wilmington office (Mr. Gerald Kraynak, 919-256-4161). Request copies of plan approval letters be provided to the Commanding General, Marine Corps Base, Camp Lejeune.

11. Site Visits. Coordinate in advance all site visits for environmental agencies with MCB Environmental Engineer, AV 484, FTS 676-3034.

T-6240

FACT SHEET

BACKGROUND INFORMATION ON PROPOSED HAZARDOUS MATERIAL DISPOSAL OFFICER

1. The enclosed correspondence proposes the establishment of a Hazardous Material Disposal Officer (HMDO) in each regiment or separate battalion and company within the 2d Marine Division and 2d Force Service Support Group. The HMDO will assume most of the routine hazardous material (HM) and hazardous waste (HW) disposal duties currently assigned by BO 6240.5 (Hazardous Material Disposal Program) to Hazardous Material Disposal Coordinators (HMDC), i.e., Division Engineers, 2d Marine Division and Safety and Facilities, G-4, 2d Force Service Support Group.

2. Disposal of several types of HM commonly used throughout Camp Lejeune is subject to stringent state and federal HW regulations promulgated under the Resource Conservation and Recovery Act (RCRA) and related environmental laws. Attachment (A) was provided by HQMC during the annual Natural Resources and Environmental Workshop held at Camp Pendleton during the week ending 22 November 1985. Attachment (A) provides an excellent overview of the impact of HW regulations on the military commander. The civil and criminal liabilities associated with mishandling of HM and HW cannot be treated lightly.

3. The existing HW management structure, established in BO 6240.5, does not provide commanding officers adequate support and expertise for proper implementation of internal controls on HW management. Under present procedures, a majority of the problems which are elevated to HMDC on the G-4 staff and to base environmental staff could be resolved very satisfactorily by a trained HMDO on the staff of the regimental or separate battalion and company commanders.

4. Marine Corps Base is committed to providing personnel training required by HMDO's and HMDC's to carry out their respective duties. Very few outside resources are required in that local environmental, safety, fire protection and industrial hygienist have the capability to provide training mandated by legal requirements of RCRA. Also, the number of HMDO's and HMDC's makes contracting with outside specialists for locally held training very feasible.

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ROUTINE

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FM CG MCB CAMP LEJEUNE NC

TO CG SECOND MARDIV
CG SECOND MAW
MCAS NEW RIVER NC
NAVDENCLINIC CAMP LEJEUNE NC
CG SECOND FSSG
CG SIXTH MAB
NAVHOSP CAMP LEJEUNE NC

UNCLAS //N06280//

SUBJ: HAZARDOUS MATERIALS (HM) USED OIL STUDY: FOR HAZARDOUS MATERIAL DISPOSAL COORD'S

1. A MEETING IS SCHEDULED ON 2 DEC 1985 AT 1000 IN THE CONFERENCE ROOM, BLDG 1202, BASE MAINTENANCE DIVISION TO INITIATE SUBJECT STUDY. PURPOSE OF MEETING IS TO COORD ASSISTANCE TO ENGINEER CONSULTANT DURING SITE VISITS TO ALL HM AND USED OIL STORAGE AND HANDLING FACILITIES.

2. THE SUBJ STUDY WILL EXAMINE ADEQUACY OF EXISTING HM AND USED OIL STORAGE, HANDLING, AND DISPOSAL FACILITIES AND PROCEDURES. A COMPLETE HM INVENTORY BASED ON AUTOMATED SUPPLY RECORDS IS BEING DEVELOPED WITH THE ASSISTANCE OF RASC. THIS INVENTORY WILL BE PROVIDED IN ADVANCE OF THE MTG FOR YOUR REVIEW AND LISTING OF HM OPERATIONS BY BLDG NUMBER.

3. POC IS MR. BOB ALEXANDER, MCB ENVENGR, EXT. 3034/3035.

BT

DLVR:CG SIXTH MAB(6)...ACT
DLVR:NAVDENCLINIC CAMP LEJEUNE NC(4)...ACT
DLVR:NAVHOSP CAMP LEJEUNE NC(4)...ACT

BFAC(2)...ORIG FOR CG MCB CAMP LEJEUNE(13) /13/
FIRE(1) BLDG(1) RASC(1) NREA(1) MAIN(1) BPWO(1) DRMO(1) BCOS(1)
BSDO(1) CEOB(1) OICP(1)

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John Larsen

Water Treatment Specialist

BIO CHEM TECHNOLOGIES, INC.

11814 COURSEY BOULEVARD/SUITE 431
BATON ROUGE, LOUISIANA 70816

H-803-654-5654
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BIO CHEM TECHNOLOGIES, INC.

11814 COURSEY BOULEVARD / SUITE 431 / BATON ROUGE, LOUISIANA 70816 / 504-273-3483

ON-SITE DEGRADATION OF OIL IN CONTAMINATED SOIL USING BIOLOGICAL METHODS

Overview

There are thousands of sites in the United States containing hazardous and non-hazardous biological wastes. Due to the concentration of petrochemical installations in the Gulf Coast region, a number of sites exist in this area.

The options available for closing these sites are:

1. Relocation to secure landfill
2. Cap and store in place
3. Chemical fixation
4. Relocation and incineration
5. Degradation on-site via biological methods

Of these options, the last one, or on-site biological degradation, can be one-fifth the expense of relocation. Several companies are exploring this option with hazardous and non-hazardous wastes, including oil field wastes. A typical protocol for biodegradation of a site would be as follows:

1. Characterization of the site
2. Biodegradation studies on the organics present
3. Soil analyses
4. Establishing criteria for success
5. Bench scale testing
6. Design of prototype
7. Implementation in the field
8. Testing and closure

Sites contaminated with organics can be closed in 2-6 months after bench scale testing is complete.

Oil in Tank Farms

Oil contaminated soil in tank farm levees is of concern due to appearance and possible groundwater contamination. The contamination is generally contained on the surface due to the relatively impermeable clays used in levees.

Lubricating Oil Canning Facility

A motor oil canning facility in South Louisiana was experiencing oily surface accumulations in its tank farm area. Because of the location's basin-like configuration, contaminants tended to migrate toward the center. This also allowed standing water to accumulate rapidly during rainy weather, further complicating the conditions.

Our company was contacted to treat a test plot of oil-contaminated soil, approximately 120' X 70' which ran parallel to the pipe racks from the tank farm. Since only a portion of the oil-contaminated area was to be treated, daily visual comparisons were made convenient. Bench scale studies were initiated to analyze soil conditions and determine what changes would have to be made to rapidly degrade oil in the soils.

Upon determining through laboratory bench scale studies that the oil could be successfully degraded to acceptable limits, we proposed dosage and application recommendations to initiate treatment of the contaminated test area. We proposed the use of Micro Pro Detoxifier "G" at a dosage rate of 1 lb. per 100 square feet of surface area. This dosage is effective to a depth of 6-12", depending on soil type. The high clay makeup of this particular soil served to limit the extent of oil seepage to the upper 8-10" of soil.

Results

After two weeks, the areas treated with Micro Pro Detoxifier "G" showed significantly less oil contamination. Additional nutrients were added and moisture controlled.

Visual observations were accompanied by data showing average oil content dropping from 2400 mg/l to 550 mg/l. After four weeks, contamination was only visible in vegetated areas with average oil concentrations below 40 mg/l.

The program continues at a reduced rate to this day.

For further information contact:

Bio Chem Technologies, Inc.
11814 Coursey Blvd.
Suite 431
Baton Rouge, LA 70816
(504) 273-3483

Date 13 Nov 1985

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T-6240
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DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
WASHINGTON, D.C. 20380

6280
LFL/6-19
6 NOV 1985

From: Commandant of the Marine Corps

Subj: ENVIRONMENTAL PROTECTION AGENCY (EPA) FINAL RULE ON POLYCHLORINATED BIPHENYLS (PCBS) IN ELECTRICAL EQUIPMENT

Encl: (1) Vol. 50 No. 137 Federal Register, Polychlorinated Biphenyls in Electrical Transformers

1. The subject rule puts additional restrictions and conditions on the use of PCB transformers (electrical transformers containing 500 parts per million or greater PCBs). Activity environmental staff should be familiar with all parts of the rule and provide guidance to other responsible staff organizations.

2. The seven parts of the final rule are summarized as follows:

A. it prohibits,

1. the use of higher secondary voltage (480 volts and above) network PCB transformers in or near commercial buildings after 1 Oct 1990;

2. further installation of PCB transformers in or near commercial buildings after 1 Oct 1985.

B. it requires,

1. by 1 Oct 1990, the installation of enhanced electrical protection on lower secondary voltage network PCB transformers and higher secondary voltage radial PCB transformers in use in or near commercial buildings;

2. the registration by 1 Dec 1985, of all PCB transformers with fire response personnel and building owners;

3. the marking by 1 Dec 1985 of the exterior of all PCB transformer locations;

4. the removal by 1 Dec 1985, of stored combustibles located near PCB transformers; and

5. owners of PCB transformers involved in fire related incidents immediately notify the National Response Center and take measures to contain any potential releases of PCBs or incomplete combustion products to water.

3. Utilities, engineering and design/construction staff organizations are directed to parts A1., A2. and B1. of the subject summary. Deadlines placed on the use and location of PCB transformers need to be incorporated into designs and specifications. Schedules should

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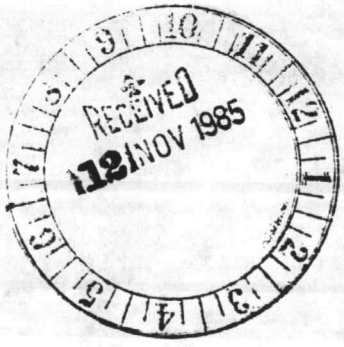
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be developed to ensure that deadlines are met.

4. Electrical maintenance staff are normally responsible for ensuring proper marking of PCB equipment and should be familiar with the new requirements described in the subject rule. The outside of all PCB transformer enclosures must be clearly marked. Areas to be marked include: vault doors, machinery room doors, fences and hallways. Grates and manhole covers have been excepted by the rule.

5. Maintenance, fire and/or custodial staff organizations shall ensure compliance with B4. of the summary, which prohibits the storage of combustible materials within 5 meters of any PCB transformer or its enclosure.

6. Part B2. of the summary requires the registration of all PCB transformers with fire response personnel and building owners. Part B5. requires that the National Response Center be notified in the event of a PCB related fire. Activity fire departments shall ensure compliance with these requirements.

R F Wemheuer

ROBERT F. WEMHEUER
By direction

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federal register

Wednesday
July 17, 1985

Part IV

Environmental Protection Agency

40 CFR Part 761
Polychlorinated Biphenyls in Electrical Transformers; Final Rule

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 761

[OPTS 62035D; TSH FRL 2835-6]

Polychlorinated Biphenyls in Electrical Transformers

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This final rule amends portions of an existing EPA rule concerning the use of polychlorinated biphenyls (PCBs) by placing additional restrictions and conditions on the use of PCB Transformers (Electrical transformers containing 500 parts per million or greater PCBs). This rule: (1) Prohibits the use of higher secondary voltage (480 volts and above) network PCB Transformers in or near commercial buildings after October 1, 1990, (2) requires, by October 1, 1990, the installation of enhanced electrical protection on lower secondary voltage network PCB Transformers and higher secondary voltage radial PCB Transformers in use in or near commercial buildings, (3) prohibits further installation of PCB Transformers in or near commercial buildings after October 1, 1985, (4) requires the registration, by December 1, 1985, of all PCB Transformers with fire response personnel and building owners, (5) requires the marking, by December 1, 1985, of the exterior of all PCB Transformer locations, and (6) requires the removal, by December 1, 1985, of stored combustibles located near PCB Transformers.

EPA is also requiring that owners of PCB Transformers involved in fire-related incidents immediately notify the National Response Center, and, take measures as soon as practically and safely possible to contain any potential releases of PCBs or incomplete combustion products to water.

DATES: In accordance with 40 CFR 23.5 (50 FR 7271), this rule shall be promulgated for purposes of judicial review at 1 p.m. Eastern Daylight Time on July 24, 1985. These amendments shall be effective on August 16, 1985.

FOR FURTHER INFORMATION CONTACT: Edward A. Klein, Director, TSCA Assistance Office (TS-799), Office of Toxic Substances, Environmental Protection Agency, Rm. E-543, 401 M St., SW., Washington, D.C. 20460. Toll free: (800-424-9065). In Washington, D.C.: (554-1404). Outside the USA: (Operator-202-554-1404).

SUPPLEMENTARY INFORMATION: OMB Control Number: 2070-0073.

I. Background

Section 6(e) of the Toxic Substances Control Act (TSCA) generally prohibits the use of PCBs after January 1, 1978. The statute does, however, set forth two exceptions under which EPA may, by rule, allow a particular use of PCBs to continue. Under section 6(e)(2) of TSCA, EPA may allow PCBs to be used in a "totally enclosed manner." A "totally enclosed manner" is defined by TSCA to be "any manner which will ensure that any exposure of human beings or the environment to a polychlorinated biphenyl will be insignificant, as determined by the Administrator by rule." TSCA also allows EPA to authorize the use of PCBs in a manner other than a totally enclosed manner if the Agency finds that the use "will not present an unreasonable risk of injury to health or the environment."

EPA promulgated a rule, which was published in the Federal Register of May 31, 1979 (44 FR 31514), to implement section 6(e) (2) and (3) of TSCA. This rule is listed in the Code of Federal Regulations under 40 CFR Part 761. The rule, among other provisions, designated all intact, nonleaking capacitors, electromagnets, and transformers, other than railroad transformers, as "totally enclosed," thus permitting their use without specific authorizations or conditions. The Environmental Defense Fund (EDF) petitioned the U.S. Court of Appeals for the District of Columbia Circuit to review a number of provisions of the rule, including the portion of the rule that designated all intact and nonleaking capacitors, electromagnets, and transformers as "totally enclosed" *(Environmental Defense Fund, Inc.* v. *Environmental Protection Agency,* 636 F.2d 1267).

On October 30, 1980, the court, among other things, decided that there was insufficient evidence in the record to support the Agency's classification of transformers, capacitors, and electromagnets as totally enclosed. The court invalidated this portion of the rule, as well as other provisions, and remanded the rule to EPA for further action.

As a consequence of the October 1980 decision, EPA undertook a number of rulemaking actions. The rule relevant to the subject of today's final rule was published in the Federal Register of August 25, 1982 (47 FR 37342) (hereafter, PCB Electrical Use Rule). This rule amended the May 1979 rule by authorizing the continued use of PCB Transformers (electrical transformers containing greater than 500 ppm PCBs) in facilities involved in handling of food or feed items until October 1, 1985, and by authorizing the use of all other categories of non-railroad electrical transformers containing or contaminated with PCBs for the remainder of their useful lives. In its August 1982 decision, EPA made a determination that authorizing the use of these tranformers for the remainder of their useful lives did not present an unreasonable risk to public health or the environment for the following reasons:

1. EPA determined that if it did not authorize the use of PCBs in transformers, the costs to the public and United States industry would be billions of dollars, primarily as a result of the disruption of electrical service. EPA determined that the resulting reduction in risk would not outweigh these substantial costs.

2. EPA determined that the inspection and maintenance programs required under the rule reasonably reduced the exposure risks associated with the use of PCBs in PCB Transformers, and that servicing conditions prevented further PCB contamination of transformers.

3. EPA determined that releases of PCBs to the environment and exposure to humans and biological organisms from mineral oil transformers are minimal. EPA estimated that these transformers contain less than 0.15 percent of all the PCBs used in tranformers and release less than one-half of a percent of these PCBs on an annual basis.

4. EPA determined that the costs associated with other risk reduction measures such as accelerated phase-out, reducing the PCB concentration in the dielectric fluid, or providing containment for tranformers were not reasonable when compared to the potential reduction in release of PCBs achieved.

In evaluating the risks posed by the continued use of electrical transformers containing PCBs for the August 1982 PCB Electrical Use Rule, EPA considered exposures resulting from leaks and spills of PCB-containing dielectric fluid as constituting the principal route of release of PCBs to the environment from this equipment.

However, EPA has learned that fires involving transformers also can be responsible for the release of PCBs, and that PCBs released from transformers in fire situations can be volatilized and converted into materials which are orders of magnitude more toxic than PCBs. For example, on February 5, 1981, in the Binghamton State Office Building in Binghamtom, New York, a PCB

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Transformer was involved in a fire in the basement of the building. PCBs and oxidation products were distributed throughout the 18-story office building via two vertical ventilation shafts that ran the length of the building and opened into the transformer vault in the basement. Monitoring, completed after the fire, indicated that PCBs, polychlorinated dibenzofurans (PCDFs) (including the toxic congener 2,3,7,8-tetrachlorodibenzofuran (2,3,7,8-TCDF)), and polychlorinated dibenzodioxins (PCDDs) (including the toxic congener 2,3,7,8,-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)) were distributed throughout the interior of the building. From laboratory studies, it appears that PCDFs are formed from both the oxidation of PCBs and the oxidation of chlorinated benzenes in combustion situations. PCDDs, however, appear to be formed only from the oxidation of chlorinated benzenes. (Tri- and Tetra-chlorinated benzenes often make up 30–35 percent of PCB askarel dielectic fluid, and can be present at low levels as contaminants in other fluids.)

At the time of promulgation of the August 25, 1982 PCB Electical Use Rule, EPA believed that PCB Transformer fires were very rare, isolated events. Thus, although EPA made determinations that the use of electrical transformers containing PCBs did not pose unreasonable risks to public health or the environment, EPA did not directly consider the public health and environmental risks posed by fire-related events. EPA also did not evaluate the cost of implementing risk reduction measures to mitigate the risks posed by fires involving this equipment or factor into its economic assessment certain now-identified costs associated with the continued use of these transformers, principally, the very high costs of cleanup following more serious incidents. These costs reduce the benefits associated with the continued use of these transformers.

After the promulgation of the PCB Electrical Use Rule, additional information came to EPA's attention that indicated that PCB Transformer fires may occur more frequently than previously expected, and that transformer fire-related hazards are not restricted solely to transformers located inside buildings. On May 15, 1983, in the One Market Plaza complex in San Francisco, California, a PCB transformer was involved in a smoky transformer vault fire. Monitoring completed after the fire indicated the presence of PCBs, PCDFs, and PCDDs, in soot from this fire. Although the vault housing the transformer was located exterior to the building itself (in a sidewalk vault), unsealed conduits from the vault to the basement and outside air intake vents drew contaminated smoke into the building.

The San Francisco incident, and four more recent incidents, in the First National Bank Building in Chicago, Illinois, in September 1983; in Tulsa, Oklahoma, in December 1983 and May 1984; and in Miami, Florida, in May 1984, have prompted EPA to reassess its earlier position on the expected frequency of fire-related incidents involving transformers that contain PCBs.

EPA issued an Advance Notice of Proposed Rulemaking (ANPR), which was published in the Federal Register of March 23, 1984 (49 FR 11070), to solicit additional information on the risks posed by fires involving transformers containing PCBs, their frequency of occurrence, the costs of cleanup following these incidents, and the effectiveness and costs associated with regulatory control measures. At that time, EPA indicated that it would use the new information to reconsider the use authorization issued in the August 1982 PCB Electrical Use Rule for the continued use of most electrical transformers containing PCBs.

In the ANPR, EPA solicited comments on a wide range of potential regulatory control measures, including the phaseout of PCB Transformers, increased electrical protection, fire and smoke control technologies, and fire hazard inspection programs. EPA also solicited comments on the relative risks posed by PCB Transformer fires in commercial buildings such as office buildings, versus the risks posed by fires in industrial facilities and outdoor electrical substations. EPA suggested in the ANPR that the risks posed by PCB Transformer fires in commercial buildings may be greater than those posed by transformer fires in industrial facilities and outdoor electrical substations.

EPA received over 50 comments on the ANPR during the public comment period, which closed on May 22, 1984. EPA received information from a number of different sources, including the insurance industry, fire departments, building owners, industrial transformer users, and utilities. (The comments on the ANPR are summarized in: "PCB Transformer Fires: Comments on the Advance Notice of Proposed Rulemaking" (September 1984).) Several comments were received following the close of the comment period, and EPA reserved these comments for consideration following the issuance of the Proposed Rules.

After considering the comments received in response to the ANPR, and after completing further analyses of available data, EPA issued a Proposed Rule, which was published in the Federal Register of October 11, 1984 (49 FR 39966), to address the risks posed by fires involving transformers that contain PCBs. The Proposed Rule presented EPA's determination that additional regulatory control measures were warranted on the use of PCB Transformers. At the same time, EPA reaffirmed its August 1982 determination that the indefinite use of PCB-Contaminated transformers does not present unreasonable risks to public health or the environment. EPA's determinations were based on analyses of the risks posed by fires involving electrical transformers containing PCBs, the benefits of PCBs and the availability of substitutes, and the costs and benefits of control measures designed to mitigate or eliminate the fire-associated risks posed by the equipment.

EPA received over 130 comments on the Proposed Rule during the public comment period, which closed on February 11, 1985. On January 14, 15, and 16, 1985, EPA held a public hearing in Washington, D.C., where 15 parties provided testimony on various provisions of the Proposed Rule.

EPA has considered all the comments received in response to the Proposed Rule (as well as the comments received after the close of the ANPR comment period), and has modified the rule where appropriate. Further, EPA has prepared a support document for this rulemaking which addresses all substantive comments on the Proposed Rule and includes EPA's responses to comments which did not result in the actual modification of the rule. This document, entitled: "Response to Comments on the PCB Transformer Fires Proposed Rule (July 1985)," is available by contacting the Toxic Substances Control Act Assistancce Office (see **FOR FURTHER INFORMATION CONTACT**).

II. Summary of the Final Rule

Under section 6(e)(2)(B) of TSCA, EPA can authorize a use of PCBs provided that the use "will not present an unreasonable risk of injury to health or the environment." EPA's August 1982 decision to allow the continued use of electrical transformers containing PCBs was based on the reported low frequency of leaks and spills of PCBs from this equipment compared to the high costs associated with replacing this equipment with substitute transformers

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or requiring secondary containment to limit the spread of spilled materials.

EPA subsequently undertook an evaluation of the fire-related risks posed by the continued use of PCB Transformers, and the costs and benefits of measures designed to reduce those risks. On October 11, 1984, EPA issued a Proposed Rule which contained EPA's determination that PCB Transformer fires (fires involving transformers containing greater than 500 ppm PCBs), particularly fires which occur in or near buildings, do present risks to human health and the environment. EPA reached this determination after considering the extreme toxicity of materials which can be formed and released during fires involving this equipment, as well as the potential for human and environmental exposures to these compounds from a single incident, and the expected frequency of incidents over the remaining useful life of this equipment.

EPA further determined that the continued use of PCB Transformers without additional restrictions does present an unreasonable risk of injury to health and the environment. EPA reached this determination after considering the risks posed, the costs of cleanup following these incidents, the availability of adequate substitute materials, and the costs and benefits associated with risk reduction measures. EPA did, therefore, propose additional regulatory controls on the use of this equipment.

EPA proposed to require: (1) The immediate registration of all PCB Transformers with appropriate fire department jurisdictions, and the immediate registration with building owners of all PCB Transformers located in or near buildings, (2) the immediate marking of the exterior of the vault door, machinery room door, means of egress, or grate(s) accessing a PCB Transformers with PCB identification labels, (3) the immediate removal of stored combustibles from PCB Transformers locations, (4) the installation, by July 1, 1988, of additional electrical protective devices on PCB Transformers in or near buildings in high secondary voltage systems (480/277 volt systems), and (5) the isolation, by July 1, 1988, of all PCB Transformers in or near buildings from building ventilation systems, building ductwork, and openings in construction to reduce the widespread contamination of structures and the environment by smoke and soot in the event of a PCB Transformer fire. In addition, to facilitate monitoring compliance with the isolation requirements, EPA proposed that PCB Transformer owners maintain records of their efforts in isolating transformers through the completion of PCB Smoke Spread Reduction Plans (PCB–SSRPs).

Finally, in the event of a PCB Transformer fire, EPA proposed to require PCB Transformer owners to take immediate measures to contain potential water discharges, and to report all PCB Transformer fire-related incidents to the National Response Center (NRC) prior to the initiation of cleanup efforts.

This final rule modifies and clarifies some of the requirements presented in the Proposed Rule as a result of information and comments provided to the Agency during public comment periods and at the public hearing. In developing the Proposed Rule, EPA evaluated the risks posed by PCB Transformer fires in or near buildings by using an office building setting to evaluate generically the nature of an potential for human and environmental exposures to PCBs and incomplete combustion products. EPA determined that additional control measures, principally the isolation of PCB Transformers from building ventilation equipment and ductwork, were necessary to reduce the risks posed by the continued use of this equipment.

During the public comment period for the Proposed Rule, EPA received extensive comments in three specific areas, and has modified the final rule accordingly. First, many comments received in response to the Proposed Rule suggested that EPA consider evaluating separately the fire-related risks posed by the continued use of PCB Transformers in industrial locations versus the fire-related risks posed by the use of PCB Transformers in or near buildings such as office buildings, stores, hospitals and schools (hereafter, all non-industrial, non-substation buildings will be referred to as "commercial buildings"). This final rule adopts this suggestion and addresses the use of PCB Transformers in or near industrial buildings separately from the use of PCB Transformers in or near commercial buildings.

Second, many comments on the Proposed Rule discussed the probability of PCB Transformer failures and fires, and suggested that certain types of PCB Transformer installations, network installations with higher secondary voltages (secondary voltages of 480 volts and above, including 480/277 volt secondaries), may be particularly likely to be involved in fire-related incidents. These comments suggest that if EPA were to pursue additional restrictions on the use of PCB Transformers, these installations should be the subject of more stringent control measures. In response to these comments, this final rule considers factors such as the relative probabilities of failures and fires in different types of PCB Transformer installations and places more stringent controls on those transformers which EPA believes pose higher risks of failures and fires.

Finally, in response to comments on the Proposed Rule, in this final rule, EPA has increased its emphasis of the prevention of PCB Transformer fires through increased electrical protection, and decreased its emphasis on the use of isolation measures to minimize the spread of already formed and/or released contaminants.

This final rule prohibits:

1. The continued use of higher secondary voltage network PCB Transformers (network PCB Transformers with secondary voltages at or above 480 volts, including 480/277 volt systems) in or near commercial buildings beyond October 1, 1990.

2. The further installation of PCB Transformers (which have been placed into storage for reuse) in or near commercial buildings.

This final rule also requires:

1. The installation, by October 1, 1990, of enhanced electrical protection on lower secondary voltage network PCB Transformers and on higher secondary voltage radial PCB Transformers (radial PCB Transformers with secondary voltages at or above 480 volts, including 480/277 volt systems) used in or near commercial buildings.

2. The registration, by December 1, 1985 of all PCB Transformers with fire departments or fire brigades with primary response function, and the registration, by December 1, 1985, of all PCB Transformers located in or near buildings with building owners.

3. The marking, by December 1, 1985, of the exterior of all PCB Transformer locations (excluding grates and manhole covers).

4. The removal, by December 1, 1985, of combustible materials stored within a PCB Transformer enclosure, within 5 meters of a PCB Transformer enclosure, or within 5 meters of an unenclosed PCB Transformer.

This rule also requires the immediate notification of the National Response Center in the event of a PCB Transformer fire-related incident; and, that PCB Transformer owners take measures as soon as practically and safely possible to contain any potential water releases associated with a PCB Transformer fire-related incident. These measures include, but are not limited to,

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the blocking of floor drains, the containment of water runoff, and the control and treatment of cleanup water prior to discharge.

Fire events involving the rupture of PCB Transformers can lead to contamination of sewers, sewage treatment systems, sewage sludges and bodies of water. Liquid PCBs and incomplete combustion products such as dioxins or furans may be conveyed through drains into storm or sanitary sewer systems. This process is facilitated when water is used in firefighting operations or is present as a result of the rupture of water pipes. Disruption of sewage treatment processes can also be caused, and eventually contaminants may be discharged into receiving waters poorly treated or not treated at all.

Contamination of receiving waters presents a risk of long lasting adverse effects on aquatic life and bottom sediment, as well as threats to public health through contamination of drinking water supplies and direct public contact with contaminated water.

The cost of cleaning up contaminated sewer systems and associated treatment facilities may be very high. Sludge contaminated with PCBs, dioxins and furans may be required to be handled and disposed of as hazardous waste under the resource Conservation and Recovery Act (RCRA) and pursuant to the PCB regulations under the Toxic Substances Control Act (TSCA). Clean up of water bodies and bottom sediments, if possible, would also be very expensive. Data indicating water and sewer treatment system contamination following the Binghamton fire confirm that water treatment facility sludge can become contaminated with PCBs as a result of releases during PCB Transformer fires.

For these reasons, it is important that sewer systems and treatment plant operators have as much notice as possible of a PCB Transformer fire event. The sooner this information is available, the sooner action can be taken to isolate or contain contaminants (if possible), to limit their spread and to assure proper handling.

Fire departments are required to be notified pursuant to § 761.30(a)(1)(vi) of this regulations as to the location of PCB Transformers. Fire departments generally maintain good information for response to emergencies and have plans and a coordinating capacity for dealing with fires involving hazardous materials. EPA therefore strongly urges fire departments, on a voluntary basis, to contact storm and sanitary sewer system and treatment plant operators in the areas served by the fire department, once the information required to be submitted to the fire departments under § 761.30(a)(1)(vi) is available. EPA also urges the fire department to work wih sewer system and treatment plant operators to develop contingency plans for handling contamination entering the sewers as a result of PCB Transformer fire events.

EPA also urges owners of PCB Transformers and owners of buildings in which those transformers are located to plan ahead for a fire event. Building owners, working with other parties, should plan their best course of action to prevent or limit release of PCBs and other contaminants in the event of a fire. These plans should give special consideration to the location of individual PCB Transformers, the location of drains near these transformers, and methods for closing the drains in the event of a PCB Transformer fire.

To support this voluntary cooperative effort, EPA will develop guidance for use by owners and operators of sanitary sewer systems and treatment facilities, pointing out the availability at local fire departments of information on the location of transformers and the potential impact of the release of PCBs and other contaminants into the sewer system in the event of a fire. EPA will also evaluate the possible roles of organizations such as the Water Pollution Control Federation, the Association of State and Interstate Water Pollution Control Authorities, the American Public Works Association, and the National Fire Protection Association in distributing information, and may request their cooperation in this effort.

For purposes of this rule, commercial building is defined as a non-industrial (non-substation) building which is typically accessible to both members of the general public and employees. Commercial buildings include: (1) Public assembly properties, (2) educational properties, (3) institutional properties, (4) residential properties, (5) stores, (6) office buildings, and (7) transportation centers (i.e., airport terminal buildings, subway stations, bus stations, and train stations). For purposes of this rule, "in or near" a commercial building is defined as: (1) Within the interior of a commercial building, (2) on the roof of a commercial building or attached to the exterior wall of a commercial building, (3) in the parking area of a commercial building, or (4) located within 30 meters of a commercial building.

An industrial building is defined as a building directly used in manufacturing or technically productive enterprises. Industrial buildings are not generally or typically accessible to other than workers. Industrial buildings include buildings used directly in the production of power, the manufacture of products, the mining of raw materials, and the storage of textiles, petroleum products, wood and paper products, chemicals or plastics, and metals.

EPA has determined that requiring the removal of particularly high risk PCB Transformers from use and adding conditions and restrictions on the use of the remaining PCB Transformers (including enhanced electrical protection, registration, and labeling) will significantly reduce the fire-related risks posed by the use of PCB Transformers. EPA has determined that the continued use of PCBs in PCB Transformers which comply with the conditions and requirements described above do not present unreasonable risks to public health or the environment. Further, after considering the risks posed by fires involving transformers containing less than 500 ppm PCBs, and the costs of regulatory control measures, EPA is reaffirming its August 1982 determination that the continued use of PCB-Contaminated transformers and non-PCB transformers (transformers containing 50–500 ppm PCBs, and less than 50 ppm PCBs respectively) do not present unreasonable risks to public health and the environment.

The enhanced electrical protection requirements for higher secondary voltage radial PCB Transformers consist of the installation of protection against transformer failures from sustained low current faults. EPA has determined that the enhanced protection of these PCB Transformers is necessary to reduce the fire-related risks posed by the continued use of these transformers in commercial locations. This protection will reduce the frequency of PCB Transformer fires in these types of transformers by allowing for rapid deenergization in the event of a sustained low current fault.

While EPA is aware of at least five basic types of radial installations (simple radial systems, expanded radial systems, primary selective systems, primary loop systems, and secondary selective systems), existing data do not indicate that the probability of low current fault-related failures would be significantly different among these five types of radial installations. Thus, EPA has required enhanced electrical protection on all commercial higher secondary voltage radial PCB Transformers.

EPA recognizes, however, that additional experience and further research into the causes of PCB Transformer failures and fires may

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result in the development of data by industry which would indicate that there are significant differences in the probabilities of fault-related failures among the different types of radial systems. If these data are developed, they should be submitted to EPA for consideration. Based on the timely submission of new information, that is, within 2 years of the date of promulgation of this final rule, EPA may choose to revisit this particular requirement.

The remainder of this preamble describes the basis for the determinations reached in this final rule.

III. Use Authorizations Under Section 6(e)

In order to authorize a use of PCBs under section 6(e)(2)(B) of TSCA, EPA must find that such use "will not present an unreasonable risk of injury to health or the environment." To determine whether a risk is unreasonable, EPA must balance the probability that harm will occur from the use against the benefits to society of allowing the continued use. In completing this assessment for the use of PCB containing electrical transformers, EPA has considered the following factors for each of four categories of electrical transformers containing PCBs (PCB Transformers located in or near commercial buildings, PCB Transformers located in or near industrial facilities, PCB Transformers located outdoors (away from commercial buildings), and PCB Contaminated transformers):

1. The effects of PCBs and their incomplete combustion products on human health and the environment.

2. The magnitude of human and environmental exposure to PCBs and their incomplete combustion products.

3. The benefits of using PCBs and the availability of substitutes.

4. The economic impact resulting from the rule upon the national economy, small business, technological innovation, the environment, and public health.

These are the same types of considerations listed in section 6(c) of TSCA, which describes factors EPA must consider in deciding whether a chemical presents an unreasonable risk under section 6(a) of TSCA.

The remaining units of this preamble will discuss these key factors in the unreasonable risk determinations made in this rule, and the basis for EPA's determination to allow the continued use of PCB-containing transformers with certain additional conditions and restrictions.

IV. Transformer Fire-Related Risks

A. Toxicity of PCBs and Incomplete Combustion Products

In earlier rulemakings, EPA has already concluded that, based upon available information persons exposed to PCBs can develop chloracne; and, that based on animal data, there is a potential for reproductive effects and developmental toxicity as well as oncogenicity in humans exposed to PCBs. While fires involving PCB-containing transformers have resulted in the release of large quantities of PCBs, these incidents have also resulted in the formation of toxic products of incomplete combustion.

Many other compounds of potential toxicological significance, including PCDFs, PCDDs, and polychlorinated biphenylenes, were measured in soot samples following fires involving PCB Transformers. However, the bulk of toxicity testing of PCDF and PCDD congeners has been completed on what are anticipated to be the most toxic species, the 2,3,7,8 substituted PCDFs and PCDDs. EPA has evaluated the risks posed by PCB Transformer fires through an evaluation of: (1) The toxicities of PCBs, 2,3,7,8-TCDF, and 2,3,7,8-TCDD; (2) the toxicities and potential toxicities of other PCDF and PCDD congeners; and (3) the potential for exposure to these materials as a result of a fire.

While the majority of toxicological testing has been completed on PCBs, 2,3,7,8-TCDF and 2,3,7,8-TCDD, this does not mean that human and environmental exposures to other congeners of PCDFs and PCDDs as well as polychlorinated biphenylenes pose little risk of toxic effects. For example, limited testing of 1,2,3,7,8-pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD), 1,2,3,6,7,8-hexachlorodibenzo-p-dioxin (1,2,3,6,7,8-HxCDD), and 1,2,3,7,8,9-hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD) suggest that these congeners are qualitatively similar in their toxic action to 2,3,7,8-TCDD for observed effects. However, they are less toxic for the observed effects than the 2,3,7,8-TCDD congener. EPA expects that similar structure-activity relationships would exis. between 2,3,7,8-TCDF and 1,2,3,7,8-PeCDF, 1,2,3,7,8,9-HxCDF, and 1,2,3,6,7,8-HxCDF. However, EPA also believes that reducing exposures to the extremely toxic congeners, 2,3,7,8-TCDD and 2,3,7,8-TCDF, will also reduce exposures to these other compounds of potential toxicological significance.

According to EPA's February 1984 Ambient Water Quality Criteria (AWQC) for 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD), 2,3,7,8-TCDD is one of the most toxic substances known to man. It exhibits delayed biological response in many species and is highly lethal, at low doses, to aquatic organisms, birds, and mammals. It has been shown to be acnegenic, fetotoxic, teratogenic, mutagenic (limited evidence), carcinogenic, and adversely affects the immune response in mammals.

The AWQC lists the acute LD50 for 2,3,7,8-TCDD for several species. The oral LD50 values ranges from 0.6 microgram per kilogram (kg) body weight (bw) for guinea pigs to 5,051 micrograms per kilogram body weight for hamsters. The AWQC presents the acceptable daily intake (ADI) value for a 70 kg man as 2.2×10^{-7} micromoles 2,3,7,8-TCDD per day. This ADI is based on the lowest-observed-adverse-effect levels (LOAEL) in rats, and has been calculated in accordance with the National Academy of Science's guidelines for calculating an ADI based on a LOAEL.

Although the ADI value presented above is very low, it still may not be sufficiently protective of human health. This ADI level does not take into account the demonstrated carcinogenic effects of 2,3,7,8-TCDD in laboratory animals. The AWQC concludes that 2,3,7,8-TCDD is an animal carcinogen and that the epidemiological findings are consistent with the conclusions drawn from animal studies that 2,3,7,8-TCDD is a probable human carcinogen.

The carcinogenic potency of 2,3,7,8-TCDD using the linearized multistage model has been estimated relative to 55 other chemicals which EPA's Cancer Assessment Group (CAG) has evaluated as suspect carcinogens. This relative potency index is 5×10^{7} per millimole (mmol) per kg per day (137 per ug per kg per day), making 2,3,7,8-TCDD the most potent carcinogen that the CAG has evaluated. CAG ranks 2,3,7,8-TCDD as a 2–A carcinogen, which means that there are sufficient laboratory animal data indicating its carcinogenicity as well as suggestive human evidence.

The limited data on other PCDD congeners indicate that they are qualitatively similar in their toxic action to 2,3,7,8-TCDD when comparisons are made in a single species. This is illustrated in mice, where 2,3,7,8-TCDD has an LD50 value of 0.88 micromoles (umol) per kg and 1,2,3,7,8-peCDD; 1,2,3,6,7,8-HxCDD and 1,2,3,7,8,9-HxCDD have LD50 values of 0.94, 3.19, and 3.67 umol/kg, respectively.

Toxicological testing of PCDFs, specifically, 2,3,7,8-TCDF, has been more limited than testing of 2,3,7,8-TCDD. The acute oral LD50 in the guinea pig is reported to be 5

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micrograms per kg bw (as compared with the acute oral LD50 for 2,3,7,8-TCDD in this species which is reported to be 0.6 microgram per kg bw). Subchronic testing of 2,3,7,8-TCDF in rhesus macaques indicated that this compound is extraordinarily toxic. Based upon EPA's review of this study, the No Observed Effect Level (NOEL) for 2,3,7,8-TCDF is expected to be below 5.0 parts per billion (ppb). The author of this study concluded that continued daily oral intake of small amounts of 2,3,7,8-TCDF gave monkeys a disease which is clinically and morphologically similar to acute or chronic ingestion of 2,3,7,8-TCDD. The clinical course is marked chiefly by weight loss, swelling of the eyelids, dryness and granularity of the skin, hair loss and reduced physical activity. For most of the observed biological effects, the potency of the two compounds are within an order of magnitude of each other, with 2,3,7,8-TCDF being somewhat less toxic than 2,3,7,8-TCDD. Some scientists have estimated that in laboratory animals, 2,3,7,8-TCDF is 2 to 33 percent less toxic than 2,3,7,8-TCDD, depending upon the particular endpoint in question. Further, the toxicity of 2,3,7,8-TCDF in rhesus macaques has been estimated to be about 20 times that of 3,4,4',5'-tetrachlorobiphenyl and 1,000 times more toxic than PCB Aroclor 1248.

Based on its assessment of available literature on the toxicity of 2,3,7,8-TCDF and the structural similarity of 2,3,7,8-TCDF to 2,3,7,8-TCDD, EPA has concluded that it is prudent to assume that exposures to 2,3,7,8-TCDF would pose risks of similar toxic effects as exposures to 2,3,7,8-TCDD. Further, based on structure-activity relationships and limited in-vitro studies, EPA assumes that other PCDF congeners, particularly 1,2,3,7,8-PeCDF, 2,3,4,7,8-PeCDF, 1,2,3,4,7,8-HxCDF, 1,2,3,6,7,8-HxCDF, and 1,2,3,7,8,9-HxCDF may also pose risks of similar toxic effects as exposures to 2,3,7,8-TCDF (and 2,3,7,8-TCDD).

Following the Binghamton fire, several researchers completed toxicological testing of soot samples in guinea pigs. Based on these studies, using Binghamton State Office Building (BSOB) soot, EPA has concluded that exposures to soot from PCB Transformer fires have the potential to produce toxicity in the thymus, the hematopoietic system, the salivary gland duct epithelium and, possibly, the liver.

It is worth noting that thymic atrophy, bone marrow depletion, and diminished body weight gain, all effects of the subchronic administration of the BSOB soot, have been routinely demonstrated in acute studies in guinea pigs using PCDFs and PCDDs. In addition, the group of guinea pigs dosed with 231.1 ppm BSOB soot (in feed) in the subchronic study exhibited symptoms characteristic of acute exposure to 2,3,7,8-TCDD and 2,3,7,8-TCDF, which include skeletal muscle degeneration, fatty changes in hepatocytes, and degeneration of gastrointestinal tract epithelium.

One paper stated that the oral LD50 of the BSOB soot in guinea pigs is 410 milligrams per kilogram body weight, which would classify this material as very toxic.

For more in-depth analyses of the toxicities of PCBs, PCDFs, and PCDDs see documents 2, 3, 4, 5, 6, 8, and 13 in Unit X.B.

B. The Formation of Oxidation Products From PCBs

There is direct evidence of the formation of PCDFs and PCDDs from heating and burning commercial mixtures of PCBs and diluents from: (1) Chemical analyses of materials at the sites where fires were known to involve transformers that contained PCBs and chlorinated benzenes, and (2) laboratory experiments published in chemical and other literature. PCBs, PCDFs, and PCDDs were found in some soot specimens from both the Binghamton and San Francisco fires. Data submitted to EPA following the issuance of the Proposed Rule indicate that PCDFs and PCDDs were also measured in samples taken following the Miami and Chicago fires.

Laboratory studies provide the best available information on the conversion of pure PCBs to PCDFs. In these studies, a number of different PCB congeners and mixtures of congeners have been heated and the resulting materials analyzed for PCDFs and PCDDs. A specific PCB compound reacts to form a limited number of PCDFs. The formation of PCDFs involves intramolecular elimination of three kinds of diatomic molecules, with or without some rearrangement of chlorine atoms on the phenyl rings in the product dibenzofuran. From the products obtained in the PCB reactions, the diatomic molecules, hydrogen, hydrogen chloride, and chlorine, are formed from hydrogen and chlorine atoms in ortho positions on each of the two phenyl rings in the original polychlorinated biphenyl molecule. The optimum temperature range for the published laboratory experiments was 600 °C. Yields of PCDFs have been reported in the literature to be as high as 10 percent (calculated on the amount of PCB decomposed) for reaction temperatures from 550 °C to 600 °C, but drop off to tenths of a percent at temperatures below 500 °C and above 650 °C.

EPA-sponsored studies of the formation of PCDFs and PCDDs indicate that the optimum conditions for the formation of PCDFs from (neat) PCBs are 675 °C for 0.8 second or longer, with 8 percent excess oxygen. Under these conditions, a 3 percent conversion efficiency (PCBs to PCDFs) was observed for askarel fluid. Under the same conditions, PCDFs were also formed from PCBs present at concentrations of 5, 50, and 500 ppm in mineral oil and silicone oil. The EPA study of the formation of PCDFs PCDDs from PCB-containing mineral oil and silicone oil indicates a 4 percent conversion efficiency of PCBs to PCDFs when PCBs are present in these materials at concentrations of 5, 50, and 500 ppm. Statistical analysis showed a linear relationship between the amount of PCB present and the amount of PCDFs formed.

PCB dielectric fluid may also contain chlorinated benzenes as diluents or contaminants, as a result of past servicing activities. Laboratory experiments in the published literature have shown the formation of PCDDs in addition to PCDFs from the pyrolysis of mixtures of chlorobenzenes. Amounts of PCDFs ranged as high as several tenths of a percent for mixtures of trichlorobenzenes. Tetrachlorobenzene and pentachlorobenzene mixtures formed amounts of PCDFs and PCDDs which were two orders of magnitude smaller than the amounts of these compounds formed by trichlorobenzene. These reactions are bimolecular and the experimental concentrations of chlorobenzenes were high.

EPA-sponsored studies of the incomplete combustion of chlorinated benezenes indicate that PCDFs, and to a lesser extent PCDDs, are formed from the incomplete combustion of trichlorobenzene dielectric fluid containing no detectable PCBs. EPA also studied the incomplete combustion of tetrachloroethylene (perchloroethylene) and high temperature hydrocarbons (both of which are potential PCB substitutes) to determine whether PCDFs and PCDDS would be formed from these materials in fire situations. EPA's preliminary study indicates that PCDFs and PCDDs are formed from the incomplete combustion of tetrachloroethylene fluid. The two high temperature hydrocarbon fluids did not produce PCDFs or PCDDs under the experimental conditions.

The presence of low concentrations of chlorobenzenes as contaminants in

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dielectric fluids that also contain PCBs are not expected to lead to substantial increases in the amounts of PCDFs formed from burning or heating the PCBs, but, may result in the formation of some PCDDs. EPA believes that the PCDD levels found in the Binghamton soot samples resulted from the pyrolysis or incomplete combustion of chlorobenzenes. The low level PCDDs found following the San Francisco fire could have been associated with the presence of chlorobenzenes in that fluid as well.

For further discussions of the formation of incomplete combustion products from PCBs and other potential substitute fluids, see the EPA-sponsored studies completed by the Midwest Research Institute, documents 10 and 11 in Unit X.R.

The description and characterization of the chemical reactions occurring in a fire in which aroclors (or any other commercial mixtures of many PCB compounds) are burned are far more complex than the laboratory experiments. However, EPA believes that reactions observed in the laboratory should also occur in fire situations where the reactants and reactions conditions are similar to laboratory reaction conditions. Data from actual PCB Transformer fires confirm the relatively high rates of conversion of PCBs to PCDFs in actual PCB Transformer fires.

PCDFs and PCDDs have also been detected following high temperature incineration. High temperatures incineration is required by EPA regulations to dispose of PCBs in oil. However, the levels of PCDFs and PCDDs measured following high temperature incineration have been substantially less than those measured following the above described laboratory experiments. This is because of high temperature incineration requires a 1200 °C temperature, a 2-second residence time, and sufficient oxygen to sustain complete combustion. As explained above, laboratory experiments indicate that the reaction temperature for the formation of PCDFs is optimized at around 600 °C. It is probable that yields of PCDFs from PCBs are reduced at higher temperatures because of increased destruction efficiency and ease of combustion.

C. Causes of PCB Transformer Fire-Related Failures

PCB Transformer fire-related incidents can occur from many causes, including overloading, overheating, electrical faults (overcurrent conditions or low current faults either in the transformer itself or external to the transformer in associated electrical equipment), and fires near transformers, involving building components or stored materials. PCB Transformer fires can also occur as a result of mechanical failures which can lead to electrical faults, and then, to fires. Of the well-documented PCB Transformer fires, many have reportedly occurred as a result of electrical faults, which led to transformer failures and fires. Electrical faults are of two basic categories: faults characterized by high current or excessive current flow (high current faults), and faults characterized by low current flow (low current faults).

Electrical faults can occur in transformers themselves or in associated electrical equipment. Faults in associated electrical equipment are of equal concern to faults inside transformers, first, because these faults can ultimately cause transformer failure, and second, because most faults occur external to the transformers themselves, in associated electrical equipment. Thus, as a general rule, the more associated electrical equipment present, the higher the probability of a fault occurring. Further, electrical faults are more likely to be self-sustained rather than self-extinguishing when voltages are higher.

1. *Mechanisms of failure*—a. *Excessive current flow.* The first failure mechanism is excessive current flow of the transformer. This is termed an overcurrent condition or simply, "overcurrent". Prolonged overcurrent conditions can lead to fires inside a transformer. If the overcurrent condition is due to a fault in the transformer itself, then there is a high energy arc in the transformer's insulating fluid. Failure to extinguish quickly high current arcs in a transformer will result in rapid transformer failure, involving the rupture of the transformer casing and loss of dielectric fluid. If the overcurrent condition is due to a fault in the associated electrical equipment, then there is high energy fault in the associated electrical equipment. Faults are more likely to occur externally, in associated electrical equipment, than in the transformer itself. However a high current fault in associated electrical equipment can draw excessive current from the transformer, heat the solid insulation, increase the discharge activity in the transformer and cause transformer failure (rupture and release of dielectric fluid).

According to comments on the Proposed Rule, electrical faults which occur on the load side or secondary side of a transformer (in the low voltage winding, low voltage leads, or in other associated switchgear and equipment) are more likely to be self-sustaining rather than self-extinguishing when the secondary or load side voltage is higher. That is, self-sustained high current faults in the secondary (the low voltage side) are more likely in higher voltage secondaries (i.e., 480 volt secondaries) than in lower voltage secondaries (i.e., 208 volt secondaries).

Current-limiting fuses or energy-limiting devices and overcurrent protective relays are the types of electrical protective devices which can be used to quickly extinguish high current arcs inside the transformer casing, as well as high current faults which occur external to the transformer in associated electrical equipment. PCB Transformer fires which occur as a result of overcurrent conditions occur when overcurrent electrical protective devices (fuses and/or circuit breakers) are not present, when overcurrent protection is not set sensitive enough to deenergize the transformer before high temperatures or pressures are reached; and when overcurrent protection simply fails to operate when called upon.

b. *Low current faults.* The second failure mechanism is the widely recognized (in written comments on the Proposed Rule and in testimony at the public hearing) possibility that low current faults may occur in a transformer itself, or external to a transformer, in its associated electrical equipment, and not activate conventional overcurrent protective devices (the fuses and circuit breakers discussed earlier). For a low current fault in a transformer to release sufficient energy to lead to tank rupture, the fault must first produce a pressure rise in the transformer tank. In contrast to the short time involved from the occurrence of a sustained high energy (high current) arc to the reputure of a transformer, low current faults may take some time to release sufficient energy to cause tank rupture.

Low current faults can also occur external to a transformer, in associated electrical equipment such as network protectors (circuit breakers which are typically installed on the secondary side of network transformers) and network collector buswork. Sustained or prolonged low current faults external to a transformer can ultimately involve the transformer itself, causing rupture and release of PCBs.

As was the case for high current faults, comments on the Proposed Rule indicate that when the secondary voltage of a transformer is higher, low current faults which occur in the secondary (in the low voltage winding, low voltage leads, or associated equipment) have a greater likelihood of

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being self-sustained rather than self-extinguishing. That is, low current faults in 480 volt secondaries have a greater likelihood of being sustained than low current faults in 208 volt secondaries.

Protecting against sustained low current arcing faults in a transformer involves the use of appropriate sensors and disconnect equipment. The sensors are designed to detect a pressure rise in the transformer tank and/or a temperature rise in the lower voltage transformer winding. Protection against sustained low current arching faults in external associated electrical equipment (which can ultimately involve the transformer) involves placing heat or ultraviolet sensors in this equipment. When the sensors detect an abnormal condition, (i.e., a rise in pressure or temperature) the transformer is rapidly deenergized, either automatically or manually (following the receipt of an audio or visual signal at a control center).

2. *Protection currently provided against common mechanisms of fault-related failures.* Comments submitted in response to the Proposed Rule and testimony supplied at the public hearing indicate that PCB Transformers are currently equipped with electrical protection to reduce the frequency of transformer failure; but, that the level and type of electrical protection provided varies depending upon the nature of the transformer installation. Certain transformers and installations are better protected against fault-related failures than other types of transformers and installations. For purposes of this section, it is sufficient to divide the applications into two types.

The first application includes all arrangements in which the PCB Transformer can be energized only from the primary winding. These transformers are termed radial PCB Transformers. (There are, however, five basic types of radial installations, simple radial systems, expanded radial systems, primary selective systems, primary loop systems, and secondary selective systems.)

The second application includes those arrangements in which the PCB Transformer can be energized from either the primary winding or the secondary winding. The secondary winding is the winding from which energy flows during normal operation. In these systems, the primary winding can be energized from the secondary winding under abnormal conditions. These transformers are termed network PCB Transformers. There are two basic types of network installations, grid networks and spot networks.

Functionally, there are two types of electrical protection devices. One type interrupts the flow of current by vaporizing a segment of the conductor if the current exceeds a predetermined level. Fuses and distribution cutouts operate in this manner. The second type of electrical protection device operates by opening a switch. A circuit breaker opens a switch in response to a temperature rise in the device due to the current flowing in the circuit. A ground fault interrupter opens switch contacts in response to an unbalanced current flow. A network protector opens switch contacts in response to a reversal of the current flow.

"Non electrical" protection devices are also available. Devices such as pressure sensors open (or close) relay contacts to switches when the pressure (or rate of rise of pressure) exceeds a predetermined level. Temperature sensors and fluid level sensors operate in a similar manner.

a. *Radial PCB Transformers.* According to comments submitted in response to the Proposed Rule, radial PCB Transformers are typically equipped with overcurrent protection (on the high voltage side) in the form of either a current-limiting fuse or circuit breaker, and, often, with fuses and/or circuit breakers on the low voltage side or the load side. The overcurrent protection on the primary is set at a predetermined level to clear high current faults on the primary and is typically set sensitive enough to clear downstream high current faults in the secondary as well. These fuses/circuit breakers are set to operate quickly enough to avoid transformer failure in the event of high current faults in the primary or secondary.

Radial transformers are not, however, typically protected against low current arcing faults; these faults do not activate conventional overcurrent protective devices. Low current arcing faults can occur in areas such as the secondary winding and low voltage leads of radial transformers and can progress unseen by existing overcurrent protection, leading to transformer failure. Radial transformers with higher secondary voltages are more likely to experience a low current arcing fault on the secondary which is self-sustained than radial transformers with lower secondary voltages.

According to comments on the Proposed Rule, many radial PCB Transformers used in industrial applications are equipped with temperature and pressure relays and circuit breakers on-site which can be manually operated to actuate transformer deenergization in the event of a sustained fault. However, if on-site control of a radial transformer is not possible (through the use of a manually operable circuit breaker), which is more likely the case in commercial installations, deenergization would involve contacting the utility substation to deenergize the substation primary feeder. Comments on the Proposed Rule indicate that this is a difficult thing for a utility to do, because deenergizing the primary feeder results in the deenergization of all transformers served from that primary feeder. This results in the loss of electric power to many buildings served by this same primary feeder.

b. *Network PCB Transformers.* According to comments on the Proposed Rule, network transformers are typically equipped with the least sensitive overcurrent protection of all utility distribution transformers. While radial transformers are typically equipped with overcurrent protection on the primary (which is set sensitive enough to clear high current faults on the primary as well as downstream high current faults in the secondary), network transformers are not typically equipped with current-limiting or energy-limiting devices on the primary circuit. Electrical protection for high current faults on the primary (in the primary feeder, the high voltage leads, and switchgear) is typically provided by relays to a primary feeder circuit breaker at the utility substation. The relays to the primary feeder breaker cannot detect downstream sustained high current faults in the secondary.

Further, while the relays to the substation primary feeder breaker on network transformers will operate for sustained high current faults in the primary (allowing for deenergization), deenergization may not occur quickly enough to avoid switchgear and/or transformer rupture. Thus, switchgear rupture and transformer failure can occur in network transformers from high current faults on the primary.

Unlike radial transformers, network transformers are equipped with network protectors, which are circuit breakers located on the secondary side of network transformers. The network protector is set to operate when it senses a reverse power flow. Thus, it operates to prevent power being fed back into the transformer in the event that the primary feeder breaker has been activated. The network protector operates in a coordinated fashion with the substation breaker relays to isolate a faulted network transformer. By isolating the faulted network transformer, service continues to be

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supplied to the load by other transformers in the network.

According to comments on the Proposed Rule, current-limiting fuses are used in the secondary of higher secondary voltage network transformers (in the services and in the network protector). These fuses operate when high current faults occur downstream from these areas. However, the presence of these fuses does not mean that the entire secondary is protected against high current faults. There is a zone in the secondary in network transformers which is currently "unprotected," where high current faults can occur and not be seen by the relays to the primary feeder breaker or by these fuses in the services and the network protector. High current faults in this area can result in transformer failures and fires. Network transformers with higher secondary voltages are more likely to experience high current faults in the secondary which are self-sustaining, than network transformers with lower secondary voltages.

Like radial transformers, network transformers are not typically protected against low current arcing faults. Further, in network transformers, there is typically more associated electrical equipment where these faults can occur. Low current arcing faults in network transformers can occur in the network protector and (for spot network transformers) in the network collector bus as well as in the secondary winding and low voltage leads. Again, these faults are more likely to be self-sustaining rather than self-clearing when the secondary voltage is higher.

Unlike industrial transformers, commercial transformers, particularly network transformers are not typically equipped with primary circuit breakers on site. The deenergization of a commercial network transformer after failure from a sustained (undetected) low current or high current fault would typically require the manual opening of the utility substation primary feeder breaker, after the utility has been contacted about a malfunction in the equipment. As indicated earlier, utilities are generally hesitant to open primary feeder breakers because of their desire for continuity of service to their customers.

3. *Conclusions.* Comments on the Proposed Rule suggest that there are ways in which both radial and network PCB Transformer installations could be better protected to minimize the likelihood of fault-related failures and fires. Several comments on the Proposed Rule discussed the role of high current faults in PCB Transformer failures and fires, the level of protection currently provided against these faults in different types of transformer installations, and ways in which PCB Transformers could be better protected to minimize the chance of failure from these types of faults. Network PCB Transformers are currently the least well-protected against high current faults of all distribution class PCB Transformers in use. According to comments submitted in response to the Proposed Rule, the Tulsa PCB Transformer fire was associated with this type of fault in the high voltage switchgear of a 208/120 volt network PCB Transformer.

Many comments on the Proposed Rule, however, focused on sustained low current arcing faults in PCB Transformers as the culprit in the number of documented PCB Transformer fires. These comments discussed the level of protection currently provided against these faults in PCB Transformer installations and ways in which PCB Transformers could be better protected to avoid low current fault-associated failures and fires. The San Francisco fire, the Chicago fire, and the Miami fire have been associated with these types of faults in 480/277 volt network PCB Transformers.

Simply stated, sustained low current arcing faults can occur in PCB Transformers and associated electrical equipment, and with existing levels of conventional protection, progress undetected and unseen, resulting in transformer failure and fire. According to comments submitted in response to the Proposed Rule, low current arcing faults can occur in the secondaries of all types of transformer installations, radial transformers, lower secondary voltage network transformers, and higher secondary voltage network transformers. They are, however, more likely to occur in installations with more, as opposed to less, associated electrical equipment and are more likely to be sustained in transformer secondaries when the secondary voltage is higher. This is because faults are more likely to "restrike" or be sustained at higher voltages than be self-extinguishing or self-clearing.

All types of PCB Transformers typically lack the sensors (pressure and/or temperature sensors) necessary for the early detection of low current arcing faults. Further, many commercial PCB Transformers are typically unequipped with on-site primary circuit breakers to actuate transformer deenergization. This means that low current arcing faults can progress unseen in these transformers, and that these transformers cannot be easily deenergized, even after transformer rupture has occurred.

Deenergization of commercial PCB Transformers (when disconnect equipment is not present on site) typically requires the opening of the primary feeder breaker at the electric utility substation, which is often miles away from a transformer installation. According to testimony at the public hearing, the opening of a primary feeder breaker at an electrical substation is a very difficult thing for a utility to do, because opening the primary feeder breaker for a malfunction in a single PCB Transformer will also result in other (well-functioning) transformers in the distribution system being deenergized.

D. Potential for Exposure

Toxicity and exposure are the two basic components of risk. In Unit IV.A, EPA addressed the toxicity of PCBs, PCDFs, and PCDDs. The following summarizes EPA's evaluation of the potential for human and environmental exposures to PCBs, PCDFs, and PCDDs from transformer fires.

As discussed in Unit IV.C, high current faults and low current faults in electrical transformers and/or associated equipment, as well as the ignition of combustible or flammable materials in a transformer location, can all lead to the rupturing of a transformer, the volatilization of PCBs, and the formation of incomplete combustion products. Sustained high temperatures in the area of a ruptured transformer increase the potential for the formation of toxic products of incomplete combustion, including PCDFs, 2,3,7,8-TCDF, PCDDs, and 2,3,7,8-TCDD. These high temperatures can either occur as a result of the initial malfunction or as a result of prolonged arcing associated with an inability to deenergize the transformer completely. Smoke and soot from a high temperature fire involving a PCB Transformer can contain high concentrations of volatilized PCBs and oxidation products.

The most extensive monitoring data on PCB, 2,3,7,8-TCDF and 2,3,7,8-TCDD levels in buildings following PCB-Transformer fires were obtained from the Binghamton State Office Building site. A composite soot sample from this fire indicated the presence of 7,200 ppm PCBs, 231 ppm 2,3,7,8-TCDF, and 2.9 ppm 2,3,7,8-TCDD. For a full description of PCB, PCDF, and PCDD levels measured following transformer fires see the quantitative exposure assessment completed for this final rule, support document 1 in Unit X.B.

EPA believes that the levels of PCBs and oxidation products measured in soot samples following the Binghamton

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fire and values which are representative of situations in which combustion conditions are conducive to the formation and/or release of PCBs and oxidation products. Therefore, in this rule, EPA has used these values to estimate human and environmental exposures to PCBs, PCDFs, and PCDDs from PCB Transformer fires and fires involving PCB Contaminated transformers.

In the Proposed Rule, EPA evaluated the likelihood and nature of human and environmental exposures from transformer fires in or near buildings by analyzing likely exposures from a PCB Transformer fire in or near an office building. A number of comments received in response to the Proposed Rule suggested that EPA evaluate separately the expected exposures from transformer fires in or near industrial facilities and the costs of control measures for these transformers. Comments suggested that the use of PCB Transformers in industrial facilities pose lower fire-related risks than the use of PCB Transformers in commercial buildings and that the costs of the proposed transformer isolation requirement would be substantially greater for industrial facilities than for commercial buildings.

EPA agrees that industrial facilities should be evaluated separately from commercial buildings. Accordingly, EPA has evaluated the potential for human and environmental exposures for the following categories of PCB Transformer fires: (1) A PCB Transformer fire in or near a commercial building (both before the implementation of risk reduction measures and after the implementation of risk reduction measures); (2) a PCB Transformer fire in an industrial facility; (3) a PCB Transformer fire in an outdoor electrical substation; and (4) a PCB Contaminated transformer fire in or near a commercial building.

The first step in evaluating the potential for human exposures to PCBs and oxidation products is to determine the populations that are likely to experience these exposures. EPA has identified six populations that may be at risk of exposure to PCBs and oxidation products in the event of a fire involving a transformer containing PCBs. These are: (1) Persons present in a building or possibly in an adjacent building at the time of a fire in or near a building; (2) firemen and other emergency response personnel responding to a fire; (3) onlookers present during the extinguishing of a fire and members of the general public in the vicinity of the fire; (4) persons involved in sampling and cleanup operations following the fire; (5) persons returning to the building following cleanup; and, (6) persons exposed to equipment, automobiles, etc. that may have been contaminated during or after the fire. Human exposures to PCBs and oxidation products from transformer fires would be expected to occur principally through the inhalation and dermal routes.

1. *PCB Transformer fires in or near commercial buildings*—a. *Nature of installations and operation.* PCB Transformers serving commercial buildings are typically located in basements, in machinery rooms on the first few floors of buildings, or in sidewalk or underground vaults adjacent to buildings. Commercial PCB Transformers may also be located on roof-tops or near buildings in outside locations such as parking areas or loading docks. Electrical transformers used in or near commercial buildings are most typically located in areas which are not easily accessible or visible to building occupants. Based on the results of the Equitable Life Assurance survey of commercial transformer locations, EPA estimates that 69 percent of commercial transformers located on lower floors of buildings are vaulted, and that transformers located on interior upper floors are generally located in separate mechanical rooms. The majority of transformers located exterior to commercial buildings are also vaulted. According to utility representatives, in many cases, more than one PCB Transformer is located in a vault. Typically, two to four PCB Transformers are located within a single vault.

While commercial buildings may have janitorial crews on duty for building maintenance, electrical equipment operations are not typically closely supervised or monitored by trained electrical engineers or technicians. Maintenance and testing of these transformers would, in general, be expected to be less than that provided for utility substation equipment or industrial transformers. Further, disconnect equipment (i.e., circuit breakers) is generally not present in commercial installations, and there is typically no one present on site who is trained in disconnecting the equipment, even if such equipment were provided.

Comments on the Proposed Rule and EPA's analysis of available information indicates that there are approximately 77,568 PCB Transformers used in or near commercial buildings. Of these 77,568 PCB Transformers, EPA estimates that approximately 29 percent are network PCB Transformers and 71 percent are radial PCB Transformers. Further, of the estimated 7,600 480 volt network PCB Transformers in use (those transformers with a particularly high probability of fault-failure), EPA believes that over 97 percent of these transformers are used in or near commercial buildings.

b. *Frequency of PCB Transformer fires.* In the Proposed Rule, EPA estimated that 0.003 to 0.004 percent of nonsubstation PCB Transformers are involved in "serious" PCB Transformer fires (PCB Transformer fires involving smoke spread into buildings) each year. Within the category of "serious" fires are fires with moderate smoke distribution and fires with extensive smoke distribution. EPA used data from the National Fire Incident Reporting System (NFIRS) for 1982 on the frequency of structure-related electrical transformer fires, data from the NFIRS on the frequency of structure-related transformer fires with smoke spread beyond the room of origin of the fire, limited data from the NFIRS on the make, model, and year of transformers involved in these fires, and data supplied by various sources in response to the ANPR to develop this estimate. While EPA received several comments on this estimate (some indicating that EPA had severely underestimated the frequency of occurrence and other indicating that EPA had significantly overestimated the frequency of occurrence), little additional quantitative data were submitted to support modifying EPA's estimate of the frequency of occurrence of serious PCB Transformer fires. Thus, EPA believes that its estimate of 50 serious PCB Transformer fires over the remaining useful life of PCB Transformers is a reasonable estimate of the future frequency of serious PCB Transformer fires.

Since many comments on the Proposed Rule suggested that EPA evaluate separately the risks posed by PCB Transformers in or near industrial facilities, EPA has developed estimates of the frequency of PCB Transformer fires in industrial facilities and in commercial buildings.

As discussed in Unit IV.C, EPA believes that the probability of PCB Transformer fault-related failure varies depending upon the type of PCB Transformer installation (and includes such considerations as the amount of associated electrical equipment present, the secondary voltage of the transformers, and the current level of protection provided against sustained high current faults and sustained low current faults). Based on this analysis, and available empirical data on installation types in documented PCB

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Transformer fires. EPA has developed estimates of the relative probabilities of failure for different types of PCB Transformer installations (high and low secondary voltage network transformers versus high and low secondary voltage radial transformers). EPA has used these estimates and available data on the distribution of these installation types in commercial locations and industrial locations to estimate the frequency of serious PCB Transformer fires both in commercial buildings and in industrial facilities.

EPA believes that 480 volt network PCB Transformers would have a particularly high probability of failure; that lower secondary voltage network PCB Transformers and 480 volt radial PCB Transformers would have a lower probability of failure (compared to 480 volt network transformers); and that lower secondary voltage radial PCB Transformers would have the lowest probability of fault-related failures.

EPA estimates that 44 of the 50 structure-related serious PCB Transformer fires which will occur over the remaining useful life of PCB Transformers will occur in or near commercial buildings. This estimate is supported by electrical engineering theory concerning the mechanisms of PCB Transformer fault-related failures and the likelihood of failures in different types of installations as well as by available empirical data. The PCB Transformer fires in Binghamton, San Francisco, Chicago, Miami, and Tulsa all occurred in or near commercial buildings; specifically, in office buildings.

Further, the San Francisco fire, the Chicago fire, and the Miami fire all reportedly occurred in 480 volt network PCB Transformers. Three other fire-related incidents in commercial buildings in the Boston area also reportedly involved 480 volt network PCB Transformers. A total of 6 out of 10 known PCB Transformer fires have occurred in higher secondary voltage network PCB Transformers (in 480 volt network installations). This is particularly dramatic when one considers that there are only an estimated 7,600 480 volt network PCB Transformers in use.

c. *Exposure assessment.* EPA has evaluated likely exposures from a serious PCB Transformer fire in or near a commercial building by using reasonable yet environmentally conservative assumptions. EPA assumes that a PCB Transformer fire in a commercial building would involve sustained high temperatures in the transformer location, the rupture of the transformer casing, the release of PCBs, the volatilization of PCBs, and the widespread distribution of PCBs and oxidation products throughout the interior of a densely populated building (i.e., an office building), into the ambient air, and into waterways. EPA assumes that smoke and soot containing PCBs and oxidation products are spread throughout a large office building during peak use hours, that emergency response personnel are unaware that certain precautions should be taken to minimize exposures, and, that reoccupancy occurs only after the removal of visible traces of soot by cleanup crews.

EPA assumes that a PCB Transformer fire in or near a commercial building would involve the rupture of the transformer and sustained high temperatures in the transformer location for up to 4 hours. EPA has assumed this because transformers located in or near commercial buildings are more likely to be located in inaccessible, low visibility areas, where malfunctions would not be readily identified. Further, EPA has assumed that the transformer will not be deenergized automatically and that the transformer will not have the capability to be deenergized manually from an on-site location. EPA made these assumptions because many PCB Transformers located in or near commercial buildings are network transformers, which are currently less well-protected electrically, and, are less likely to be able to be deenergized manually from an on-site location.

EPA's assessment of the potential for human exposures to PCBs and oxidation products from a PCB Transformer fire in a commercial building serves as the baseline for subsequent assessments of the expected effectiveness of fire hazard risk reduction measures in these locations. This assessment is also used in assessing likely human exposures from PCB Transformer fires in industrial settings and in outdoor locations (away from commercial and residential areas), and for estimating likely human exposures from PCB-Contaminated transformer fires in or near commercial buildings.

A PCB Transformer fire which occurs in or near a commercial building during a period of peak use may expose hundreds to thousands of building occupants to smoke and soot from the fire during the evacuation of the building. The potential for exposures of large numbers of building occupants to this smoke and soot is increased if the transformer involved in a fire is located near building ventilation equipment and ductwork. EPA estimates that evacuation times will be on the order of 6 to 8 minutes, and, that during these 6 to 8 minutes, building occupants will be exposed to smoke and soot, primarily through inhalation.

Emergency response personnel, unaware that the smoke and soot from the fire may contain PCBs and toxic products of incomplete combustion, may be exposed to these materials through inhalation, and may incur some dermal exposure to facial areas. EPA estimates that 30 to 60 emergency response personnel may be exposed for up to 4 hours during the extinguishing of a PCB Transformer fire. Dermal and inhalation exposures of firefighters and other emergency response personnel may continue during the completion of equipment maintenance procedures and during the cleaning of personal clothing and firefighting equipment after the fire.

EPA has developed quantitative estimates of exposures by cleanup crews, firefighters, building occupants, and members of the general public to PCBs, PCDFs, and PCDDs. EPA developed these estimates primarily to evaluate relative exposures among these populations for different types of PCB Transformer fires and not to define in an absolute sense expected human exposures. In developing quantitative exposure estimates, EPA must make assumptions about parameters such as the concentration of PCBs, PCDFs, and PCDDs present in soot, the amount of soot generated, the distribution of soot in the interior of a building, the duration of exposure, the frequency of exposure, and the expected routes of exposure. As would be expected, the assumptions selected for use in quantitative exposure assessments can strongly influence the final exposure estimates. Recognizing this, EPA tends to routinely adopt more environmentally conservative assumptions for the different parameters of the exposure assessment.

EPA's quantitative estimates of potential firefighter exposures (assuming that respiratory protection is not worn during a PCB Transformer fire of 4 hours duration, as well as other assumptions detailed in support document 1 in Unit X.B.) in terms of estimated lifetime average daily doses (LADD) is 8,006 picograms per kilogram per day (pg/kg/day) PCBs, 96 pg/kg/day 2,3,7,8-TCDF, 56 pg/kg/day other TCDFs, 319 pg/kg/day other PCDFs, 5.1 pg/kg/day 2,3,7,8-TCDD, 0.98 pg/kg/day other TCDDs, and 45 pg/kg/day other PCDDs.

Building occupants also may incur additional exposures (above those which may occur during building evacuation), if these parties remain nearby, as onlookers during the extinguishing of the fire. Further, there is an increased potential for these

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additional exposures when emergency response personnel (the principal authority figures at the scene of a fire) are unaware of the nature of risks posed by exposures to smoke and soot from these fires.

The rupture of a PCB Transformer and the release of potentially hundreds of gallons of PCBs (and potentially PCDFs and PCDDs) into floor drains in transformer locations could result in the contamination of waterways. Further, if water is used to extinguish the fire, or if water pipes rupture due to high temperatures caused by the fire, water runoff could ultimately result in contamination of surface waters and drinking water. Members of the general public, in addition to fish and wildlife, in the vicinity of a PCB Transformer fire may be exposed to PCBs and oxidation products through the ingestion of residues. While comments on the ANPR suggest that water is not frequently used in extinguishing an electrical transformer fire, EPA believes that there is a potential for contamination of water from the rupture of the transformer, burst water pipes, the extinguishing of ignited materials in the area (other than electrical equipment) and from cleanup efforts.

The presence of a floor drain leading to a storm sewer in a transformer location provides a readily accessible pathway for the contamination of surface waters, and potentially, drinking water supplies. Water contaminated with soot containing PCBs, PCDFs, and PCDDs can enter these drains as a result of firefighting operations, burst water pipes, and cleanup operations. Very large amounts of water can be used in the cleanup process. For example, during the first year of cleanup at the Binghamton site, over 160,000 gallons of water were used, treated by charcoal filtration and secondary treatment, and discharged to surface waters. The nearest drinking water intake downstream is 45 miles away and serves 16,500 persons.

Atmospheric transport of PCBs and oxidation products in an urban area could also be responsible for exposing many members of the general population who live or work in the vicinity of a fire. In the Binghamton, New York incident, 2,585 people lived within 3 to 4 kilometers of the building. While inhalation exposures by the general public as a direct result of a PCB Transformer fire would be unlikely to occur for an extended period of time, soot fallout from a PCB Transformer fire may contaminate surface soil and surface water, in addition to outdoor furniture, automobiles, and other types of materials which are commonly stored outside. Contamination of surface soil and surface water may result in exposures to fish and wildlife as well. Thus, dermal, inhalation, and even oral exposures to the general population in the vicinity of a fire may occur on a continuing basis long after the initial incident.

Exposures at the site of a fire to soot containing PCBs and oxidation products may also continue long after the extinguishing of the fire. Cleanup crews, dispatched to the scene by a building owner who is unaware of the nature of risks posed by a PCB Transformer fire, may not be initially equipped with respiratory protection or protective clothing. Inhalation and dermal exposures would be expected to occur as these crews work to remove soot from surfaces inside the building. Soot particles are likely to become airborne as a result of cleanup efforts, and would be expected to be inhaled by workers. In addition, because of the strenuous nature of cleanup work, these workers would be expected to have a high respiration rate, further increasing exposures to PCBs and oxidation products through inhalation.

EPA's quantitative estimates of potential exposures to cleanup crews (assuming a 4-hour fire, the lack of protective clothing, and the superficial cleanup of a building, as well as other assumptions detailed in support document 1 in Unit X.B.) is 13,784 pg/kg/day PCBs, 34 pg/kg/day 2,3,7,8-TCDF, 19.9 pg/kg/day other TCDFs, 109 pg/kg/day other PCDFs, 1.8 pg/kg/day 2,3,7,8-TCDD, 0.33 pg/kg/day other TCDDs, and 15.7 pg/kg/day other PCDDs.

Even if respiratory protection and protective clothing are utilized by cleanup crews, EPA expects that some level of exposure to these materials may occur both dermally and through inhalation because of the expected prolonged period of exposure. Cleanup crews may work long hours for extended periods of time. For example, in the Binghamton incident, 40 to 70 workers were involved in cleanup operations for 7 hours a day for over 250 days.

Finally, depending upon the level of knowledge of the building owner, emergency response personnel, the utility, and local public health authorities about the nature of risks posed by PCB Transformer fires, building occupants may be allowed to return prematurely to a building following the removal of only visible traces of soot. Exposures may occur to faces, hands, and lower arms for 8 hours a day over the course of 250 working days in a year. EPA also expects that inhalation exposures would occur as a result of the circulation of airborne contaminants by the building's ventilation system. Further, these exposures may continue for an indefinite period of time because these materials are expected to the quite persistent, and resistant to degradation. Residual concentrations may remain on interior building surfaces for several years. EPA's quantitative estimates of potential building occupant exposures (assuming that the fire burns for 4 hours, that the building is occupied at the time of the fire, and that reoccupancy occurs following cleanup to visible traces of soot in the buildings, as well as other assumptions detailed in support document 1 in Unit X.B.) is 39,593 pg/kg/day PCBs, 65 pg/kg/day 2,3,7,8-TCDF, 65 pg/kg/day other TCDFs, 277 pg/kg/day other PCDFs, 1.2 pg/kg/day 2,3,7,8-TCDD, 0.76 pg/kg/day other TCDDs, and 35 pg/kg/day other PCDDs.

EPA has prepared additional quantitative estimates of potential human exposures to PCBs, PCDFs, 2,3,7,8-TCDF, PCDDs, and 2,3,7,8-TCDD from a reasonable worst-case PCB Transformer fire in a commercial building. These estimates are presented in support document 1 in Unit X.B.

2. *PCB Transformer fires in or near commercial buildings with risk reduction measures in place.* In order to evaluate the effectiveness of risk reduction measures in reducing exposures to PCBs and oxidation products, EPA has assessed expected exposures to these materials from a PCB Transformer fire in a commercial building, assuming the implementation of certain risk reduction measures.

In the Proposed Rule, EPA evaluated the expected exposures associated with a PCB Transformer fire in or near a commercial building with certain risk reduction measures in place. The risk reduction measures addressed in the Proposed Rule were transformer isolation from building ventilation equipment and ductwork, the control of potential water releases, the reporting of the fire to the National Response Center, the registration of the transformer with the responding fire department and the building owner, and the labeling of the exterior of the transformer location. EPA assumed that most PCB Transformers could be deenergized within 15 minutes of failure (without the installation of additional protection), and, for those transformers that EPA believed could not be deenergized completely, EPA proposed requiring additional electrical protection on the secondary side of the transformers.

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Thus, in evaluating the effectiveness of transformer isolation, registration, labeling, and reporting of PCB Transformers fires, EPA assumed that all but a subset of PCB Transformers could be easily deenergized within 15 minutes of failure. For that subset, EPA required increased electrical protection on the secondary side of the transformers.

Comments on the Proposed Rule, however, indicate that: (1) Many PCB Transformers in commercial buildings are not capable of being easily deenergized after failures; (2) PCB Transformers in commercial buildings could be equipped with enhanced electrical protection which would reduce the probability of transformer failures from electrical faults; and, (3) while the proposed additional electrical protective measures (for a subset of the PCB Transformer population) would have avoided some failures in this equipment, failures in these transformers from other common mechanisms of failure could still occur.

Many comments on the Proposed Rule suggested that EPA increase its emphasis on the reduction of risk through the prevention of PCB Transformer fault-related failures and decrease its emphasis on the use of isolation measures to reduce structure and environmental contamination. These comments indicate that while transformer isolation can reduce exposures in the event of a PCB Transformer fire (by reducing widespread structure and environmental contamination), if a transformer cannot be easily deenergized after failure occurs, then substantial quantities of smoke and soot can be generated. The longer a transformer remains energized, the less likely it is that isolation will be an effective risk reduction measure.

EPA agrees that measures designed to prevent PCB Transformer failures are preferred over measures designed to contain and control already released and/or formed incomplete combustion products. Further, EPA's evaluation of mechanisms of transformer failure, commercial installation characteristics and operations, and the current levels of electrical protection in commercial PCB Transformer installations indicates that many of these PCB Transformers could be better protected electrically to reduce the frequency of fault-related failures and fires. Thus, in this final rule, EPA has focused on increased electrical protection rather than transformer isolation as the preferred measure for reducing the frequency of serious PCB Transformer fires.

Since electrical protective devices are subject to malfunction, EPA has also assessed expected exposures to PCBs and oxidation products in the event that transformer failure occurs despite the presence of increased electrical protection; but, has assumed that measures are taken to control water releases; that the incident is reported to the National Response Center; and, that the transformer is registered with both the responding fire department and the building owner. In addition, EPA assumes that the exterior of the transformer location is marked with PCB identification labels.

a. *Frequency of serious PCB Transformer fires with risk reduction measures in place.* EPA has used data from transformer and electrical equipment reliability studies to evaluate the probability of electrical protective device malfunction; and thereby, to estimate the effectiveness of electrical protection in avoiding serious PCB Transformer fires. For purposes of this rule, EPA defines electrical protective device malfunction as the failure of a device to operate when called upon to operate. It is difficult to develop a precise estimate of the expected rate of failure of specific combinations of electrical protective devices such as those which appear in this final rule. However, based upon available information on the failure rate of circuit breakers, current-limiting fuses, and heat and fluid level sensors, EPA expects the failure rate to be low, below 3 percent. Further, according to data on the failure modes of circuit breakers, only 9 percent of circuit breaker failures are failures to operate when called upon to open. The majority of circuit breaker failures are characterized by the operation of a circuit breaker when it should not have operated or opened. That is, circuit breaker failure typically involves deenergization without cause rather than failure to deenergize when called upon to open.

EPA has assumed that enhanced electrical protective systems will function to avoid between 97 and 99 percent of the serious PCB Transformer fires (about 43 fires) which would be expected to occur in commercial buildings over the remaining useful life of this equipment (this assumes that electrical protection can be implemented immediately). Electrical protection for commercial transformers phased in over a 5-year period is expected to avoid about 36 serious PCB Transformer fires. EPA expects that one to two serious PCB Transformer fires will occur over the remaining useful life of this equipment as a result of the failure of the enhanced electrical protective systems to operate.

b. *Exposure assessment.* The potential for the volatilization of large amounts of PCBs, and the formation of products of incomplete combustion from PCB Transformer fires is reduced if efforts are made to control combustion conditions in the transformer location. EPA believes that the removal of stored combustibles from a PCB Transformer location will reduce the likelihood of a fire occurring external to a PCB Transformer resulting in transformer failure. More importantly, the installation of enhanced electrical protection on commercial PCB Transformers is expected to reduce substantially the frequency of PCB Transformer fault-related failures in this equipment.

Comparing the circumstances surrounding well-documented PCB Transformer fires indicates that the sooner a faulted transformer is deenergized, the less likely it is that significant quantities of PCDFs and PCDDs will be formed. Experience from actual incidents indicates that EPA is correct in its belief that there are practical means available for successfully controlling combustion conditions in PCB Transformer locations. Certain measures, once implemented, would reduce the likelihood of fault-related failures and sustained high temperatures. These measures are expected to reduce significantly the fire-related risks posed by the continued use of these transformers.

Analyses of the levels of electrical protection currently provided for many commercial PCB Transformer locations indicate that these PCB Transformers could be better protected electrically to reduce the frequency of transformer failures from electrical faults. Comments on the Proposed Rule suggest that many of the well-documented PCB Transformer fires could have been avoided if transformer failure had been avoided through the use of enhanced electrical protection, such as current-limiting devices, sensors, and disconnect equipment.

Enhanced electrical protection, that is, the installation of overcurrent protection on transformers which lack such protection, and sensors and disconnect equipment to avoid sustained low current faults will reduce the likelihood of PCB Transformer fault-related failures. These systems are intended to actuate complete deenergization of transformers when abnormal conditions are sensed. While abnormal conditions are expected to be typically caused by sustained high and low current faults, the low current fault protection system

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in particular would also function to avoid sustained high temperatures and changes in internal pressure from other causes as well. Finally, the final rule requires the removal of stored combustibles near PCB Transformers to reduce the likelihood of a PCB Transformer fire occurring from an external source of combustion.

If transformer failure and fire occurs despite the presence of the required electrical protection system and the removal of stored combustibles, the nature and magnitude exposures to PCBs and oxidation products by building occupants, firefighters, cleanup crews, and members of the general population could be equivalent to that described above, in Unit IV.C.1.c. However, the presence of disconnect equipment on site (which can be manually operated) for many PCB Transformers will provide for more rapid deenergization than is currently the case.

Registration, labeling, containment of potential water releases, and notification of the National Response Center would also be expected to reduce exposures to these populations in the event that transformer failure occurred despite the presence of increased electrical protection. Advance knowledge on the part of fire departments and building owners about the contents of a transformer and the notification of EPA in the event of a fire would be expected to reduce exposures to building occupants, in addition to reducing exposures to firefighters and other emergency response personnel. EPA expects that firefighters, aware of the nature of risks posed by a transformer fire, would be more likely to wear respiratory protection and protective clothing and would be more protective of bystanders and onlookers. Building owners who are aware that a transformer fire involves a PCB Transformer would be less likely to dispatch unprotected cleanup crews to the site, and would be less likely to allow building occupants to return unprotected to an involved building.

If PCB Transformer owners take measures as soon as practically and safely possible to contain any spilled PCBs and or PCDFs/PCDDs (released as a result of a fire-related incident) and water potentially contaminated with PCBs, PCDFs, and PCDDs, EPA expects that potential releases to waterways will be substantially reduced. The blocking of floor drains in a transformer location as soon as practically and safely possible, and the containment of all water associated with the incident (including cleanup water) should reduce the potential for the release of PCBs and untreated water into surface waters. Finally, by requiring the reporting of all PCB Transformer fire-related incidents to the National Response Center (NRC), EPA will be able to monitor cleanup efforts and the treatment and discharge of water, to insure that safe levels are not exceeded.

3. *Industrial PCB Transformer fires*—a. *Nature of installations and operations.* PCB Transformers used in industrial applications may be located indoors or outdoors, depending upon variables such as the service being supplied by the unit, the size of the unit, and the geographic location of the facility. According to comments submitted in response to the Proposed Rule, many (but not all) industrial transformers are located in production areas, near motors, machinery, and other equipment. These transformers are typically unvaulted and readily visible to facility workers during the routine conduct of their work. This is in contrast to the typical commercial PCB Transformer installation, which is generally inaccessible and less visible to employees.

Comments on the Proposed Rule indicate that in many industrial facilities, the performance of transformers in monitored during production shifts by engineers, electricians, or other similarly trained personnel. Further, comments indicate that industrial transformer owners reportedly utilize visual inspections, monitoring, and electrical testing of transformer function on a routine basis. Electrical equipment failure and fire in an industrial facility means loss of production time, which can have severe economic impacts. Thus, industrial transformer owners have this incentive to provide for transformer maintenance and testing on a routine basis to avoid fault-related failures and for providing disconnect equipment on site to provide for rapid deenergization in the event of a fault-related failure.

EPA's analysis indicates that there are approximately 28,700 PCB Transformers used in or near industrial facilities. Of these 28,700 PCB Transformers, EPA estimates that 98 percent are radial PCB Transformers, and, that 2 percent are network PCB Transformers. Of the estimated 7,600 480 volt network PCB Transformers in use, EPA estimates that only 3 percent (or 179 PCB Transformers) are used in or near industrial facilities.

b. *Frequency of PCB Transformer fires.* EPA estimates that 8 out of the expected 50 serious PCB Transformer fires which will occur over the remaining useful life of PCB Transformers will occur in or near industrial facilities. Four of these fires are expected to occur after October 1, 1990. This estimate was derived by considering available information on the number and type of PCB Transformers used in or near industrial facilities and available information on the probability of PCB Transformer fault-related failure for each type of transformer installation.

EPA has very little data on PCB Transformer fires which have actually occurred in industrial facilities. Limited data were submitted by the American Paper Institute (API) regarding two PCB Transformer fire-related incidents in forest industry facilities. According to the results of an API survey, during an 8.5 year period, between January 1976 and March 1984, there were two PCB Transformer fires (which involved smoke spread into buildings) out of an estimated 3,509 PCB Transformers used by the surveyed companies. API indicates that none of these incidents approached "Binghamton" proportions, and could be classified as moderate incidents on the spectrum of PCB Transformers fires.

c. *Exposure assessment.* EPA has little data on the circumstances surrounding actual PCB Transformer fires in industrial facilities. However, EPA has used environmentally conservative yet reasonable assumptions in evaluating likely human and environmental exposures from a PCB Transformer fire in a typical industrial facility. EPA recognizes that PCB Transformer fires may occur in atypical industrial facilities, where the exposures may be somewhat greater than those described here. However, based on comments on the Proposed Rule, EPA believes that there are fundamental differences between the potential for human exposures to PCBs, PCDFs and PCDDs from the use of PCB Transformers in industrial facilities versus their use in commercial buildings.

EPA assumes that a PCB Transformer fire in an industrial facility would involve an indoor PCB Transformer, sustained high temperatures in the transformer location, the rupture of the transformer, the release of PCBs, the volatilization of PCBs, and the distribution of PCBs and oxidation products into the interior of an industrial facility, into the ambient air, and into waterways. EPA assumes that smoke and soot containing PCBs and oxidation products are spread throughout the interior of an industrial facility during peak use hours, worker evacuation occurs during the early stages of the fire, an on-site fire brigade makes the initial

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response, and, that reoccupancy of the facility by workers occurs after the removal of visible traces of soot.

EPA assumes that a PCB Transformer fire in an industrial facility will involve the rupture of the transformer and sustained high temperatures in the transformer location for up to 0.5 hour (in contrast to a 4-hour burn time assumed for commercial buildings). EPA has assumed this reduced burn time because comments on the Proposed Rule and available data indicate that transformers used in or near industrial facilities are more likely to be located in higher visibility areas, where malfunctions would be more rapidly identified. This is in contrast to the typical commercial PCB Transformer installation, which is not readily accessible or visible to employees. Further, EPA has assumed that once a malfunction has been identified, the transformer can be more easily deenergized in industrial facilities by on-site trained personnel. EPA made this assumption because comments indicate that industrial use PCB Transformers are typically equipped with primary disconnect equipment on site. Further, comments indicate that many industrial facilities employ electrical engineers or technicians during duty hours to monitor electrical equipment operations. This too is in contrast to the typical commercial installation, which is not equipped with primary disconnect equipment on site. Further, commercial PCB Transformer operations are not typically monitored.

An industrial PCB Transformer fire which occurs during a period of peak use may expose hundreds of workers to smoke and soot from the fire during the evacuation of the facility. However, EPA expects that worker evacuation times may be quicker than those assumed for commercial buildings. First, industrial facilities are not typically high-rise buildings. Second, there are typically fewer people to be evacuated. Finally, industrial workers would be expected to be more educated about the potential risks posed by any type of fire in an industrial location, and about proper evacuation procedures. EPA has assumed that exposures by workers to residual levels of PCBs and oxidation products would, however, continue following reoccupancy. EPA's estimate of potential exposures to industrial workers (assuming a 0.5 hour burn time and cleanup to visible traces of soot, as well as other assumptions detailed in support document 1 in Unit X.B.) is 2,888 pg/kg/day PCBs, 6.7 pg/kg/day 2,3,7,8-TCDF, 3.8 pg/kg/day other TCDFs, 22 pg/kg/day other PCDFs, 0.36 pg/kg/day 2,3,7,8-TCDD, 0.06 pg/kg/day other TCDDs, and 3.1 pg/kg/day other PCDDs.

Many industrial facilities have fire brigades on site to handle initial emergency response situations. According to comments on the Proposed Rule, these fire brigades are typically well-trained and well-equipped to handle industrial accidents and fires, including PCB Transformer fires. A PCB Transformer located in an industrial facility would likely be less confined than in a commercial building, and, therefore, would provide easier access to firefighters than a commercial location. Firefighting time may be reduced by the accessibility of the transformer, the capability to deenergize the equipment on site, and the level of site-specific training of industrial fire brigades.

EPA assumes that a 10-man fire brigade would respond to a PCB Transformer fire in an industrial facility, and that brigade members would be more likely to wear appropriate protective clothing and respirators. (Other assumptions are detailed in support document 1 in Unit X.B.) EPA's estimate of potential exposures to these firefighters is 45 pg/kg/day PCBs, 0.11 pg/kg/day 2,3,7,8-TCDF, 0.068 pg/kg/day other TCDFs, 0.37 pg/kg/day other PCDFs, 0.006 pg/kg/day 2,3,7,8-TCDD, 0.001 pg/kg/day other TCDDs, and 0.05 pg/kg/day other PCDDs. Additional exposures following the fire may, however, occur during the cleanup of turnout gear and firefighting equipment. EPA expects that industrial fire brigade personnel would take appropriate precautions to limit further exposures.

If water is used to extinguish the fire, or if water pipes rupture due to high temperatures, water runoff could ultimately result in contamination of surface waters and drinking water supplies. Industrial facilities typically have many floor drains, which are readily accessible pathways for the release of PCBs and oxidation products to waterways.

Atmospheric transport of PCBs and oxidation products in a metropolitan area could also be responsible for exposing many people who live or work in the vicinity of an industrial plant to PCBs and oxidation products. Higher ventilation rates in industrial facilities may lead to more rapid distribution of PCBs and oxidation products into the ambient air than would be the case for a fire in a commercial building. However, the shorter burn time for the fire would decrease the total amount of PCBs volatilized and incomplete combustion products formed and released.

Cleanup following an industrial PCB Transformer fire could be as time-consuming as an indoor commercial PCB Transformer fire. The cleaning and decontamination of valuable machinery and equipment would be very time-consuming. The cleanup of the structure itself may be less involved than for a high-rise office building. Industrial facilities are more open and building surfaces are generally more accessible to cleaning and decontamination. In addition, higher ventilation rates in industrial facilities would encourage the distribution of smoke and soot into the ambient air outside the facility. Further, the ability to deenergize the transformer from an on-site location would reduce both the amount of PCBs volatilized and the amount of incomplete combustion products formed and released.

In facilities which operate around the clock (24 hours per day operations), electrical equipment operations would be expected to be monitored during the entire operating time. However, smaller industrial facilities may operate only 8 hours per day, leaving electrical equipment operations unmonitored for 16 hours per day.

A PCB Transformer fire in an industrial facility after normal hours of operation could, therefore, burn longer than the assumed 0.5 hour. Electrical equipment operations are not typically monitored by operating personnel during off-shift hours. While occasional security patrols would inspect the area, a PCG Transformer fire could progress in much the same manner as a PCB Transformer fire in a commercial building. Deenergization of the transformer, even when on-site disconnect equipment is available, would take longer in these cases, because personnel trained in disconnecting the equipment would most likely not be on site during off-shift hours.

An industrial PCB Transformer fire during off-hours would be more likely to expose volunteer and municipal salaried firefighters than fires during normal operating hours, when company fire brigades would have primary responsibility for initial emergency response. Exposures to members of the general population in the vicinity of the fire would be expected to be higher for fires during off-hours, as would exposures to cleanup crews. Exposures to workers, however, would only be expected to occur following reoccupancy of the building, from contact with residual materials on building surfaces and in the air.

4. *Outdoor fires involving PCB Transformers*—a. *Nature of*

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installations and operations. PCB Transformers which are used in outdoor applications may be located on the tops of utility poles, pad-mounted in urban, metropolitan, and rural areas, or in electric utility substations. The operation of these transformers is not typically monitored by on-site personnel. Electric utility substation PCB Transformers are typically fenced off to restrict access to authorized personnel, and their operation may be monitored by personnel in control rooms at utility transmission stations and/or generating stations.

EPA estimates that there are about 17,000 PCB Transformers used in outdoor applications. EPA expects that the majority of these transformers are in radial installations.

b. *Frequency of PCB Transformer fires.* Based on estimates of the frequency of "serious" PCB Transformer fires in radial transformer installations, and the estimated number of PCB Transformers located in outdoor electrical substations, EPA estimates that outdoor PCB Transformer fires with smoke generation will occur at a frequency of about 0.0014 percent per year, or, about 3 incidents over the remaining useful life of this equipment.

c. *Exposure assessment.* Fires involving PCB Transformers located in outdoor locations, away from commercial buildings, are expected to result in lower human exposures to PCBs and oxidation products in fire situations than transformer fires in or near buildings. First, because combustion conditions in an outdoor PCB Transformer fire are not expected to be as conducive to the volatilization of spilled PCBs and the formation of large quantities of PCDFs, 2,3,7,8-TCDF, PCDDs, or 2,3,7,8-TCDD as would be the case with transformers located in machinery rooms or vaults. Generally, combustible materials are not present near outdoor PCB Transformers and some of the heat generated from arcing or fires would be expected to dissipate in the environment.

Further, outdoor utility substations in particular are generally fenced to restrict access to authorized personnel only, thus limiting the number of people at immediate risk of exposure in the event of a fire. In contrast to the smoke and soot produced from transformer fires in or near buildings, any smoke or soot produced in an outdoor transformer fire, away from commercial buildings, is expected to be more widely dispersed in the environment. EPA has developed a model for the release of PCBs and the formation of PCDFs and/or PCDDs from an outdoor PCB Transformer fire. EPA has estimated the expected exposures from releases to air from an outdoor fire and has found that exposures decrease with increasing distance, and that at a distance of 200 meters from a fire, inhalation exposures from a typical fire would be expected to be relatively low.

While there is a potential that emergency response personnel and cleanup crews responding to such fires may be exposed to some PCDFs, 2,3,7,8-TCDF, PCDDs, and 2,3,7,8-TCDD, exposures to PCBs would be more likely to occur. Firefighting equipment and protective clothing may become contaminated with PCBs, and may result in exposures to firefighters during equipment cleanup and maintenance.

Fires involving outdoor PCB Transformers near commercial buildings (i.e., within 30 meters of commercial buildings) could result in more people being exposed to higher levels of PCBs and any oxidation products produced. For this reason, EPA has included outdoor PCB Transformers located within 30 meters of commercial buildings within the definition of PCB Transformers located in or near commercial buildings.

5. *Fires involving transformers containing less than 500 ppm PCBs*—a. *Nature of installations and operations.* EPA estimates that there are over 20 million mineral oil transformers in the electric utility industry and about 5 million in all other applications. These mineral oil transformers may contain low levels of PCBs (less than 500 ppm PCBs) as a result of contamination from past servicing activities. EPA estimates that approximately 18 million of these mineral oil transformers are used in nonsubstation applications, in or near commercial buildings, industrial facilities and outdoors on utility poles. These transformers are installed in both radial and network configurations.

b. *Exposure assessment.* PCB Transformers typically contain 65 percent PCBs, or about 1,300 times the maximum amount of PCBs present in PCB Contaminated transformers (and 13,000 times the amount of PCBs present in transformers containing 50 ppm PCBs). EPA has assessed the potential for exposures to PCBs, PCDFs, 2,3,7,8-TCDF, PCDDs, 2,3,7,8-TCDD from fires involving PCB-Contaminated equipment by assuming that the transformer present in the Binghamton State Office Building was a PCB-Contaminated transformer, and, by assuming reasonable worst-case values for other parameters. Based on the results of EPA's study of the incomplete combustion of PCB-Contaminated transformer fluids, EPA has assumed that the formation of PCDFs and PCDDs in a PCB-Contaminated transformer would be linearly related to the amount of PCBs present in the transformer. Given this situation, PCB, PCDF, 2,3,7,8-TCDF, PCDD, and 2,3,7,8-TCDD levels in the soot from such a fire would be expected to be reduced by a factor of 1,300, compared to levels actually measured in Binghamton. Similarly, human exposures to these materials are assumed to be reduced by the same factor.

6. *Conclusions—Risks posed by fires involving transformers that contain PCBs.* Toxicity and exposure are the two basic components of risk. In earlier units of this preamble, EPA evaluated the toxicity of PCBs, PCDFs, 2,3,7,8-TCDF, PCDDs, and 2,3,7,8-TCDD and presented assessments of the potential for human exposure to these materials from transformer fires. EPA concluded that both 2,3,7,8-TCDD and PCBs are probable human carcinogens, based upon studies in laboratory animals. Further, since 2,3,7,8-TCDF is structurally and chemically similar to 2,3,7,8-TCDD, EPA has concluded that it is prudent to assume that an oncogenic potential exists in 2,3,7,8-TCDF and perhaps in other PCDD and PCDF congeners as well.

EPA has determined that relatively large quantities of these compounds can be formed and released during a PCB Transformer fire, particularly a fire which occurs in or near a commercial building. Sustained high temperatures in these transformer locations are more likely than in industrial or outdoor locations because of the nature of commercial PCB Transformer installations. Many commercial transformers are network transformers (which are the least well protected distribution (transformers). Further, malfunctions in commerical PCB Transformers are more likely to progress into more serious incidents because these transformers are typically located in low visibility areas, and because these locations typically lack on-site electrical technicians and necessary disconnect equipment to insure complete deenergization in the event of a sustained fault or failure.

Finally, there are many routes through which commercial building occupants, emergency response personnel, cleanup crews, onlookers, and the general public can be exposed to these materials, once generated. Building evacuation times for large commercial buildings can be relatively long, reoccupancy may occur before adequate cleanup has been completed, emergency response personnel may lack necessary protective equipment, cleanup crews may be dispatched without proper protection,

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onlookers may be unaware of the risks posed, and members of the general population in the vicinity of the fire may incur inhalation exposures and dermal exposures during the fire, and for extended periods after the fire from contamination of waterways, drinking water supplies and outdoor materials with PCBs, PCDFs, and PCDDs.

EPA has concluded that fires involving PCB Transformers in or near commercial buildings can pose significant risks of human and environmental exposures to PCBs and oxidation products. EPA believes that 44 of the estimated 50 structure-related serious incidents over the remaining useful life of PCBs Transformers will occur in or near these buildings. Further, based on its analysis of the relative probabilities of PCB Transformer failures and fires, EPA has concluded that many of these fires will involve 480 volt network PCB Transformers.

Given that a single serious PCB Transformer fire in or near a commercial building can potentially expose thousands of people to PCBs and oxidation products in soot in air, water, or on surfaces, EPA has concluded that PCB Transformer fires in or near commercial buildings can pose significant risks to human health and the environment. However, EPA also believes that reducing the potential for the release of PCBs and the potential for the formation and release of PCB oxidation products from PCB Transformers substantially reduce the fire-related risks posed by the continued use of this equipment.

EPA has determined that sustained high temperatures in industrial PCB Transformer locations and in outdoor substation PCB Transformers are less likely than for commercial PCB Transformers because of the nature of these installations. Many of these transformers are radial transformers (which are typically better protected against sustained faults and failures than network transformers). Further, malfunctions in industrial PCB Transformers which go undetected by existing electrical protection are less likely to progress into more serious incidents because of the location of these transformers in higher visibility areas, and because industrial facilities reportedly have on-site electrical engineers and technicians and necessary disconnect equipment to provide for complete deenergization. Finally, the suggested higher frequency of maintenance, inspection, and testing of industrial transformers and utility substation transformers would further decrease the likelihood of fire-related failures in this equipment.

EPA estimates that up to 6 out of the expected 50 serious PCB Transformer fires over the remaining useful life of PCB Transformers will occur in or near industrial facilities, and that less than 3 PCB Transformer fires with smoke distribution will occur in outdoor PCB Transformer locations.

While exposures to workers, emergency response personnel, cleanup crews and the general population may occur from an industrial PCB Transformer fire, the magnitude of exposure associated with a PCB Transformer fire in a typical industrial facility would be anticipated to be greatly reduced (when compared to a commercial PCB Transformer fire) as a result of several factors. First, EPA expects that the duration of industrial PCB Transformer fire-related incidents would be significantly less than the duration of commercial PCB Transformer fires, because of the presence of trained personnel and disconnect equipment on site. The reduced duration would reduce exposures to all populations potentially at risk of exposures. Second, there are generally fewer workers present in industrial facilities than in commercial buildings, and worker evacuation times would be expected to be less for industrial facilities than for commercial buildings. This is because of the single-story nature of many industrial facilities, and the expected increased level of education of industrial workers about workplace hazards. Third, according to comments on the Proposed Rule, industrial facilities often utilize well-trained, well-equipped fire brigades for initial emergency response, rather than local volunteer or salaried municipal firefighters. Emergency response personnel as a group, then, would be expected to incur lower exposures in responding to industrial PCB Transformer fires than would be the case for commercial PCB Transformer fires.

A comparison of estimated exposures from a commercial PCB Transformer fire to an industrial PCB Transformer fire indicates that exposures by building occupants to PCRs, 2,3,7,8-TCDF, other TCDFs, other PCDFs, 2,3,7,8-TCDD, other TCDDs, and other PCDDs could be as much as an order of magnitude higher for commercial building fires than for industrial building fires.

EPA recognizes that exposures from PCB Transformer fires in atypical industrial facilities could be higher than described earlier. However, EPA's estimate of the frequency of industrial PCB Transformer fires is 6 fires over the remaining useful life of industrial PCB Transformers. Even if EPA were to assume that all 6 of these fires resulted in individual exposures of the same order of magnitude suggested for commercial PCB Transformer fires, there are fewer people at risk of these exposures in industrial locations when compared to commercial buildings.

One could consider the overall fire-related risk posed by the continued use of PCB Transformers and compare the different frequencies of occurrence of fires in commercial buildings versus industrial facilities (assuming as a worst-case, that the risks posed by commercial PCB Transformer fires and industrial PCB Transformer fires are equivalent). This analysis indicates that 88 percent of the fire-related risk posed by the continued use of PCB Transformers (in locations in or near buildings) are associated with their use in or near commercial buildings and 12 percent of the total risks are associated with their use in industrial locations.

EPA has further determined that outdoor PCB Transformer fires, (away from commercial buildings) and fires involving PCB-Contaminated transformers pose lower risks than PCB Transformer fires in or near commercial buildings. While EPA expects that outdoor PCB Transformer fires may result in the release of PCBs, EPA expects that outdoor PCB Transformer fires would be less likely to result in the volatilization of large amounts of PCBs and less likely to lead to the formation and release of large amounts of PCDFs and PCDDs. Further, PCBs and oxidation products released from outdoor PCB Transformer fires would be expected to be more widely dispersed in the environment. Although PCBs may be released and oxidation products may be formed during the PCB-Contaminated transformer fires, the amounts of these materials formed and released are expected to be significantly reduced compared to the amounts formed and released from PCB Transformers.

IV. Benefits of PCB-Transformers and the Availability of Substitutes

As part of the unreasonable risk determination, EPA must consider both the benefits of PCBs and the availability of substitute materials. The unreasonable risk determination requires EPA to balance the risks posed by the use of PCBs against the availability of adequate substitute materials and the costs associated with regulatory control measures.

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A. Benefits of PCBs

PCBs were originally used as dielectric fluid in electrical transformers primarily because of their fire-resistance properties. Generally, PCB Transformers were placed in locations where concerns for fire safety were paramount. Other dielectric fluids, such as mineral oil, have superior electrical properties to PCBs, but their fire resistance properties are not as good as PCBs.

Monsanto Company has had in progress for over a year a study assessing and comparing fire risks of PCBs and of mineral oil. The Monsanto-sponsored study indicates that the average frequency of a fire spreading beyond the transformer room is 300 times greater for a mineral oil transformer than for a PCB Transformer containing 50 percent PCBs and 50 percent chlorinated benzenes. The report further indicates that there is a significant decrease in the risk of fatalities when a mineral oil transformer is replaced by a PCB Transformer containing 50 percent PCBs and 50 percent chlorinated benzenes.

B. Substitute Transformers

In its August 1982 PCB Electrical Use Rule, EPA concluded that adequate substitutes exist for PCBs in indoor transformer locations. There are two basic categories of transformers, fluid-filled and dry. There are six general types of fluid-filled substitutes for PCBs in transformers: Silicones; high-temperature hydrocarbon (HTH); chlorinated hydrocarbons; non-PCB askarels; fluorocarbons; and mineral oil. EPA summarized available data on these substitute fluids in the Proposed Rule and concluded that adequate substitutes exist for PCBs for indoor transformer locations, including silicone-filled transformers and dry transformers.

As discussed earlier, EPA-sponsored studies indicate that PCDFs and PCDDs can be formed from the incomplete combustion of chlorinated benzenes. Similarly, an EPA-sponsored study indicates that PCDFs can be formed from the incomplete combustion of tetrachloroethylene (perchloroethylene).

The replacement of PCB dielectric fluid with substitute fluids which in fire situations may also lead to the formation of PCDFs and PCDDs should be carefully considered in light of the Agency's decision in this rule to place additional conditions and restrictions on the use of PCB Transformers. EPA's evaluation of the risks posed by the incomplete combustion of PCB dielectric fluid and the frequency of occurrence of PCB Transformer fires indicate that the fire-related risks posed by the use of a dielectric fluid which can be transformed into PCDFs and/or PCDDs can be significant. EPA will study this issue further and evaluate the need for additional EPA action.

C. Retrofilling PCB Transformers

1. *Introduction.* Two general types of substitutes for PCBs in transformers stand out as the best retrofill candidates. These fluids are silicones and high temperature hydrocarbons (HTH). The principal questions to be considered are the cost of retrofill versus the value of the remaining life of the transformer and the qualification of the fluid as "less flammable" for insurance purposes. A related question is the potential for the formation of toxic products of incomplete combustion from the retrofill fluid and remaining residual concentration of PCBs. Other fluids, such as chlorinated hydrocarbons, fluorocarbon, and mineral oil, are used in new transformers but are inappropriate for retrofilling because the design of the PCB Transformers does not fit the properties of the fluids.

Experience with retrofilling to date indicates that reclassification of askarel PCB Transformers to non PCB status is often not cost-effective. Reclassification to PCB Contaminated status, however, has been accomplished in a cost-effective manner for a number of askarel PCB Transformer units. Testimony at the public hearing, however, indicates that retrofill technology continues to evolve, and, that cost-effective reclassification of askarel PCB Transformers to non PCB status may be on the horizon.

2. *Silicones.* There are six silicone fluids sold by six different companies for use as dielectric fluid. Four of the six fluids have been approved by Factory Mutual Research Corporation (FMRC) as "less flammable" fluids. Silicones have a higher viscosity than PCBs and are therefore not quite comparable to PCBs as a coolant. For this reason, it is possible that transformers retrofilled with silicone would have to be derated. According to one silicone fluid manufacturer, if the transformer were fully loaded, a derating not exceeding 5 percent could be necessary. (Derating means lowering the maximum level of electrical load that the transformer can handle.)

It has been mentioned in the literature that a leaking problem could be created because silicone fluids are not compatible with silicone rubber gaskets and the coefficient of expansion of silicone fluids is 50 percent greater than that of PCBs. In actual practice, however, the silicone gaskets are replaced during retrofilling. (Further, even though the coefficient of expansion is greater than that for PCBs, the greater solubility of the filler gas (nitrogen) in silicone eliminates the expected increase in pressure.)

3. *HTHs.* There are six HTH fluids sold by five companies that may be used as transformer dielectric fluids. There are also two products sold by two other companies that when mixed with other products may be used as HTH transformer fluids. Three of the six fluids are paraffinic based oils and three are esters. As mentioned earlier, the three esters are more specialized for use in railroad transformers.

The other three fluids are more viscous than the silicones at lower temperatures, but thin more rapidly at higher temperatures. According to an HTH manufacturer, this property allows the transformers to be retrofilled with HTH without any derating. At lower normal load temperatures, however, the transformers do run hotter. These fluids are completely compatible with the materials that make up PCB Transformers, and they are soluble in PCBs. Two of these fluids are approved by FMRC as "less flammable transformer fluids," and the fire point of the third is over 300 °C.

Because the paraffinic HTHs have high convective and radiant heat release rates, the owner's insurance company may recommend more stringent installation requirements.

V. Benefits and Costs of Regulatory Options

A. Introduction

This unit presents an analysis of the effectiveness and economic impact of various regulatory options for reducing the fire-related risks posed by the continued use of PCB Transformers. For a full analysis of the expected economic impacts see the regulatory analysis for this final rule, support document 7 in Unit X.B. The analysis considers separately, the effectiveness and costs of five major regulatory control options for four categories of PCB Transformers: (1) PCB Transformers in or near commercial buildings, (2) PCB Transformers in or near industrial locations, (3) PCB Transformers in outdoor electrical substations, and (4) PCB Contaminated Transformers. The regulatory control measures considered are: (1) Placing no additional conditions or restrictions on the use of PCB Transformers; (2) requiring the registration and additional labeling of PCB Transformers, the removal of stored combustibles, the containment of potential water releases and the

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reporting of PCB Transformer fires to the National Response Center; (3) requiring the isolation of PCB Transformers to reduce widespread structure and environmental contamination with PCBs and products of incomplete combustion; (4) requiring the installation of increased electrical protection on PCB Transformers to avoid PCB Transformer failures; and, (5) requiring the removal or retrofill of PCB Transformers. The analysis includes a consideration of the expected savings in cleanup costs as a result of implementing these measures.

Given the well-established toxicity of PCBs, and the presence of materials that are much more toxic than PCBs in the soot from a fire involving a PCB Transformer, owners of PCB Transformers involved in PCB Transformer fires have invested more than $20 million dollars each to ensure the safety of persons returning to occupy these buildings. These costs, for sampling, cleanup and removal of contaminated materials containing PCBs, PCDFs, and PCDDs can be factored into the economic analysis of the benefits of the continued use of PCB Transformers. Earlier analyses of the benefits of the continued use of these transformers, completed in support of the August 1982 PCB Electrical Use Rule, did not take into consideration the costs of cleanup in the event of PCB Transformer fires.

B. Summary of Benefits and Costs

The removal or retrofill of PCB Transformers is both the most effective, and, the most costly measure for reducing the frequency of serious PCB Transformer fires. This measure, once implemented, gives the greatest assurance that PCB Transformer fires will be avoided, regardless of initiating cause. However, it is also the measure which, as a practical matter, would require the longest time for implementation. Concerns such as the availability of PCB disposal capacity, transformer manufacturing capacity, and avoiding the disruption of electrical service make phaseout and/or retrofill more difficult to implement quickly than other risk reduction measures. Based upon EPA's analysis of the frequency of PCB Transformer fires, it is likely that serious PCB Transformer fires will occur in the interim, between the date of promulgation of any phaseout requirement and the actual date of the removal of PCB Transformers from use.

Providing enhanced electrical protection is anticipated to be very effective in avoiding serious PCB Transformer fires, through the prevention of PCB Transformer fault-related failures. Studies of the causes of PCB Transformer failures and fires and the level of protection currently provided indicate that many PCB Transformers could be better protected to avoid fires caused by more common mechanisms of failure, electrical faults. The effectiveness of increased electrical protection is expected to approach that of phaseout/retrofill, although EPA recognizes that electrical protective devices are subject to some (low) rate of malfunction, and, that PCB Transformer fires can also result from less common mechanisms of failure. Requiring a certain level of redundancy in the type of sensors used and the placement of sensors provide increased assurance of a higher level of effectiveness. Further, as a practical matter, this control measure could be implemented more quickly than phaseout/retrofill, because availability of PCB disposal capacity and transformer manufacturing capacity are not primary concerns. Further, this measure would be less disruptive to electrical service than phaseout/retrofill.

Increased electrical protection can be costly, however, compared to other risk reduction measures (other than phaseout/retrofill). Further, while electrical protection systems are expected to have a high degree of reliability in avoiding failures, there is the potential for false outages. These are circumstances in which a transformer is mistakenly deenergized when a sustained fault condition does not in fact exist. While EPA acknowledges the potential economic impact of false outages, EPA has not attempted to quantify this impact.

The isolation of PCB Transformers is expected to be effective in avoiding serious PCB Transformer fires by avoiding widespread structure and environmental contamination. The effectiveness of isolation in actually avoiding more serious PCB Transformer fires depends, however, to a great degree on the capability of a failed transformer to be deenergized within 15 minutes of failure. Isolation is not expected to be very effective for transformers which cannot be easily deenergized after failure occurs. Isolation is expected to be effective in minimizing the distribution of PCBs and incomplete combustion products in circumstances where a transformer has the capability to be deenergized within 15 minutes of failure.

As was the case for the installation of increased electrical protection, isolation measures can be implemented more quickly than PCB Transformer phaseout/retrofill, because availability of PCB disposal capacity and transformer manufacturing capacity are not primary concerns. However, implementation of transformer isolation requirements would be, in general, more complex than providing enhanced electrical protection in a transformer installation. This is because the isolation of transformers would typically require negotiation between building owners and transformer owners for necessary structural changes to buildings. While transformer isolation is costly, it would be in many cases less expensive than either phaseout/retrofill or increased electrical protection.

The registration of PCB Transformers with building owners and fire departments, the labeling of the exterior of PCB Transformer locations, the containment of potential water releases, and the reporting of PCB Transformer fires to the NRC are measures which are expected to reduce exposures in the event of a serious PCB Transformer fire. However, these measures will not be effective in avoiding any of projected 50 serious building fires, or the estimated 3 outdoor PCB Transformer fires from occurring. The effectiveness of these risk reduction measures depends, to a large extent, on the implementation of voluntary measures based on knowledge about the contents of a transformer involved in a fire-related incident. These measures are the least costly control measures that EPA considered.

C. Regulatory Options and Economic Impacts

1. *PCB Transformers in or near commercial buildings—a. Summary table.* The following table (Table 1) summarizes the real costs, benefits, and net costs (after a consideration of savings in cleanup costs from avoided fires) of the major regulatory control measures considered for commercial PCB Transformers. For a full discussion of the assumptions made for this analysis, see support document 7 in Unit X.B.

TABLE 1.—COSTS AND BENEFITS OF CONTROL MEASURES FOR COMMERCIAL PCB TRANSFORMERS

Option	Real cost (millions)	Expected fires	Avoided fires	Net cost (millions)
No action	N/A	44	0	[1] $399
registration	$7.3	44	[2] 0	7.3
Enhanced E. protection, 5-years	590	9	35	343
Removal:				
5-years	953	8	36	704
10-years	640	15	29	470
Removal of 480 network 5-years	168	19	25	[3] −4.7

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TABLE 1.—COSTS AND BENEFITS OF CONTROL MEASURES FOR COMMERCIAL PCB TRANSFORMERS—Continued

Option	Real cost (millions)	Expected fires	Avoided fires	Net cost (millions)
Removal of 480 network & E. protection of remaining (5-years)	626	9	35	390

[1] Fire-related cleanup expense over remaining useful life.
[2] Would be expected to reduce exposures.
[3] Avoided cleanup costs exceed real cost of measure.

b. *Take no additional action.* The first regulatory option that EPA considered for PCB Transformers located in or near commercial buildings was to take no further regulatory action at this time to restrict the use of these transformers. This would allow the continued use of PCBs in or near buildings such as office buildings, shopping centers, apartment buildings, and hospitals without additional restrictions above the requirements of the August 1982 PCB Electrical Use Rule. That rule authorized the continued use of transformers containing PCBs (that pose no exposure risk to human food or animal feed) for the remainder of their useful lives subject to certain recordkeeping and inspection requirements, based on the concentration of PCBs in the equipment.

There are no costs to transformer owners associated with EPA's allowing the continued use of these transformers, other than the potential future costs associated with cleanup and liability suits following fires involving this equipment. If the use of PCB Transformers in or near commercial buildings were authorized indefinitely, without additional restrictions, EPA expects that 44 additional incidents will occur over the remaining useful life of this equipment.

For purposes of this analysis, these 44 incidents would be expected to require cleanup efforts whose cost would approach $20 million each (1985 dollars) or an estimated $399 million over the remaining useful life of this equipment.

c. *Labeling and registration programs.* The registration of PCB Transformers located in or near commercial buildings with fire departments and building owners, in combination with the labeling of the exterior of transformer locations with PCB identification labels may be effective in reducing exposures to firemen, building occupants, and bystanders. Compared to the other regulatory alternatives under consideration (other than the alternative of taking no additional action), the cost of this option is relatively low. EPA believes that in addition to registration with fire departments, the labeling of the exterior of transformer locations is necessary to insure that emergency response personnel arriving at the scene of a fire know that the fire involves a transformer that contains PCBs. EPA expects that the costs of labeling the exterior of PCB Transformer locations will be about $76.00 per location. EPA estimates that the total cost of labeling the exterior of commercial PCB Transformer installations will be about $3.5 million.

The costs of registering commercial PCB Transformers are also expected to be minimal, since the location of all PCB Transformers should already be known by the owners of this equipment. The costs to transformer owners of forwarding this information to all building owners and to fire departments with primary jurisdiction is expected to be minimal, on the order of $50.00 per transformer. EPA estimates that total costs of this registration program for commercial PCB Transformers would be approximately $3.8 million. The total real costs of registration and labeling of commercial PCB Transformers would be on the order of $7 million.

While transformer registration and labeling programs would be expected to reduce human and environmental exposures to PCBs, and oxidation products, they will not reduce the frequency of serious PCB Transformer fires.

d. *Smoke control technologies.* Certain design techniques or changes in commercial PCB Transformer locations may be effective in reducing the likelihood of wide spread structure and environmental contamination from a failed PCB Transformer. The effectiveness of transformer isolation as a control measure depends to a large extent, however, on the type of PCB Transformer installation and the ease of actuating deenergization.

Unlike the ventilation systems for other oil-filled transformers, the ventilation systems for PCB Transformers were not designed for the purpose of fire isolation but rather were designed only to keep the ambient temperature at or below 30° Centigrade (C). However, the removal or alteration of existing ventilation systems could result in higher operating temperatures which shorten transformer operating lives and may increase the likelihood of equipment failure.

Thus, the design of alternative ventilation or cooling systems may be necessary to reduce the potential for building contamination. Ventilation alternatives include air conditioners, redirected venting, and heat exchangers, or simply limiting the contamination potential of the existing system by reducing the ventilation cooling effectiveness.

The objective of isolation is to reduce the widespread contamination of structures and the environment by smoke and soot from a transformer fire. These techniques often include the modification of the ventilation system serving the transformer location and/or sealing cracks or openings which would permit smoke to escape freely into occupied areas and the environment. In the more serious transformer incidents, the presence of building ventilation systems, building ductwork, and openings in construction in transformer locations have been responsible for the dispersion of toxic contaminants into buildings.

While transformer isolation can reduce exposures in the event of a failure and fire involving a PCB Transformer (by reducing the spread of contaminants), if a transformer cannot be easily deenergized within 15 minutes after a sustained fault occurs, then substantial quantities of smoke and soot can be generated. The longer a transformer remains energized after a serious fault occurs, the less likely it is that isolation will be effective in reducing exposures to PCBs and incomplete combustion products.

Although specific design changes and costs of isolation techniques are dependent on the individual transformer location, EPA has developed some general cost estimates. A firm involved in survey and design projects for PCB Transformers estimates that in 85 to 90 percent of all cases where isolation is the desired alternative, the costs are about $8,000 per transformer location.

For purposes of the cost-effectiveness analysis, an average cost of $8,000 per location is assumed for all locations where some form of suitable transformer enclosure is already present. For nonenclosed transformers, an estimated cost of $15,000 is assumed for retrofit of an enclosure that provides for smoke containment.

In order to facilitate compliance monitoring efforts, EPA would require the development of written PCB Smoke Spread Reduction Plans (PCB–SSRPs). The development of PCB–SSRPs involves documenting measures taken to isolate PCB Transformers from building ventilation equipment, ductwork, and openings in construction. EPA expects that maintaining these records would create a minimal additional burden on PCB Transformer owners (above the burden created by requiring transformer isolation procedures).

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The total real costs of isolation procedures for commercial PCB Transformers implemented over a 5-year period are $318 million. Avoidance of cleanup costs through transformer isolation depends to a great extent on the ability to deenergize a transformer rapidly. EPA has limited data on the number of commercial transformers which can be rapidly deenergized (i.e., which currently have the capability to be deenergized within 15 minutes of a sustained fault); these transformers would be the group most likely to derive benefits from isolation in the event of PCB Transformer failure. Available data suggest that most commercial PCB Transformers are not capable of being rapidly deenergized in the event of a sustained fault. This severely reduces the effectiveness of PCB Transformer isolation alone, without increased electrical protection, as a mechanism for avoiding serious PCB Transformer fires in or near commercial buildings.

e. *Increased electrical protection.* Avoidance of serious PCB Transformer fires in commercial buildings through increased electrical protection involves the installation of appropriate sensors and disconnect equipment to detect common causes of transformer failures and to allow for deenergization. The disconnect equipment would either be automatically activated in response to sensed abnormal conditions (with a provision for manual deenergization), or, manually opened following the receipt of an audio or visual signal (indicating abnormal conditions) at an on-site manned control center. Devices which respond to overcurrent conditions and sensors which respond to low current faults would protect against failures from two basic mechanisms of fault-related transformer failures. Low current fault protection in the form of heat and pressure sensors and associated disconnect equipment would also provide deenergization following high temperatures and changes in pressure from other causes, such as mechanical failures or external fires.

As discussed in Unit IV.C, transformer failures can occur as a result of excessive current flow of a transformer. Of the 77,568 PCB Transformers used in or near commercial buildings, approximately 21,000 PCB Transformers (the network transformers) are currently without overcurrent protection on the primary side (the high voltage side) of the transformers. Second, virtually none of the 77,568 PCB Transformers in or near commercial buildings are currently equipped with sensors to detect low current faults. Finally, virtually none of the 21,000 network PCB Transformers in use have disconnect equipment (in the form of a primary circuit breaker or equivalent technology) on site to allow for rapid deenergization, and, EPA expects that many of the 55,000 commercial radial PCB Transformers do not utilize primary circuit breakers for high current fault protection.

The installation of certain safety equipment to detect sustained high current and low current faults on PCB Transformers which currently lack such protection would reduce the probability of failures, fires, and explosions in commercial PCB Transformers, particularly events resulting from electrical malfunctions. Electrical malfunctions, specifically electrical faults, have been implicated in many known PCB Transformer fires.

The highest reduction in the probability of PCB Transformer fault-related failure is attained when protection is provided against both basic mechanisms of transformer fault-related failures. Installation of overcurrent protection without protection against low current faults will avoid only those PCB Transformer fires which occur as a result of overcurrent conditions.

Electrical faults in general are more likely in network transformers than radial transformers because network transformers have more associated electrical equipment (on the secondary side of transformers); network transformers have network protectors and network buswork for faults to occur in. This does not mean that faults will not occur in radial transformers; it simply means that when radial installations are compared to network installations, one would expect more electrical faults in general to occur in network installations.

When the secondary voltage of a transformer is higher, any faults which occur in the secondary are more likely to be sustained rather than self-clearing or self-extinguishing. Sustained faults cause PCB Transformer failures and fires. Thus, higher secondary voltage network PCB Transformers would have the highest probability of failure from faults. Using the same logic, low secondary voltage radial PCB Transformers would have the lowest probability of failure from faults.

According to comments on the Proposed Rule, historically, utilities have installed high current fault protection on the primaries and secondaries of radial transformer installations. Network installations, however, have been less well protected against high current faults.

The cost of installing increased protection on commercial PCB Transformers depends both on the form of protection selected, and, whether the device involves a retrofit of the transformer. High current fault protection is much less costly than low current fault protection. Low current fault protection involves the installation of disconnect equipment as well as the installation of appropriate sensors. High current fault protection involves the installation of current-limiting or energy limiting fuses.

Since comments on the Proposed Rule and EPA's analysis indicate that the probability of a transformer failure from electrical faults is influenced by the type of transformer installation, not all of the above protection would be warranted on a cost/benefit basis for all types of commercial PCB Transformer installations.

Under the option of increased electrical protection, EPA would require that all commercial PCB Transformers be equipped with overcurrent protection to avoid transformer failures as a result of high current faults. Current-limiting fuses are relatively inexpensive, and would avoid failures from high current faults in the primary and secondary areas of transformers. The cost of installing current-limiting fuses (on the estimated 22,191 commercial network PCB Transformers which currently lack such protection) is estimated at $53 million. The installation of these devices on the approximately 15,072 lower secondary voltage network transformers is estimated at $35 million.

EPA would also require that all commercial PCB Transformers with higher secondary voltages be equipped with protection against sustained low current faults. This is because transformers with higher secondary voltages are more likely to experience sustained rather than self-clearing faults. While 480 volt network PCB Transformers may have a particularly high probability of sustained low current faults (because of the high secondary voltage and the presence of more associated electrical equipment), when a low current fault occurs in a higher secondary voltage radial PCB Transformer (in the voltage winding, low voltage leads, or other equipment), it too will be sustained and can result in transformer failure.

For the majority of these higher secondary voltage commercial PCB Transformers, protection against failures from low current faults would mean the installation of a primary circuit breaker on site as well as the installation of non-electrical sensors, such as pressure sensors and temperature sensors in the transformer. For high secondary voltage

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network PCB Transformers, fault sensors would also be needed in the network protector and the network bus as well. Requiring the installation of both pressure and temperature sensors in the transformer tank and fault sensors in the network protector and network bus of high secondary voltage network PCB Transformers provides a level of redundancy in the protection system; this increases the reliability of electrical protection, and provides increased assurance that increased electrical protection would actually avoid PCB Transformer failures and fires.

The cost of protection against low current faults is principally the cost associated with the installation of disconnect equipment such as circuit breakers on site. The cost of the indicated sensors is a fraction of the cost of the installation of a primary circuit breaker.

The total real costs associated with requiring the installation of high current fault protection on all commercial PCB Transformers and low current fault protection on higher secondary voltage commercial PCB Transformers over a 5-year period is estimated at $590 million. EPA expects that the installation of these electrical protection systems will avoid about 97 percent of serious PCB Transformer fires in commercial buildings which would have otherwise occurred, or, 35 serious PCB Transformer fires over the remaining useful life of this equipment. The net cost of this control measure, after adjusting for avoided cleanup costs is estimated at $343 million.

The increased electrical protection requirement which appeared in the Proposed Rule required installation in 3 years, by October 1, 1988. Based on comments submitted in response to the Proposed Rule concerning the type of electrical protection needed, the higher costs of this protection (compared to the proposed electrical protection requirement and the proposed isolation requirement), and the larger number of PCB Transformers which require additional electrical protection, EPA believes that it is reasonable to allow a longer phase-in period for this control measure than was proposed. Further, EPA recognizes that many PCB Transformer owners may choose PCB Transformer removal in lieu of enhanced electrical protection, and that this will place additional burdens on PCB disposal capacity. Requiring the installation of enhanced electrical protection on a schedule which recognizes both the fact that many PCB Transformer owners have chosen or will choose removal rather than electrical protection and that there are constraints on PCB disposal capacity will encourage PCB Transformer owners who have voluntary 5-year phaseout programs in place to continue and may stimulate other owners to initiate such programs. Thus, EPA has allowed 5 years for the implementation of the requirement for enhanced electrical protection.

f. *Retrofilling.* Retrofilling of commercial PCB Transformers to reduce the PCB concentration to below 500 ppm would be expected to reduce human and environmental exposures to PCBs and their oxidation products in the event of a fire. This would be accomplished through a substantial reduction in the amount of PCBs present in the transformers. EPA has completed an analysis of the costs of retrofilling commercial PCB Transformers to reduce PCB concentrations to below 500 ppm. EPA estimates that retrofill costs will range from $15,505 for a 50 KVA transformer to $32,034 for a 3,000 KVA transformer. These estimates include the costs of disposal of PCB fluid, but do not include any consideration of a loss of efficiency or derating as a result of the retrofill.

An estimate of the total resource costs of retrofilling all commercial PCB Transformers (77,568 at end of 1984) to below 500 ppm is about $1.2 billion. Although the retrofilling of PCB Transformers reduces the risks to humans posed by the transformer in the event of a fire (by reducing the amount of PCBs present, the amount of PCBs released, and the amount of PCDF formed and released), it is difficult to estimate the effectiveness of this option in avoiding cleanup costs from fire incidents, since PCDFs and PCDDs may still be formed.

g. *Phaseout of commerical PCB Transformers.* The removal of all PCB Transformers from locations in or near commercial buildings or the removal of particularly high risk PCB Transformers from locations in or near commercial buildings would give increased assurance that future serious PCB Transformer fires from all causes will be avoided. The following table uses a population of 77,568 units (EPA's estimate of the number of PCB Transformers in or near commercial buildings that will be in use at the end of 1984) and a population of 7,420 units (EPS's estimate of the number of high secondary network PCB Transformers in use). EPA uses an estimate of equipment life of 30 years, and presents total real costs of phase-out over 5- and 10-year periods of all commercial PCB Transformers, and phaseout over a 5-year period of higher secondary network PCB Transformers, as well as estimates of the number of PCB Transformer fires avoided, and the net costs, after a consideration of avoided cleanup costs. (EPA did not evaluate an immediate ban because comments indicated that manufacturing capacity was insufficient to allow for this option.) For a full description of the assumptions used in the following analysis, and for a more detailed analysis of phaseout costs versus cleanup costs avoided, see the regulatory analysis for the final rule, support document 7 in Unit X.B.

TABLE 2—PHASEOUT COST COMPARISON

Group	Regular option	Cost ($ millions)	PCB fires avoided	Net cost ($ millions)
All commercial	10-year phaseout	640	29	470
All commercial	5-year phaseout	953	36	704
Commercial 480 Network	5-year phaseout	168	25	−4.7

2. *PCB Transformers in or near industrial facilities*—a. *Summary table.* The following table (Table 3) summarizes the real costs, the benefits, and the net costs (after deducting avoided cleanup costs) of the major regulatory options for industrial PCB Transformers.

TABLE 3—COSTS AND BENEFITS OF CONTROL MEASURES FOR INDUSTRIAL PCB TRANSFORMERS

Option	Real cost (millions)	Expected fires	Avoided fires	Net cost (millions)
No action	N/A	6	0	$84
Labeling & Registration	$2.5	6	0	2.5
Enhanced E. protection 5-years	178	2	4	138
Removal 5-years	319	2	4	286

b. *Take no additional action.* This option would allow the continued use of PCB Transformers in or near facilities such as chemical manufacturing plants, electric power generating plants, forest products processing plants, and warehouses without additional restrictions above the requirements of the August 1982 PCB Electrical Use Rule. There are no costs associated with EPA's allowing the continued use of these transformers, other than the potential future costs associated with cleanup and liability suits following fires involving this equipment. If the use of PCB Transformers in or near industrial facilities were authorized indefinitely, without additional restrictions, EPA expects that up to six PCB Transformer fires with smoke

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spread will occur over the remaining useful life of this equipment.

c. *Labeling and registration programs.* The registration of PCB Transformers located in or near industrial facilities with fire departments or fire brigades and the registration with building owners (when the PCB Transformer is not owned by the building owner), in combination with the labeling of the exterior of PCB Transformer locations would cost approximately $2.5 million, assuming that there are about 26,700 industrial PCB Transformers.

While labeling and registration programs would be expected to reduce exposures in the event of a PCB Transformer fire, they will not reduce the frequency of occurrence of these fires.

d. *Smoke control technologies.* Since many industrial PCB Transformers are currently unenclosed, the costs associated with industrial PCB Transformer isolation would be, on the average, higher than for PCB Transformers located in or near commercial buildings. For purposes of the cost-effectiveness analysis, EPA assumes that the cost of the isolation of industrial PCB Transformers will approach $30,000 per transformer location. Assuming that there are 26,700 industrial PCB Transformers, and that there are, on average, 2 PCB Transformers per location, the total cost of the isolation of industrial PCB Transformers over a 5-year period is estimated at $109 million.

The isolation of industrial PCB Transformers (which are typically capable of being more rapidly deenergized than commercial PCB Transformers) would be effective in reducing the relatively low fire-related risks posed by the use of PCB Transformers in industrial facilities even further. Since the majority of PCB Transformers located in or near industrial facilities are capable of being deenergized from an on-site location, isolation of these transformers would be expected to be effective in reducing the spread of any volatilized PCBs or oxidation products released before deenergization could occur.

e. *Increased electrical protection.* For industrial PCB Transformers, increased electrical protection would (typically) involve the installation of appropriate heat and pressure level sensors to detect low current faults and the connection of these sensors to existing primary circuit breakers to allow for automatic deenergization in the event of abnormal conditions. Since industrial PCB Transformers reportedly have primary circuit breakers which provide these transformers with the capability to be deenergized from an on-site location, the costs of increased electrical protection of these transformers would be the costs of installing heat sensors in the secondary winding, and pressure sensors in the transformer tank and connecting these sensors to provide automatic or rapid manual deenergization of the equipment.

For some industrial PCB Transformers, new circuit breakers would have to be installed to allow for the use of these sensors and automatic deenergization.

During plant operating hours, these sensors would reduce the time between the occurrence of a low current fault (or mechanical failure) and the deenergization of the transformer, and, during plant off-hours/non-operational periods, would reduce the probability of a serious incident occurring. Increased electrical protection of industrial transformers (phased-in over a 5-year period) would be expected to avoid four serious PCB Transformer fires which would otherwise occur in these facilities.

The costs associated with the installation of this protection on industrial PCB Transformers would be approximately $170 million for the estimated 26,700 industrial PCB Transformers (phased in over a 5-year period). After adjusting for avoided cleanup costs, the net costs would be estimated at $136 million.

f. *Retrofilling of industrial PCB Transformers.* Retrofilling of industrial PCB Transformers would be expected to reduce even further the fire-related risks posed by the continued use of PCB Transformers in industrial facilities, by reducing the amount of PCBs present for potential release and for conversion to oxidation products. The costs associated with immediately retrofilling the 26,700 industrial PCB Transformers for purposes of reclassification to PCB Contaminated status is estimated at $489 million.

g. *Phaseout of industrial PCB Transformers.* The removal of PCB Transformers from industrial facilities would eliminate the relatively low fire-related risks posed by the continued use of these transformers. Phaseout of industrial PCB Transformers over a 5-year period would avoid up to four industrial PCB Transformer fires with smoke spread at a total cost of $319 million. After adjusting for avoided cleanup costs, the total net cost would be $286 million. Phaseout of industrial PCB Transformers over a 10-year period would avoid about three serious PCB Transformer fires at a total cost of $215 million. After adjusting for avoided cleanup costs, the total net cost would be $192 million.

3. *PCB Transformers in outdoor electrical substations*—a. *Take no additional action.* EPA has few data on PCB Transformer fires which have occurred in outdoor electrical substations. However, EPA has evaluated the potential risks posed by such fires and has developed an estimate of the frequency of these fires. This estimate is based on available information on the probability of serious PCB Transformer fires in or near buildings, and the probability of failures in different types of installations. EPA estimates that up to three outdoor electrical substation fires (with some PCB volatilization and smoke distribution) will occur over the remaining useful life of this equipment.

Since EPA believes that an outdoor PCB Transformer fire will not typically result in the formation of large amounts of incomplete combustion products which would require cleanup, EPA has assumed that cleanup from these incidents will involve primarily the cleanup of spilled PCBs. This type of cleanup operation is significantly less costly than cleanup following a PCB Transformer fire in or near a building.

b. *Labeling and registration programs.* The labeling of the exterior of outdoor PCB Transformer locations, and the registration of these transformers with appropriate fire department jurisdictions is expected to reduce exposures to firefighters and cleanup crews. The cost associated with this registration and labeling program for 17,000 outdoor PCB Transformers is approximately $1.6 million.

c. *Isolation of outdoor PCB Transformers.* Outdoor PCB Transformers could be enclosed to reduce the spread of PCBs and any incomplete combustion products formed. However, enclosing these transformers could create conditions more conducive to the formation of incomplete combustion products. Heat is more likely to be retained rather than dissipated when transformers are enclosed. Thus, while enclosing these transformers would decrease the spread of PCBs following fire-related failures, it could increase the amount of PCBs converted into dibenzofurans from outdoor PCB Transformer fires.

The costs associated with enclosing 17,000 outdoor PCB Transformers over a 5 year period would be on the order of $69 million.

d. *Increased electrical protection.* Outdoor PCB Transformers are typically radial installations, which are already equipped with current-limiting fuses.

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The cost of the installation of low current fault protection on the higher secondary voltage outdoor PCB Transformers (over a 5-year period) would be on the order of $108 million. Increased electrical protection would be expected to avoid up to three outdoor PCB Transformer fires.

e. *Retrofilling.* EPA has estimated the costs associated with requiring the immediate retrofilling of the approximately 17,000 outdoor PCB Transformers. These costs are estimated to be $270 million.

f. *Phaseout.* EPA has estimated the costs associated with requiring the removal of an estimated 17,000 PCB Transformers in outdoor locations, over 5- and 10-year periods. A 5-year phaseout is estimated to cost $203 million, and a 10-year phaseout is estimated to cost $137 million.

4. *PCB Contaminated transformers.* EPA has also estimated the costs associated with requiring additional controls on the use of PCB Contaminated transformers. The costs range from over $8 billion for the testing of transformer fluids for PCB concentration and the registration and labeling of PCB Contaminated transformers, to over $283 billion for removal within 5 years. Registration and labeling of PCB Contaminated transformers would reduce the low PCB fire-related risks posed by the use of this equipment; and, removal would eliminate these risks.

VI. Risk/Benefit Assessment

1. *Use of PCB Transformers in or near commercial buildings.* PCBs can be released in fires involving PCB Transformers, and, (depending upon the contents of the transformer and the combustion conditions), 2,3,7,8-TCDF, PCDFs, 2,3,7,8-TCDD, and PCDDs can be formed. Laboratory studies on the formation of PCDFs from PCBs, and PCDDs from chlorinated benzenes, as well as sampling data from actual PCB Transformer fire sites confirm that PCBs can be released and 2,3,7,8-TCDF and 2,3,7,8-TCDD (as well as other PCDF and PCDD congeners) can be formed and released from fires involving PCB Transformers.

EPA believes that PCBs are both toxic and persistent, and, that PCDFs and PCDDs are orders of magnitude more toxic than PCBs. PCB Transformers that remain energized after sustained faults or following failures as a result of fires from external sources are more likely to result in the volatilization of large amounts of PCBs and the formation of large amounts of PSDFs, 2,3,7,8-TCDF, PCDDs and 2,3,7,8-TCDD through incomplete combustion than PCB Transformers that are able to be deenergized rapidly and completely when an arc or fault occurs.

PCB Transformers can become involved in fires from many causes including sustained low current faults, sustained high current faults, and fires external to transformers involving stored combustibles or building materials followed by an inability to deenergize the transformer. The fire-related risks posed by the continued use of PCB Transformers in or near commercial buildings are much higher than the fire-related risks posed by the continued use of PCB Transformers in outdoor locations and industrial facilities. The overall probability of PCB Transformer fault-related failure is higher in commercial buildings than in other PCB Transformer locations and the risks posed are also higher in the event of a PCB Transformer fire.

The fire-related risks posed by the continued use of higher secondary voltage network PCB Transformers in commercial buildings are particularly high, because these transformers have the highest probability of failure from both high and low current faults, and, they are typically used in more densely populated commercial buildings, specifically, in locations such as high-rise office buildings.

The benefit of removing commercial PCB Transformers from use is the complete assurance that PCB Transformer fires will no longer occur in or near commercial buildings. Serious PCB Transformer fires which would have otherwise occurred will definitely be avoided. PCB Transformer fires in or near commercial buildings pose particularly high risks to human health, because sustained high temperatures are more likely in these locations (leading to the volatilization of large amounts of PCBs and the formation of large amounts of incomplete combustion products), and building occupants, cleanup crews, and fire response personnel are more likely to incur these higher exposures. In addition, the lack of knowledge on the part of commercial building occupants, firefighters, and cleanup crews about the potential risks posed make exposures even more likely.

There are an estimated 77,568 PCB Transformers located in or near commercial buildings, and 7,420 of these transformers are expected to be higher secondary voltage network PCB Transformers. The 77,568 PCB Transformers used in commercial buildings represent 64 percent of all PCB Transformers in use. The immediate removal of these transformers from use is not possible because of considerations such as PCB disposal capacity, transformer manufacturing capability, and disruption of electrical service. The cost of removing all of these PCB Transformers from use over the next 5 years is estimated at $953 million. Five years may not be an adequate amount of time for the removal and disposal of this many transformers. There are currently only four EPA-approved commercial PCB incinerators. According to comments on the Proposed Rule, PCB disposal capacity is such that the cost of PCB disposal has significantly jumped (almost doubled) over the last year. Disposal capacity will continue to be of concern over the next few years, since existing EPA regulations require the removal of PCB Transformers in use in food and feed processing facilities by October 1, 1985 and a limited phaseout of PCB Capacitors by October 1, 1988.

The removal of all commercial PCB Transformers by 1990 would, however, avoid an estimated 36 serious PCB Transformer fires in commercial locations. The removal of all commercial PCB Transformers by 1995 is estimated to cost on the order of $640 million for the avoidance of an expected 29 serious PCB Transformer fires.

The costs of removing the particularly high risk 7,420 commercial higher secondary voltage network PCB Transformers from use over the next 5 years is estimated at $168 million. The removal of these particularly high risk PCB Transformers from use by 1990 would be expected to avoid an estimated 25 serious PCB Transformer fires, or about 70 percent of all PCB Transformer fires in commercial buildings which EPA expects would otherwise occur. The removal of higher secondary voltage network PCB Transformers from use by October 1, 1990 will avoid an estimated 70 percent of serious commercial PCB Transformer fires for about 17 percent of the cost associated with the removal of all commercial PCB Transformers from use by this same date.

EPA believes that it is prudent to require the removal of commercial higher secondary voltage network PCB Transformers from use as soon as possible, taking into consideration factors such as PCB disposal capacity and continuity of electrical service. EPA believes that the soonest practical date for requiring the removal of this equipment is by October 1, 1990. Testimony at the public hearing, comments on the Proposed Rule, and EPA's analysis overwhelmingly support a determination that these transformers are of particularly high risk. EPA expects that 25 serious commercial PCB

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Transformer fires will be avoided by the removal of these PCB Transformers (over a 5-year period) for a total real cost of less than $7 million per avoided incident. Cleanup costs alone for a single incident in a commercial building would be expected to exceed this $7 million figure substantially.

While EPA has decided to require the removal of these particularly high risk PCB Transformers from use, it believes that less costly yet highly effective measures can be implemented to reduce the remaining fire-related risks posed by the continued use of other commercial PCB Transformers. Namely, EPA has determined that enhanced electrical protection systems will be effective in avoiding many fires in these remaining commercial installations. Electrical protection can be very effective in avoiding PCB Transformer failures and fires through the early detection of common mechanisms of failure and the rapid deenergization of transformers.

EPA is requiring all commercial PCB Transformers to be protected against failures from sustained high current faults in the primary and secondary areas of the transformers. Further, EPA is requiring that all commercial higher secondary voltage radial PCB Transformers be equipped with protection against sustained low current faults as well.

EPA has determined that all commercial PCB Transformers should be registered with fire departments and building owners and that commercial PCB Transformer locations should be labeled on the exterior. Finally, EPA has determined that stored combustible materials should be removed from all commercial PCB Transformer locations, that all fire-related incidents should be reported to the National Response Center, and that measures be taken to contain all potential releases to water associated with a fire-related incident.

The real cost of requiring registration, labeling, and removal of stored combustibles for all commercial PCB Transformers and enhanced electrical protection for 56,605 commercial PCB Transformers (over a 5-year period) is estimated at $459 million. The expected incremental benefit of these measures (for other than higher secondary voltage network PCB Transformers) is the avoidance of an additional 10 serious PCB Transformer fires which would have otherwise occurred, or about 30 percent of all commercial PCB Transformer fires which EPA expects would otherwise occur over the remaining useful life of these transformers.

Increased electrical protection and the removal of stored combustibles is expected to avoid sustained high temperatures in commercial PCB Transformer locations; thus, significantly reducing the likelihood of PCB volatilization and the formation of large amounts of incomplete combustion products. Reducing the likelihood of PCB Transformer failures in commercial locations reduces potential exposures to building occupants, cleanup crews, and emergency response personnel. PCB Transformer fires may occur through less likely mechanisms and electrical protection systems are subject to some (low) rate of malfunction. The requirement for the registration and labeling of commercial PCB Transformers will reduce exposures in the event that sustained high temperatures occur despite the presence of increased electrical protection.

EPA has selected the option of the removal of commercial higher secondary voltage network PCB Transformers from use by October 1, 1990, the immediate registration, labeling, and removal of stored combustibles for all commercial PCB Transformers, and enhanced electrical protection (by October 1, 1990) for a large majority of the remaining 70,000 commercial PCB Transformers currently in use. EPA is also requiring the reporting of all PCB Transformer fire-related incidents to the National Response Center, and, that measures be taken as soon as practically (and safely) possible to contain any potential releases to water in the event of a PCB Transformer fire-related incident. The total real cost of this program to reduce the fire-related risks posed by the continued use of PCB Transformers in commercial locations is estimated at $635 million and is expected to avoid 35 serious PCB Transformer fires which would have otherwise occurred over the remaining useful life of commercial PCB Transformers, or about $17 million per serious PCB Transformer fire avoided. The net cost, after deducting for avoided cleanup costs, is estimated at $390 million, or about $10 million per serious PCB Transformer fire avoided.

EPA has also banned the further installation of PCB Transformers in locations in or near commercial buildings. EPA recognizes that the costs associated with PCB Transformer removal include the costs of physically removing PCB Transformers as well as providing replacement transformers. The costs associated with not installing a PCB Transformer (which has been placed into storage for reuse) in a commercial building are minimal. Further, even with increased electrical protection, there is some level of risk posed by the use of PCB Transformers in or near commercial buildings. While EPA has selected increased electrical protection for many commercial PCB Transformers, it has determined that the installation of PCB Transformers (which have been placed into storage for reuse) in or near commercial buildings presents an unreasonable risk. Thus, EPA has banned the new installation of PCB Transformers in or near commercial buildings.

2. *Use of PCB Transformers in or near industrial facilities.* PCBs can be released in fires involving industrial PCB Transformers, and, depending upon combustion conditions, incomplete combustion products can be formed. PCB Transformers that remain energized for prolonged periods after sustained faults occur or following failures as a result of fires external to the PCB Transformers are more likely to result in the volatilization of PCBs and the formation of incomplete combustion products than PCB Transformers that are able to be deenergized rapidly and completely when a fault or failure occurs.

Based on comments on the Proposed Rule, EPA believes that PCB Transformers located in or near industrial facilities are less likely to be involved in fires involving sustained high temperatures than PCB Transformers located in or near commercial buildings. This is because these transformers, as a group, are typically equipped with more protection from failures than commercial PCB Transformers, and, are typically able to be deenergized from an on-site location. Thus, the probability of industrial PCB Transformer fault-related failure and fire is lower in industrial facilities than in commercial buildings, and the risks posed in the event of a fault-related failure and fire are also expected to be less.

EPA recognizes that exposures from PCB Transformer fires in atypical industrial facilities (where deenergization does not occur as rapidly) could be higher than the exposure previously described. However, EPA's estimate of the frequency of industrial PCB Transformer fires indicates that up to 6 PCB Transformer fires (with smoke spread into industrial facilities) are expected to occur over the remaining useful life of this equipment. Four industrial PCB Transformer fires would be expected to occur after October 1, 1990. Even if EPA were to assume as a worst-case that the risks posed by PCB Transformer fires in industrial facilities were equivalent to the risks posed by PCB Transformer fires in commercial buildings, EPA expects that only 4 serious industrial

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PCB Transformer fires could be avoided by requiring the removal or enhanced electrical protection of industrial PCB Transformers by 1990.

The costs, however, of the removal of these industrial PCB Transformers from use by 1990 is estimated at $319 million. The removal of industrial PCB Transformers from use by 1990 would avoid about four PCB Transformer fires involving smoke spread into buildings. The real cost per avoided serious fire is almost $80 million. Enhanced electrical protection of these transformers by 1990 would be expected to avoid about the same number of incidents at a total real cost of $170 million, or, $43 million per avoided incident. Isolation of these transformers by 1990 would be expected to reduce building contamination; thereby, reducing potential exposures to workers, cleanup crews, and fire response personnel at a total cost of $109 million, or, $27 million per incident.

The benefit of removing these transformers or protecting these transformers by 1990 is the avoidance of up to four industrial PCB Transformer fires. PCB Transformer fires involving the formation of large amounts of incomplete combustion products are less likely in industrial facilities than in or near commercial buildings. Sustained high temperatures are less likely in these locations due to equipment visibility and deenergization capability, and, as a result, building occupants (workers), cleanup crews, fire response personnel, and members of the general population are less likely to incur high exposures. Further, there are generally fewer people at risk of incurring these exposures from fires in industrial facilities than from fires in commercial buildings.

The cost of requiring the registration, increased labeling, and removal of stored combustibles from industrial PCB Transformer locations is estimated at $1.9 million. While these measures will not reduce the frequency of serious industrial PCB Transformer fires, they should reduce any exposures to workers, cleanup crews, and fire response personnel.

EPA has selected the option of the registration, external labeling, and removal of stored combustibles from industrial PCB Transformer locations for the estimated 26,700 industrial PCB Transformers in use or in storage for reuse in industrial locations. This is a relatively inexpensive measure which will reduce exposures in the event of a PCB Transformer fire. EPA is also requiring the reporting of all PCB Transformer fire-related incidents to the National Response Center, and, that measures be taken as soon as practically and safely possible to contain any potential release to waterways. These requirements are not burdensome, and will reduce further any human and environmental exposures following industrial PCB Transformer fires.

3. *Use of PCB Transformers in outdoor locations.* EPA's evaluation of the risks posed by PCB Transformer fires indicates that the use of PCB Transformers in outdoor locations away from commercial areas poses less risk to public health and the environment than the use of this equipment in or near buildings. First, combustion conditions in outdoor locations may not be so conducive to the volatilization of PCBs and the formation of incomplete combustion products as combustion conditions in enclosed areas such as sidewalk vaults and machinery rooms.

Second, EPA believes that fewer people are generally present near outdoor PCB Transformer locations, and, that many of these areas are fenced in to restrict access to authorized personnel. Further, if PCBs were volatilized and dispersed into the environment, individual human exposures to PCBs and potential oxidation products from such a fire are expected to be much lower than from fires in or near buildings. EPA expects fewer than three outdoor PCB Transformer fires (with smoke spread) over the remaining useful life of this equipment.

There are an estimated 17,000 PCB Transformers in outdoor locations. The total real cost of the removal of these PCB Transformers from use by 1990 is estimated at $207 million, or, $69 million per avoided incident. The total real cost of installing increased electrical protection on these transformers is $36 million, or, $12 million per avoided incident.

EPA believes, however, that it is prudent to require registration and increased labeling of outdoor PCB Transformers, the containment of all potential releases to water, and the reporting of all PCB Transformer fire-related incidents to the NRC. These measures will reduce exposures of emergency response personnel to spilled PCBs (which is anticipated to be the more prevalent situation in outdoor locations) and would serve to limit the spread of these materials into the environment.

4. *PCB Contaminated transformers.* A fire involving a PCB Contaminated transformer can result in the formation and/or release of PCBs and oxidation products. Thus, the use of these transformers does pose some level of risk in a fire-related incident. However, the level of risk posed is considerably less than the risks posed by the use of PCB Transformers. Further, there are an estimated 20 million PCB Contaminated transformers in use. Even the least costly regulatory alternative, the registration and external labeling of PCB Contaminated transformers, would cost more than $8 billion.

Thus, EPA has determined that the continued use of PCB Contaminated transformers without additional controls will not present unreasonable risks to public health or the environment.

VII. Findings on the Use of PCBs in Electrical Transformers

1. Based on the analyses presented in Unit VI, EPA has determined that the use of PCBs in electrical transformers does not pose unreasonable risks to public health or the environment, provided, that in addition to the inspection, recordkeeping, and servicing requirements of the August 25, 1982 Electrical Equipment Rule:

a. Higher secondary voltage network PCB Transformers (network PCB Transformers with secondary voltage at or above 480 volts, including 480/277 volt network PCB Transformers) in or near commercial buildings are removed from use, reclassified, placed into storage for disposal or disposed by October 1, 1990.

b. By October 1, 1990, higher secondary voltage radial PCB Transformers (radial PCB Transformers with secondary voltages at or above 480 volts, including 480/277 volts radial PCB Transformers) and lower secondary voltage network PCB Transformers used in or near commercial buildings are equipped with sensors to detect electrical faults and insure rapid deenergization prior to transformer failure.

c. All PCB Transformers are registered with appropriate fire response organizations and PCB Transformers located in or near buildings are also registered with building owners.

d. The vault door, machinery room door, or means of access (other than grates and manhole covers) to PCB Transformers are labeled with PCB identification labels.

e. PCB Transformer locations are cleared of stored combustibles.

f. In the event of a PCB Transformer fire, measures are taken to contain water releases.

g. In the event of a PCB Transformer fire, the National Response Center is immediately notified.

2. The use of PCBs in transformers that comply with: (1) The inspection, recordkeeping, and servicing

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requirements of the August 25, 1982 Electrical Use Rule; and (2) the fire hazard risk reduction measures described above, does not pose unreasonable risks to public health or the environment for the following reasons:

a. If EPA immediately banned the continued use of PCB Transformers it would cost the public and United States industry billions of dollars, primarily as a result of the disruption of electrical service. There are over 120,000 PCB Transformers currently in use and an estimated 20 million PCB Contaminated transformers currently in use. The resulting reduction in risk from an immediate ban, after considering both the risks posed by spills and leaks of PCBs as well as the risks posed by fires involving this equipment, would not outweigh these substantial costs.

b. The required inspection, maintenance, and servicing requirements under the August 25, 1982 Electrical Use Rule, and the fire hazard risk reduction measures listed above (including the required removal of commercial higher secondary voltage network PCB Transformers from use by October 1, 1990) reasonably reduce the exposures associated with the use of PCBs in PCB Transformers. The required fire hazard risk reduction measures and the required 5-year phaseout of commercial higher secondary voltage network PCB Transformers are measures which are much less costly than a total ban on the use of PCBs but are of similar effectiveness in reducing the overall fire-related risks posed by the use of these transformers.

c. The costs of phaseout and retrofilling of all PCB Transformers are not reasonable when considering the potential reduction in release of PCBs and the reduction in the risks posed by PCB Transformer fires if these measures were required for all PCB Transformers. EPA has targeted phaseout requirements for those PCB Transformers which EPA has concluded pose particularly high risks of failure and fire.

d. Releases of PCBs to the environment and exposures to humans and biota from the use of PCB-Contaminated and non-PCB transformers are minimal. Further, the risks posed by fires involving this equipment are substantially less than the risks posed by fires involving PCB Transformers, and the costs of any control measures to reduce these low risks further are very high.

VIII. Amendments to the PCB Electrical Equipment Rule

A. Registration/Labeling/Removal of Stored Combustibles

EPA has required the registration of all PCB Transformers by December 1, 1985, with fire departments with primary response jurisdiction. This means that each PCB Transformer in use or in storage for reuse must be registered with the fire department(s) which would be called upon for the initial response to a fire involving the equipment. The information to be supplied to the fire department(s) includes the address of the building in which the transformer is located (or the nearest building for PCB Transformers located near buildings, or, the nearest intersection for outdoor PCB Transformers); the location of the transformer within the building or near the building (e.g., third floor east end, or, west side of the building); and the principal constituent of the dielectric fluid in the transformer (e.g., PCBs, mineral oil, silicone oil). For industrial PCB Transformers, this may mean only the registration of the transformers with the industrial fire brigade on site.

EPA has also required the registration, by December 1, 1985, of PCB Transformers located in or near buildings with building owners. Each owner of a PCB Transformer(s) is responsible for registering the transformer(s). This means that all PCB Transformers located in or near buildings must be registered with appropriate building owners. For PCB Transformers located inside buildings, this means the registration of the transformer(s) with the building owner of record. For PCB Transformers located "near" buildings, this means the registration of the PCB Transformer(s) with all building owners whose buildings are located within 30 meters of the PCB Transformer(s).

EPA has required the labeling of the exterior of all PCB Transformers with the Mark M_L. This means that doors, fences, hallways, and other easily markable means of access to PCB Transformer locations must be marked with PCB identification labels. These labels must be prominently displayed and visible to emergency response personnel in the event of a fire involving this equipment. The exterior of sidewalk and underground vaults, that is, grates and manhole covers, are not required to be marked (because of difficulties in maintaining the mark over time).

EPA has required the removal of stored combustibles from all PCB Transformer locations. This means that materials such as paints, solvents, paper, rubber, and sawn wood must not be stored within a PCB Transformer enclosure, within 5 meters of a PCB Transformer enclosure, or within 5 meters of a PCB Transformer. A PCB Transformer enclosure is defined as a confined area such as a vault, machinery room, partitioned area or fenced-in area that contains a PCB Transformer.

The objective of requiring the removal of stored combustibles is to avoid, to the extent possible and practical, PCB Transformer involvment in fires initiated by the combustion of stored materials and to eliminate a potential source of fuel for a fire initiated by an electrical fault or malfunction in a transformer.

B. Phaseout of Commercial Higher Secondary Voltage Network PCB Transformers

EPA has prohibited the use of all network PCB Transformers with secondary voltages at or above 480 volts (this includes 480 volt network PCB Transformers, 480/277 volt network PCB Transformers and other network PCB Transformers with secondary voltages at or above 480 volts) in or near commercial buildings beyond October 1, 1990, and has required that these transformers be placed into storage for disposal or disposed (or be reclassified to PCB Contaminated or non PCB status).

Commercial buildings are defined as non industrial (non substation) buildings which are generally or typically accessible to both members of the general public and employees. These buildings include: public assembly properties (e.g., arenas, stadiums, libraries, museums, restaurants, theaters, etc.); educational properties (e.g., schools, colleges, universities, etc.); institutional properties (e.g., nursing homes, hospitals, prisons, etc.); residential properties (e.g., apartments, hotels, dormitories, etc.); stores (e.g., supermarkets, clothing stores, malls, etc.); offices (e.g., general business offices (including those located on industrial sites), banks, municipal office buildings, etc.); and, transportation centers (e.g., airport terminal buildings, subway stations, bus stations, train stations, etc.).

An industrial building is defined as a building directly used in manufacturing or technically productive enterprises. Industrial buildings are not generally or typically readily accessible to other than workers. Industrial buildings include buildings used directly in the production of power, the manufacture of products, the mining of raw materials, and the storage of textiles, petroleum products,

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wood and paper products, chemicals or plastics, and metals.

A PCB Transformer located in or near a commercial building is located within the interior of the building, on the roof of the building or attached to the exterior wall of the building, in the parking area serving the building, or located within 30 meters of the building.

EPA has required the removal of PCB Transformers located near commercial buildings (in addition to those located inside commercial buildings) because incidents like the San Francisco fire indicate that PCB Transformers located near commercial buildings can result in building contamination. Several comments on the Proposed Rule requested that EPA define the term "near" in a more quantitative manner; such as, within 25, 50 or 100 feet of a commercial building. EPA recognizes the desirability of defining the term "near" in a quantitative manner—this would facilitate monitoring compliance with the rule and make the rule more easily understood by the regulated community.

In adopting this suggestion, EPA has three objectives: (1) to facilitate compliance by industry with the rule, (2) to facilitate EPA's monitoring of compliance with the rule, and (3) to insure that any PCB Transformer which poses a real risk of commercial building contamination is covered by the rule. EPA is somewhat hesitant to dictate an absolute distance at which a PCB Transformer would be considered to pose little risk of significant building contamination. Local climactic and geographic conditions could greatly influence the potential for building contamination from PCB Transformer fires in locations such as sidewalk and underground vaults. However, the benefits of establishing a numerical standard, in terms of ease of compliance with the rule and ease of enforcement, are great.

In urban locations, sidewalk vaults and underground vaults are typically located within 15 to 30 meters of buildings, with many located immediately adjacent to exterior walls. It is EPA's intent to include all of these transformers within the definition of PCB Transformers located "near" commercial buildings. Further, outdoor pad-mounted and pole top PCB Transformers located within 15 to 30 meters of commercial buildings are also covered within the definition of PCB Transformers located "near" commercial buildings.

EPA expects that in general very few vaulted PCB Transformers in urban and metropolitan areas are located at distances greater than 30 meters from commercial buildings. However, EPA has also evaluated the potential for building contamination from vaulted PCB Transformers located at distances greater than 30 meters from commercial buildings. EPA believes that the potential for commercial building contamination from a PCB Transformer fire in a vault located more than 30 meters from a building can be greatly influenced by factors such as wind velocity, wind direction, and plume height. While EPA has defined the term "near" by establishing a distance of 30 meters from commercial buildings, EPA recognizes that in certain geographic locales, vaulted PCB Transformers located more than 30 meters from a commercial building could also present a risk of building contamination. EPA suggests that owners of vaulted PCB Transformers located more than 30 meters from commercial buildings individually evaluate the potential for commerical building contamination from fires involving these transformers as well. Factors considered in this evaluation could include average wind velocity for the region and normal wind direction.

C. Increased Electrical Protection

EPA has required the installation of enhanced electrical protection on many of the remaining commercial PCB Transformers (i.e., other than higher secondary voltage network PCB Transformers) by October 1, 1990. The electrical protection requirements are intended to avoid PCB Transformer fires by allowing for the early detection of faults and the complete deenergization of PCB Transformers prior to failure (rupture and/or release of PCBs). The installation of current-limiting fuses or other equivalent energy limiting devices on PCB Transformers is intended to avoid failures from high current faults. In order to be effective in avoiding PCB Transformer failures from high current faults, these current-limiting devices must (in accordance with good engineering practices) be properly installed, appropriately placed, maintained, and set sensitive enough to provide for complete deenergization within several power cycles or several tenths of a second of the occurrence of a sustained high current fault.

The installation of heat and pressure sensitive detectors in higher secondary voltage commercial radial PCB Transformers (and appropriate disconnect equipment) is intended to avoid PCB Transformer failures from sustained low current faults. Equivalent technology that accomplishes the same goal, that is, the early detection of sustained low current faults and complete deenergization prior to failure, is acceptable. In order to be effective in avoiding PCB Transformer failures, these devices must be maintained, and set sensitive enough to allow for complete deenergization within 30 seconds to 1 minute of detection of a sustained low current fault. In addition, if these sensors are electrically powered, they must be provided with a secondary source of power configured to deenergize the transformer on failure (fail-safe).

The disconnect equipment may be set either to open automatically upon the sensing of abnormal conditions (e.g., temperature or pressure), or, it may be set to send a signal to an on-site manned control center where deenergization must occur (during facility operating hours) within 1 minute of the receipt of an audio or visual signal indicating abnormal conditions. Automatically operated circuit breakers must also have the capability to be opened manually.

EPA received several comments on the Proposed Rule which suggested that EPA should give PCB Transformer owners the option of implementing risk reduction measures on shorter schedule (such as enhanced electrical protection by 1990) or PCB Transformer removal on a longer schedule (such as PCB Transformer removal by 1992). EPA did not adopt this suggestion because, without additional reporting requirements (including the reporting to EPA of the address and location of each PCB Transformer and the option selected by the owner), EPA believes that its ability to effectively enforce the shorter term risk reduction measures would be compromised.

D. Prohibition on the Installation of PCB Transformers

EPA has prohibited the new installation of PCB Transformers in or near commercial buildings. PCB Transformers must not be newly installed in or near commercial buildings after October 1, 1985. This means that PCB Transformers which have been placed into storage for reuse cannot be taken out of storage for reuse and placed in use in or near commercial buildings.

While EPA has placed restrictions on the installation of PCB Transformers (by prohibiting the placement of the equipment in or near commercial buildings), owners of PCB Transformers which are in storage for reuse still have many available options. Owners of PCB Transformers which are in storage for reuse may use these transformers in industrial applications and in any outdoor location where there is no real risk of commercial building

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contamination. These transformers may also be reclassified to PCB Contaminated status or non-PCB status and be placed in any desired location.

E. Reporting of Fire-Related Incidents and Containments of Potential Water Releases

EPA has required the reporting of all PCB Transformer fire-related incidents to the National Response Center. A fire-related incident is defined as any incident in which high temperatures or high pressures in a transformer location lead to the rupture of a transformer and/or the release of PCBs. PCB Transformer fire-related incidents must be immediately reported to the NRC. The information to be reported must include the type of PCB Transformer installation involved in the fire-related incident, and reasonably ascertainable information on the cause of the fire-related incident.

EPA has required that owners of PCB Transformers involved in fire-related incidents take measures as soon as practically and safely possible to contain any potential releases of PCBs and oxidation products to waterways. This means that measures must be taken to prevent further environmental release and contamination of waterways as soon as there is no immediate danger of injury from the fire itself. These measures include, but are not limited to the blocking of floor drains, the containment of runoff, and the containment and treatment of cleanup water prior to release. If there is evidence of the release of PCBs, PCDFs, and PCDDs down floor drains, the PCB Transformer owner should also notify the sewer system and water treatment system operators as soon as possible to prevent further environmental release.

IX. Compliance and Enforcement

EPA recognizes that technology is constantly evolving in areas such as the development of electrical protection systems. Thus, EPA has allowed some flexibility on the part of transformer owners in the selection of appropriate enhanced electrical protection systems. Further, by requiring electrical protection for commercial PCB Transformers, EPA implicitly allows the replacement of all commercial PCB Transformers with substitute equipment, and the retrofilling and reclassification of PCB Transformers to PCB Contaminated or non-PCB status.

EPA has, however, required the installation of protection against faibures from high current faults and low current faults in all commercial higher secondary voltage radial PCB Transformer installations. The installation of protection against high current faults alone without protection against low current faults in these installations constitutes a violation of the PCB Transformer use authorization. For lower secondary voltage commercial PCB Transformer installations, EPA has required protection against failures from high current faults.

Failure to install properly and maintain protection which is set sensitive enough, based on good engineering judgment, to prevent PCB Transformer failures from sustained high and low current faults (for higher secondary voltage radial PCB Transformers) and PCB Transformer failures from high current faults (for lower secondary voltage PCB Transformers) constitutes a violation of the PCB Transformer use authorization.

X. Official Record of Rulemaking

A. Previous Rulemaking Records

(1) Official rulemaking record from "Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce and Use Prohibition Rule" published in the Federal Register of May 31, 1979, (44 FR 31514).

(2) Official rulemaking record from "Polychlorinated Biphenyls (PCBs); Disposal and Marking Final Regulation" published in the Federal Register of February 17, 1978, (43 FR 7150).

(3) Official rulemaking record from "Polychlorinated Biphenyls (PCBs); Manufacture, Processing, Distribution, and Use in Closed and Controlled Waste Manufacturing Processes" published in the Federal Register of October 21, 1982, (47 FR 46980).

(4) Official rulemaking record from "Polychlorinated Biphenyls (PCBs); Manufacturing, Processing, Distribution in Commerce and Use Prohibitions; Use in Electrical Equipment" published in the Federal Register of August 25, 1982, (47 FR 37342).

(5) Official record from "Polychlorinated Biphenyls (PCBs); Manufacturing, Processing, Distribution in Commerce and Use Prohibitions; Use in Electrical Transformers" Advance Notice of Proposed Rulemaking, published in the Federal Register of March 23, 1984, (49 FR 11070).

(6) Official record from "Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce and Use Prohibitions; Use in Electrical Transformers" Proposed Rule, published in the Federal Register of October 11, 1984, (49 FR 39988).

B. Support Documents

(1) USEPA, OPTS, EED, Versar, Inc., "Exposure Assessment for Polychlorinated Biphenyls (PCBs), Polychlorinated Dibenzofurans (PCDFs), and Polychlorinated Dibenzodioxins (PCDDs) Released During Transformer Fires" (June 1985).

(2) USEPA, OPTS, HERD, "HERD Work for Proposed Polychlorinated Biphenyl (PCB) Transformer Fires Rulemaking" (August 1, 1984).

(3) USEPA, OPTS, HERD, "Addendum to August 1, 1984 HERD Work for Proposed Polychlorinated Biphenyl (PCB) Transformer Fires Rulemaking" (October 1, 1984).

(4) USEPA, OPTS HERD, "Response to Comments on Health Effects of PCBs Submitted by the Chemical Manufacturers Association and the Edison Electric Institute" (August 19, 1982).

(5) USEPA, OW, "Ambient Water Quality Criteria for 2,3,7,8-Tetrachlorodibenzo-p-dioxin" (February 1984).

(6) USEPA, ORD, OHEA, ECAO, "(DRAFT) Health Assessment Document for Polychlorinated Dibenzo-p-dioxins" (May 1984).

(7) USEPA, OPTS, ETD, Putnam, Hayes and Bartlett, Inc. "Regulatory Impact Analysis of the Final Rule for PCB Transformers" (June 1985).

(8) Kimbrough, Renate, D., *et al.* "Health Implications of 2,3,7,8-Tetrachlorodibenzodioxin (TCDD) Contamination of Residential Soil," Journal of Toxicology and Environmental Health (in press).

(9) USEPA, OPTS, EED, "NFIRS Data for 1982" (April 1984).

(10) USEPA, OPTS, EED, Midwest Research Institute, "Thermal Degradation Products from Dielectric Fluids" (December 1984).

(11) USEPA, OPTS, EED, Midwest Research Institute, "Products of Thermal Degradation of Dielectric Fluids" (January 28, 1985).

(12) National Bureau of Standards, "Factors To Be Considered Regarding Hazard Reduction Strategies for Fires Involving Electrical Transformers Containing Polychlorinated Biphenyls" (March 1985).

(13) USEPA, Barnes and Bellin, "Health Hazard Assessment for Chlorinated Dioxins and Dibenzofurans Other Than 2,3,7,8-TCDD" (October 1984).

(14) USEPA, EED, Versar, "Summary of Comments on the PCB Transformer Fires Proposed Rule" (June 1985).

(15) USEPA, EED, "Response to Comments on the PCB Transformer Fires Proposed Rule" (June 1985)

XI. Executive Order 12291

Under Executive Order 12291, issued February 17, 1981, EPA must judge

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whether a rule is a "major rule" and, therefore, subject to the requirement that a Regulatory Impact Analysis be prepared. EPA believes that this amendment to the PCB rule is a major rule as the term is defined in section 1(b) of the Executive Order. Therefore, EPA has prepared a Regulatory Impact Analysis.

While the rule places additional restrictions and conditions on the use of PCB Transformers, it is worth noting that this regulation allows the continued uses of PCBs in electrical transformers that would otherwise be prohibited by section 6(e) of TSCA. This rule avoids the severe disruption of electric service to the public and industry that would occur if the use of this equipment were immediately prohibited. It also avoids the economic impact that would result from a requirement to replace the equipment as soon as possible.

This rule was submitted to the Office of Management and Budget (OMB), as required by the Executive Order.

XII. Regulatory Flexibility Act

Under section 605(b) of the Regulatory Flexibility Act, 5 U.S.C. 605(b), the Administrator may certify that a rule will not, if promulgated have a significant impact on a substantial number of small entities and, therefore, does not require a regulatory flexibility analysis.

In general, this rule will reduce the burden on small businesses that would otherwise be encountered if an immediate ban on PCB-containing transformers were to take effect. If an immediate ban on the use of PCBs in transformers were imposed, large costs would be incurred by all producers and users of electricity, including small businesses.

I certify that this rule will not have a significant economic impact on a substantial number of small entities.

XIII. Paperwork Reduction Act

The information collection requirements of this rule have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 et seq. In response to the information collection requirements associated with the proposed rule, OMB commented that the Agency should resubmit the information collection requirements with the final rule showing how EPA has reduced the burdens by limiting the rule's applicability to transformers which because of location or installation type are of higher risk. Based on this comment and other comments made during the public comment period, EPA has segmented transformers for variable treatment based on type and location. The Office of Management and Budget has approved the information collection requirements of this rule under OMB Control Number: 2070–0073.

List of Subjects in 40 CFR Part 761

Hazardous substances, Labeling, Polychlorinated biphenyls, Recordkeeping and reporting requirements, Environmental protection.

Dated: July 1, 1985.

A. James Barnes,

Acting Administrator.

PART 761—[AMENDED]

Therefore, 40 CFR Part 761 is amended as follows:

1. The authority citation for Part 761 is revised to read as follows:

Authority: 15 U.S.C. 2605, 2607, and 2611.

2. In § 761.3, the following paragraphs are alphabetically added to read as follows:

§ 761.3 Definitions.

* * * * *

"In or Near Commercial Buildings" means within the interior of, on the roof of, attached to the exterior wall of, in the parking area serving, or within 30 meters of a non-industrial non-substation building. Commercial buildings are typically accessible to both members of the general public and employees, and include: (1) Public assembly properties, (2) educational properties, (3) institutional properties, (4) residential properties, (5) stores, (6) office buildings, and (7) transportation centers (e.g., airport terminal buildings, subway stations, bus stations, or train stations).

* * * * *

"Industrial buildings" means a building directly used in manufacturing or technically productive enterprises. Industrial buildings are not generally or typically accessible to other than workers. Industrial buildings include buildings used directly in the production of power, the manufacture of products, the mining of raw materials, and the storage of textiles, petroleum products, wood and paper products, chemicals, plastics, and metals.

* * * * *

"Manned Control Center" means an electrical power distribution control room where the operating conditions of a PCB Transformer are continuously monitored during the normal hours of operation (of the facility), and, where the duty engineers, electricians, or other trained personnel have the capability to deenergize a PCB Transformer completely within 1 minute of the receipt of a signal indicating abnormal operating conditions such as an overtemperature condition or overpressure condition in a PCB Transformer.

* * * * *

"On site" means within the boundaries of a contiguous property unit.

* * * * *

"Rupture of a PCB Transformer" means a violent or non-violent break in the integrity of a PCB Transformer caused by an overtemperature and/or overpressure condition that results in the release of PCBs.

* * * * *

3. In § 761.30, the introductory text of paragraph (a) and paragraph (a)(1) are revised and OMB Control Number 2070–0073 is added to read as follows:

§ 761.30 Authorizations.

* * * * *

(a) *Use in and servicing of transformers (other than railroad transformers).* PCBs at any concentration may be used in transformers (other than in railroad locomotives and self-propelled railroad cars) and may be used for purposes of servicing including rebuilding these transformers for the remainder of their useful lives, subject to the following conditions:

(1) *Use conditions.* (i) As of October 1, 1985, the use and storage for reuse of PCB Transformers that pose an exposure risk to food or feed is prohibited.

(ii) As of October 1, 1990, the use of network PCB Transformers with higher secondary voltages (secondary voltages equal to or greater than 480 volts, including 480/277 volt systems) in or near commercial buildings is prohibited. Network PCB Transformers with higher secondary voltages which are removed from service in accordance with this requirement must either be reclassified to PCB Contaminated or non PCB status, placed into storage for disposal, or disposed.

(iii) As of October 1, 1985, the installation of PCB Transformers (which have been placed into storage for reuse or which have been removed from another location) in or near commercial buildings is prohibited.

(iv) As of October 1, 1990, all radial PCB Transformers and lower secondary voltage network PCB Transformers (network transformers with secondary voltages below 480 volts) in use in or near commercial buildings must be equipped with electrical protection to

REPRODUCED AT GOVERNMENT EXPENSE

avoid transformer failures caused by high current faults. Current-limiting fuses or other equivalent technology must be used to detect sustained high current faults and provide for complete deenergization of the transformer within several tenths of a second of detection, before transformer failure occurs. The installation, setting, and maintenance of current-limiting fuses or other equivalent technology to avoid PCB Transformer failures from sustained high current faults must be completed in accordance with good engineering practices.

(v) As of October 1, 1990, all radial PCB Transformers with higher secondary voltages (480 volts and above, including 480/277 volt systems) in use in or near commercial buildings must (in addition to the requirements of paragraph (a)(1)(iv) of this section) be equipped with protection to avoid transformer failures caused by sustained low current faults.

(A) Pressure and temperature sensors (or other equivalent technology which has been demonstrated to be effective in the early detection of sustained low current faults) must be used in these transformers to detect sustained low current faults.

(B) Disconnect equipment must be provided to insure complete deenergization of the transformer in the event of a sensed abnormal condition (e.g., an overpressure or overtemperature condition in the transformer), caused by a sustained low current fault. The disconnect equipment must be configured to operate automatically within 30 seconds to 1 minute of the receipt of a signal indicating an abnormal condition from a sustained low current fault, or can be configured to allow for manual deenergization from a manned on-site control center upon the receipt of an audio or visual signal indicating an abnormal condition caused by a sustained low current fault. Manual deenergization from a manned on-site control center must occur within 1 minute of the receipt of the audio or visual signal indicating an abnormal condition caused by a sustained low current fault. If automatic operation is selected and a circuit breaker is utilized for disconnection, it must also have the capability to be manually opened if necessary.

(C) The enhanced electrical protective system required for the detection of sustained low current faults and the complete and rapid deenergization of transformers must be properly installed, maintained, and set sensitive enough (in accordance with good engineering practices) to detect sustained low current faults and allow for rapid and total deenergization prior to PCB Transformer rupture (either violent or non violent rupture) and release of PCBs.

(iv) As of December 1, 1985, all PCB Transformers (including PCB Transformers in storage for reuse) must be registered with fire response personnel with primary jurisdiction (that is, the fire department or fire brigade which would normally be called upon for the initial response to a fire involving the equipment). Information required to be provided to fire response personnel includes:

(A) The location of the PCB Transformer(s) (the address(es) of the building(s) and the physical location of the PCB Transformer(s) on the building site(s) and for outdoor PCB Transformers, the location of the outdoor substation).

(B) The principal constituent of the dielectric fluid in the transformer(s) (e.g., PCBs, mineral oil, or silicone oil).

(C) The name and telephone number of the person to contact in the event of a fire involving the equipment.

(vii) As of December 1, 1985, PCB Transformers in use in or near commercial buildings must be registered with building owners. For PCB Transformers located in commercial buildings, PCB Transformer owners must register the transformers with the building owner of record. For PCB Transformers located near commercial buildings, PCB Transformer owners must register the transformers with all owners of buildings located within 30 meters of the PCB Transformer(s). Information required to be provided to building owners by PCB Transformer owners includes but is not limited to:

(A) The specific location of the PCB Transformer(s).

(B) The principal constituent of the dielectric fluid in the transformer(s) (e.g., PCBs, mineral oil, or silicone oil).

(C) The type of transformer installation (e.g., 208/120 volt network, 280/120 volt radial, 208 volt radial, 480 volt network, 480/277 volt network, 480 volt radial, 480/277 volt radial).

(viii) As of December 1, 1985, combustible materials, including, but not limited to paints, solvents, plastics, paper, and sawn wood must not be stored within a PCB Transformer enclosure (i.e., in a transformer vault or in a partitioned area housing a transformer); within 5 meters of a transformer enclosure, or, if unenclosed (unpartitioned), within 5 meters of a PCB Transformer.

(ix) A visual inspection of each PCB Transformer (as defined in the definition of "PCB Transformer" under § 761.3) in use or stored for reuse shall be performed at least once every 3 months. These inspections may take place any time during the 3-month periods: January-March, April-June, July-September, and October-December as long as there is a minimum of 30 days between inspections. The visual inspection must include investigation for any leak of dielectric fluid on or around the transformer. The extent of the visual inspections will depend on the physical constraints of each transformer installation and should not require an electrical shutdown of the transformer being inspected.

(x) If a PCB Transformer is found to have a leak which results in any quantity of PCBs running off or about to run off the external surface of the transformer, then the transformer must be repaired or replaced to eliminate the source of the leak. In all cases any leaking material must be cleaned up and properly disposed of according to disposal requirements of § 761.60. Cleanup of the released PCBs must be initiated as soon as possible, but in no case later than 48 hours of its discovery. Until appropriate action is completed, any active leak of PCBs must be contained to prevent exposure of humans or the environment and inspected daily to verify containment of the leak. Trenches, dikes, buckets, and pans are examples of proper containment measures.

(xi) If a PCB Transformer is involved in a fire-related incident, the owner of the transformer must immediately report the incident to the National Response Center (toll-free 1-800-424-8802; in Washington, D.C. 202-426-2675). A fire-related incident is defined as any incident involving a PCB Transformer which involves the generation of sufficient heat and/or pressure (by any source) to result in the violent or non-violent rupture of a PCB Transformer and the release of PCBs. Information must be provided regarding the type of PCB Transformer installation involved in the fire-related incident (e.g., high or low secondary voltage network transformer, high or low secondary voltage simple radial system, expanded radial system, primary selective system, primary loop system, or secondary selective system or other systems) and the readily ascertainable cause of the fire-related incident (e.g., high current fault in the primary or secondary or low current fault in secondary). The owner of the PCB Transformer must also take measures as soon as practically and safely possible to contain and control any potential releases of PCBs and incomplete combustion products into

REPRODUCED AT GOVERNMENT EXPENSE

water. These measures include, but are not limited to:

(A) The blocking of all floor drains in the vicinity of the transformer.

(B) The containment of water runoff.

(C) The control and treatment (prior to release) of any water used in subsequent cleanup operations.

(xii) Records of inspection and maintenance history shall be maintained at least 3 years after disposing of the transformer and shall be made available for inspection, upon request by EPA. Such records shall contain the following information for each PCB Transformer:

(A) Its location.

(B) The date of each visual inspection and the date that leak was discovered, if different from the inspection date.

(C) The person performing the inspection.

(D) The location of any leak(s).

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

(F) The date of any cleanup, containment, repair, or replacement.

(G) A description of any cleanup, containment, or repair performed.

(H) The results of any containment and daily inspection required for uncorrected active leaks.

(xiii) A reduced visual inspection frequency of at least once every 12 months applies to PCB Transformers that utilize either of the following risk reduction measures. These inspections may take place any time during the calendar year as long as there is a minimum of 180 days between inspections.

(A) A PCB Transformer which has impervious, undrained, secondary containment capacity of at least 100 percent of the total dielectric fluid volume of all transformers so contained or

(B) A PCB Transformer which has been tested and found to contain less than 60,000 ppm PCBs (after 3 months of in service use if the transformer has been serviced for purposes of reducing the PCB concentration).

(xiv) An increased visual inspection frequency of at least once every week applies to any PCB Transformer in use or stored for reuse which poses an exposure risk to food or feed. The user of a PCB Transformer posing an exposure risk to food is responsible for the inspection, recordkeeping, and maintenance requirements under this section until the user notifies the owner that the transformer may pose an exposure risk to food or feed. Following such notification, it is the owner's ultimate responsibility to determine whether the PCB Transformer poses an exposure risk to food or feed.

* * * * *

(The recordkeeping requirements of paragraphs (a)(1) (vi), (vii), and (xi) were approved by the Office of Management and Budget under OMB Control Number 2070–0073. The recordkeeping requirements of paragraph (xii) were approved by the Office of Management and Budget under OMB Control Number 2070–0007.)

4. In § 761.40, paragraph (j) is added to read as follows:

§ 761.40 Marking requirements.

* * * * *

(j) As of December 1, 1985, the vault door, machinery room door, fence, hallway, or means of access (others than grates and manhole covers) to a PCB Transformer must be marked with the mark M_L. The mark must be placed so that it can be easily read by firemen fighting a fire involving this equipment.

[FR Doc. 85–16851 Filed 7–16–85; 8:45 am]
BILLING CODE 6560-50-M

REPRODUCED AT GOVERNMENT EXPENSE

PCBs: Regulatory Aspects

This article, the second in a series, focuses on the recent history of Federal regulations concerning the manufacture, use, storage, and disposal of PCBs and PCB items. The previous article was on the chemical nature, utilization, potential toxicological properties, and environmental fate of PCBs as they interact to affect human health (see Vol. 4, No. 2). The last article in the series will discuss disposal technology.

On July 17, 1985, EPA issued its latest final rule concerning PCBs, specifically in relation to electrical transformers (50 FR 29170). This rule amends portions of an existing EPA rule concerning PCB use and places additional restrictions on the use of PCB transformers (defined by EPA as containing 500 parts per million (ppm) or greater PCBs). Through reassessment of earlier rules, EPA has responded to recent events of transformer fire-related incidents that presented hazards to fire response personnel and the public. The new rule establishes the following restrictions on PCB transformer use:

(1) *Prohibits* the use of higher secondary voltage (480 volts and above) network PCB transformers in or near commercial buildings after October 1, 1990.

(2) *Requires* enhanced electrical protection on lower secondary voltage network PCB transformers and higher secondary voltage radial PCB transformers used in or near commercial buildings, effective October 1, 1990.

(3) *Prohibits* further installation of PCB transformers in or near commercial buildings after October 1, 1985.

(4) *Requires* registration of all PCB transformers with fire response personnel and building owners by December 1, 1985.

(5) *Requires* marking of the exteriors of all locations containing PCB transformers by December 1, 1985.

(6) *Requires* the removal of combustibles stored near PCB transformers by December 1, 1985.

The rule also requires immediate notification of the National Response Center and practical containment of a PCB transformer fire-related event.

In addition, EPA has reaffirmed its August 1982 rule that continued use of PCB-contaminated (50-500 ppm PCBs) and non-PCB transformers (less than 50 ppm PCBs) does not present unreasonable risks to public health and the environment. This rule sustains the "lower hazard" through reasons of cost-effectiveness and low occurrence of fire-related incidents involving PCBs below the 500 ppm designation. The use of the lower levels of PCBs is in contrast with earlier EPA rules (prior to November 8, 1984) that maintained that any exposure to PCBs constituted a significant exposure. This change of position may have important ramifications for future RCRA and CERCLA cleanups of PCB wastes.

Background

The May 1979 PCB Rule issued by EPA was one of the first legislative mentions of PCBs. The rule generally exempted materials containing PCBs in concentrations of less than 50 ppm and designated all intact, nonleaking capacitors, electromagnets, and transformers as "totally enclosed," thus permitting their use without specific authorization or conditions. This designation was successfully challenged by the Environmental Defense Fund in a petition before a U.S. District Court, October 30, 1980, when the court decided that there was insufficient evidence to support the agency's classification of transformers, capacitors, and electromagnets as totally enclosed.

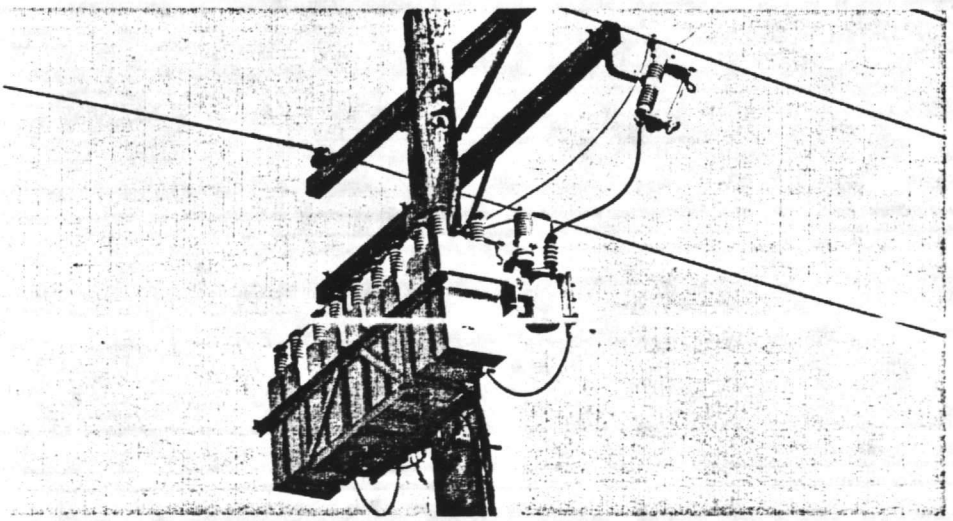
As a consequence of this 1980 court decision, EPA conducted a number of rulemaking actions in order to regulate the use of this equipment. The Electric Equipment Rule (August 25, 1982) authorizes the use of large PCB capacitors when they are located in restricted areas and PCB transformers (inspected quarterly) for the remainder of their useful lives, while prohibiting the use of all other large PCB capacitors and those PCB transformers and PCB electromagnets that pose an exposure risk to food or feed, after October 1, 1985. Additionally, the rule clarifies what constitutes an exposure risk to food or feed by electrical equipment and also makes it clear that "disposal" includes leaked PCB material.

EPA's Closed and Controlled Rule (October 21, 1982) excludes PCBs generated in closed and controlled waste manufacturing processes from TSCA prohibitions. The Uncontrolled PCBs Rule (July 10, 1984) permitted the manufacture, processing, distribution in commerce, and use of inadvertently generated and recycled PCBs under limited circumstances. Specifically, it authorizes the use of PCBs in heat transfer and hydraulic systems and in the compressors and liquid of natural gas pipelines at concentrations of less than 50 ppm.

It was in the Closed and Controlled Rule that EPA first decided that certain exposures to PCBs should be considered insignificant. Through an analytical procedure, EPA identified levels of exposure that it felt would not pose any unreasonable risks to the environment.

The Hazardous and Solid Waste Amendments (1984) to the Solid Waste Disposal Act restrict land disposal (unless specially authorized) of liquid hazardous wastes containing PCBs at concentrations greater than or equal to 50 ppm. California enforces its own policy, which considers a liquid waste to be hazardous when it has concentrations of only 5 ppm or above.

— Todd Hubley
— W.E. Bovender



EPA has imposed restrictions on PCB use in electrical transformers such as this one.

REPRODUCED AT GOVERNMENT EXPENSE

T- 6240

UNITED STATES MARINE CORPS
2d Marine Division, Fleet Marine Force
Camp Lejeune, North Carolina 28542-5500

IN REPLY REFER TO:
6240
G-4 ENGR
30 SEP 1985

From: Commanding General, 2d Marine Division, FMF
To: Distribution List

Subj: HAZARDOUS MATERIAL (HM)/HAZARDOUS WASTE (HW) MANAGEMENT

Ref: (a) BO 6240.5

Encl: (1) CG, MCB CamLej ltr 6240 NREAD of 9 Sep 85
(2) Hazardous Material (HM)/Hazardous Waste (HW) Management Guide

1. There are several Federal and State laws dealing with Hazardous Material and Waste with which the Marine Corps must comply. The reference implements a program to ensure compliance with the laws and requires action(s) of all organizational commanders and officers in charge. The purpose of this letter is to draw attention to legal requirements for compliance with the laws and focus in on some common discrepancies in the management of the Hazardous Materials/ Waste program within the Division.

2. As stated in enclosure (1), two types of discrepancies were identified relative to the management of HM/HW during a recent on site inspection conducted by North Carolina regulatory personnel.

a. Personnel training at the shop level.

b. Weekly inspections and record keeping.

3. A re-inspection of facilities which store HM or which generate HW here at Camp Lejeune is scheduled for 16 October 1985.

4. It is requested that all organizational commanders and officers in charge review the procedures, guidelines and requirements established by the reference. Enclosure (2) is attached as a guide for all units routinely handling HM/HW.

5. A HM/HW workshop will be conducted 0800-1000, 8 October 1985 at the Division Engineer Office. Commands are requested to send cognizant officers and Staff NCO's to the workshop.

6. Second Marine Division Hazardous Material Disposal Coordinators and points of contact are LtCol J. A. Marapoti or MGySgt Kaup at extension 2775/2302.

D. J. LAVOY
By direction

Distribution List: E

Copy to: CG, MCB CamLej (NREAD)

UNITED STATES MARINE CORPS
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542

IN REPLY REFER TO
6240
NREAD
9 Sep 85

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Distribution List

Subj: RESULTS OF 5 SEPTEMBER 1985 HAZARDOUS WASTE INSPECTION BY NORTH CAROLINA DIVISION OF HEALTH SERVICES (DHS)

Ref: (a) BO 6240.5
(b) DHS Hazardous Waste Management Permit No. NC 6170022580

Encl: (1) Summary of Findings and Recommendations Arising from 5 September 1985 Hazardous Waste (HW) Inspection by NC DHS

1. The subject inspection was conducted by Mr. Douglas Holyfield of the Solid and Hazardous Waste Management Branch of DHS to determine compliance with requirements outlined in references (a) and (b). The enclosure lists discrepancies identified during the subject inspection. Mr. Holyfield has advised that he tentatively plans to conduct a reinspection on 16 October 1985 and that all discrepancies should be corrected by that date.

2. Addresses are requested to initiate immediate corrective action. Please notify Mr. Danny Sharpe, Natural Resources and Environmental Affairs Division, telephone extensions 2083 or 2195 of any questions or problems encountered in dealing with this matter.

J. I. Wooten

J. I. WOOTEN
By direction

DISTRIBUTION:
HMDC-2d MARDIV
HMDC-2dFSSG
HMDC-MCAS
HMDC-NAVHOSP
HMDC-NAVDENT
HMDC-MCB (LOG)
TMO
DRMO

Copy to:
AC/S FAC
BSJA

Enclosure (1)

SUMMARY OF FINDINGS AND RECOMMENDATIONS
ARISING FROM 5 SEPTEMBER 1985 HAZARDOUS WASTE (HW) INSPECTION
BY NORTH CAROLINA DIVISION OF HEALTH SERVICES (DHS)

1. Personnel Training

a. Failure to keep clear, concise training records on each person actively involved in HW management: The inspector also commented on the need for accurate job descriptions for these individuals which clearly show their specific HW handling duties. See Attachment (A) for a suggested format for keeping this information.

b. Employees without proper HW training working in HW handling facilities without direct supervision from a properly trained person: Paragraph 4a(3) of BO 6240.5 requires organizational commanders to provide this training to all newly assigned personnel. Paragraph 4k(3) requires Hazardous Material Disposal Coordinators (HMDC) to identify training requirements for their command. Employees working with HW should not work unsupervised until properly trained. As a minimum, the employee should be familiar with hazards posed by each waste; how to colle and store each waste; spill contingency plan for dealing with emergenices, and who to notify in case of discrepancies.

2. Hazardous Waste Manifests Not Readily Available at Long Term HW Storage Facility, Building TP-451: Facility operator will maintain two separate records on a calendar year basis as follows:

a. Facility operator will file and maintain in numerical order, clear, legible copies of all HW manifests for shipments of HW into the TP-451 facility. Facility operator will sign and return generator copy of each HW manifest as follows:

(1) Copies of HW manifests from Marine Corps Air Station New River (EPA ID No. NC 8170022570) will be returned to the HMDC, Marine Corps Air Station, New River.

(2) Copies of HW manifests from base and base tenants (EPA ID NO. NC 6170022580) will be returned to Traffic Management Officer, Assistant Chief of Staff, Logistics, Marine Corps Base, Camp Lejeune.

b. TP-451 facility operator will file and maintain in numerical order clear, legible copies of all HW manifests for shipment by the TP-451 facility operator to off-base treatment, storage and disposal (TSD) facilities. This record will include shipments of HW directly from generator storage areas to TSD facility. Facility operator will attach signed copy of HW manife

returned by TSD facility to the original HW manifest. Operator records should identify any shipments originating from any location other than the TP-451 facility. These HW would be those that DRMO has accepted accountability for but not physical custody. The facility operator should ensure that the correct EPA ID number is used on the manifest and should sign manifest as generator. Copies of the HW manifest signed by outside TSD facility should be returned to TMO or MCAS, New River HMDC, as appropriate, for filing.

3. Records of weekly inspection of HW storage areas not properly maintained. Paragraph 4a and 5b of BO 6240.5 assigns responsibilities for implementing weekly insepction requirements. Attachment (B) is an acceptable format on which to record inspections and outlines the significant items to look for on an inspection. The State Inspector indicated he plans to visit several shops aboard Camp Lejeune and MCAS, New River in mid-October to determine if corrective action has been taken.

TRAINING RECORD: HAZARDOUS WASTE MANAGEMENT/DISPOSAL

NAME OF ORGANIZATION: _____

_____

EMPLOYEE NAME: _____

JOB TITLE: _____

HAZARDOUS WASTE RELATED DUTIES: _____

DATE	TITLE OF COURSE AND DESCRIPTION OF TRAINING (SEE NOTE 1)	EMPLOYEE SIGNATURE

ATTACHMENT A

DATE	TITLE OF COURSE AND DESCRIPTION OF TRAINING (SEE NOTE 1)	EMPLOYEE SIGNATURE

NOTE 1: FOR INFORMAL TRAINING, ENTER "ON THE JOB TRAINING" FOR COURSE TIT
AND LIST NAME OF INSTRUCTOR IN DESCRIPTION OF TRAINING.

ATTACHMENT A

INSPECTION FORM FOR HAZARDOUS WASTE HANDLING AND STORAGE AREAS

AREA OF CONCERN	YES	NO	CORRECTIVE ACTION NEEDED (use back of page to log action taken)
A. CONDITION OF CONTAINERS			
1. Are containers closed			
2. Are containers leaking			
3. Are containers bulging			
4. Are containers collapsed			
5. Are containers corroded			
6. Are containers over-filled			
7. Other problems present			
B. LABELING AND MARKING			
1. Are HW labels in place			
2. Are HW labels filled out			
3. Are hazards (i.e., flammable, corrosive, etc.) labels or markings adequate			
C. Are HWs being disposed of by deadlines			
D. SECURITY AND EMERGENCIES			
1. Is access limited to authorized personnel only			
2. Is emergency response information posted			
3. Supplies and equipment readily available			

DATE: _____

SIGNATURE: _____

ATTACHMENT (B)

HAZARDOUS MATERIAL (HM)/WASTE (HW) MANAGEMENT GUIDE

1. REFERENCES:

a. Resource Conservation and Recovery Act as implemented by EPA regulations published 19 Nov 1980 in 40 CFR 260-265.

b. Hazardous Waste Management Permit, N. C. Division of Health Services, dated 7 Sep 1984.

c. BO 6240.5

d. BO 11090.1B

e. AS(H)O 6280.1

2. LOCAL DISPOSAL PROCEDURES, BO 6240.5

a. Generating unit ensures item collected/stored in proper container.

b. Generating unit prepares Form DD 1348-1 and submits to Command Hazardous Material Disposal Coordinator (HMDC).

c. HMDC reviews adequacy of form preparation and the identification of the hazardous item. HMDC arranges laboratory report from NREAD, if required.

d. HMDC arranges for Preservation, Packaging and Packing (PP&P), 2d Supply Battalion, 2d FSSG to certify item for transportation.

e. Generating unit carries Form DD 1348-1 to Defense Property Disposal Office (DPDO).

f. DPDO inspects item and accepts accountability by signing Form DD 1348-1.

g. DPDO arranges transportation by generating organization, if item is a hazardous material, or by Traffic Management Officer (TMO) AC/S Logistics, MCB, if item is a hazardous waste, to the DPDO Storage Facility, Building TP-451.

h. Item is transported to DPDO facility, re-inspected by DPDO, and then unloaded. DPDO has taken physical custody at this point.

3. COMMON HM/HW MANAGEMENT CONCERNS AND PROBLEMS:

a. Storage of hazardous materials in improperly labeled containers, leading to costly, unnecessary delays in identification and turn-in to DPDO and increased hazards to personnel.

b. Personnel awareness of HM/HW characteristics and management considerations.

c. Inadequate materials handling equipment at the work site and availability of suitable empty containers.

d. Inadequate security of HM/HW storage areas.

e. Dumping of oil from POVs and failure to report spills.

4. SECOND MARINE DIVISION HAZARDOUS MATERIAL DISPOSAL COORDINATORS ARE:

Division Engineers	LtCol Marapoti	ext 2755
	MGySgt Kaup	ext 2302

Encl (2)

T-6240

6240
NREAD
1 Oct 85

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Commanding Officer, Marine Corps Air Station, New River
(Attn: Ground Safety Manager)

Subj: HAZARDOUS WASTE MANAGEMENT

Encl: (1) NC Dept of Human Resources Div of Health Services ltr of 18 Sep 85

1. The enclosure is provided for your information.

JULIAN I. WOOTEN
By direction

N. C. Department of Human Resources
Div. of Health Services
P. O. Box 2091 * Raleigh, North Carolina 27602-2091

James G. Martin, Governor
Philip J. Kirk,Jr.,Secretary

Ronald H. Levine, M.D.,M.P.H.
State Health Director

September 18, 1985

DANNY SHARP
US Marine Corps Air Station (H)New
Comdg Gen - Off AC/S Fac
Camp LeJeune NC 28546
EPA NUMBER: NC8170022570

Dear DANNY SHARP:

The United States Environmental Protection Agency has granted the State of North Carolina Interim Authorization for Phase II Components A and B to operate the State's Hazardous Waste Management Program in lieu of the Federal Program under the RCRA.

Section 3007(a) authorizes access to facilities which handle hazardous waste. Access is granted to 'duly designated' officers or employees of the EPA (or State, if that State has a hazardous waste program authorized under section 3006 of the Act.)

Pursuant to section 3006 and N.C.G.S. 130-166.18, an inspection was conducted 09/05/85 by Mr. DOUG HOLYFIELD Solid and Hazardous Waste Management Branch. No violations were observed. The inspection did not include a review of the Financial or Ground Water monitoring requirements, if applicable. This office wishes to thank you for your cooperation. Please do not hesitate to contact us if we may be of future assistance.

Sincerely,

William Parker
Environmental Engineer
Solid and Hazardous Waste
Management Branch
Environmental Health Section

copy: DOUG HOLYFIELD

8 dw 85
27 Nov 85

T-6240

UNITED STATES MARINE CORPS
Natural Resources and Environmental Affairs Division
Marine Corps Base
Camp Lejeune, North Carolina 28542

IN REPLY REFER TO:
6240
NREAD
6 Nov 1985

MEMORANDUM FOR THE RECORD

Subj: MEETING ON MAJOR REQUIREMENTS OF EPA FINAL RULE ON PCB'S IN ELECTRICAL EQUIPMENT of 6 Nov 1985

Encl: (1) Major Requirements of EPA FINAL RULE ON PCB's in Electrical Equipment

1. In attendance were Messrs. Sharpe and Becker, NREAD; Messrs. McMillan and Lane, BaseMaintenance; and Deputy Chief Piner, BFD.

2. EPA's final rule on PCB's in electrical equipment includes eight major requirements shown in the enclosure. Those in attendance concurred that Marine Corps Base is in compliance with requirements 1 through 5 as listed in the enclosure. NREAD will follow up on reporting procedures to National Response Centers.

3. Regarding requirement 6, all transformers are currently labeled so as to be readily identifiable as PCB transformers. The Fire Department is going to determine if existing labels can be easily seen by Fire Department personnel responding to a fire involving PCB transformer.

4. Messrs. McMillan and Lane agreed to check further into requirements 7 and 8 to determine if Marine Corps Base is in compliance and if not, what steps need to be taken to bring MCB into compliance by the 1990 deadline.

5. Messrs. McMillan and Lane will report their findings not later than 1 January 1986 to NREAD.

6. The storage of combustible materials within five meters of PCB transformers will henceforth be monitored by Base Fire Inspectors.

D.D. Sharpe
D. D. SHARPE

Copy to:
BMO
BaseFireCh

MAJOR REQUIREMENTS OF EPA FINAL RULE
ON PCBS IN ELECTRICAL EQUIPMENT

1. Effective immediately, transformer owners must immediately report any fire-related incidents involving PCB transformers to the National Response Center (NRC). The regulations define "fire-related incident" and specify information owners must provide to the NRC. In case of a fire-related incident, the owner must take measures as soon as practically and safely possible to contain any potential releases of PCBs and combustion products into water. Activities should revise spill contingency plans to include these release reporting and response requirements.

2. As of 1 October 1985, activities may no longer install PCB transformers in or near commercial buildings.

3. As of 1 December 1985, transformer owners must register all PCB transformers (including those stored for reuse) with fire response personnel with primary jurisdiction, that is the fire department that would normally initially respond to a fire involving the transformers. The regulations specify information owners must provide to the fire department.

4. As of 1 December 1985, owners of PCB transformers in commercial buildings must register them with building owners. Owners of PCB transformers near commercial buildings must register them with owners of all buildings located within 30 meters of the PCB transformer. The regulations specify information that owners must provide. While our interpretion is that this requirement does not apply where one Navy activity owns PCB transformers and another Navy activity owns the buildings, owners of PCB transformers in or near buildings should register them with building owners and tenants. Owners and tenants can then take action to reduce exposures to building occupants and fire response personnel in case of fire. Actions could include assigning one person to promptly notify the fire department in case of fire, instructing personnel in safe evacuation procedures and the need to keep a safe distance from fire fighting operations to avoid toxic exposures, ensuring that unprotected cleanup crews do not enter the building, and ensuring that building occupants do not return to the building until cleanup is completed.

5. As of 1 December 1985, activities must not store combustible materials within 5 meters of any PCB transformer or its enclosure

6. As of 1 December 1985, transformer owners must mark the outside of all PCB transformer enclosures (vault doors, machinery room doors, fences, hallways, or other means of access (except for grates and manhole covers)) with the PCB mark M_L (see 40 CFR 761.45). The mark must be placed so it is easily read by firemen responding to a fire involving this equipment.

7. As of 1 October 1990 activities may no longer use network PCB transformers with higher secondary voltages (secondary voltages equal to or greater than 480 volts, including 480/277 volt systems) in or near commercial buildings.

Enclosure (1)

8. As of 1 October 1990, all radial PCB transformers and lower secondary voltage network PCB transformers (secondary voltages below 480 volts) used in or near commercial buildings must be equipped with electrical protection to avoid transformer failures caused by high current faults. In addition to this protection, all radial PCB transformers with higher secondary voltages (480 volts and above, including 480/277 volt systems) used in or near commercial buildings must have electrical protection to avoid transformer failures caused by sustained low current faults. The regulations describe the required types and performance of electrical protection.

T-6240

6240
NREAD
6 Nov 1985

MEMORANDUM FOR THE RECORD

Subj: MEETING ON MAJOR REQUIREMENTS OF EPA FINAL RULE ON PCB'S IN ELECTRICAL EQUIPMENT of 6 NOV 85

Encl: (1) Major Requirements of EPA FINAL RULE ON PCB's in Electrical Equipment

1. In attendance were Messrs. Sharpe and Becker, NREAD; Messrs. McMillan and Lane, BaseMaintenance; and Deputy Chief Piner, BFD.

2. EPA's final rule on PCB's in electrical equipment includes eight major requirements shown in the enclosure. Those in attendance concurred that Marine Corps Base is in compliance with requirements 1 through 5 as listed in the enclosure. NREAD will follow up on reporting procedures to National Response Centers.

3. Regarding requirement 6, all transformers are currently labeled so as to be readily identifiable as PCB transformers. The Fire Department is going to determine if existing labels can be easily seen by Fire Department personnel responding to a fire involving PCB transformer.

4. Messrs. McMillan and Lane agreed to check further into requirements 7 and 8 to determine if Marine Corps Base is in compliance and if not, what steps need to be taken to bring MCB into compliance by the 1990 deadline.

5. Messrs. McMillan and Lane will report their findings not later than 1 January 1986 to NREAD.

6. The storage of combustible materials within five meters of PCB transformers will henceforth be monitored by Base Fire Inspectors.

D. D. SHARPE

Copy to:
BMO
BaseFireCh

Writer: D. D. Sharpe, NREAD 5003
Typist: J. Cross 6Nov85

MAJOR REQUIREMENTS OF EPA FINAL RULE ON PCBS IN ELECTRICAL EQUIPMENT

1. Effective immediately, transformer owners must immediately report any fire-related incidents involving PCB transformers to the National Response Center (NRC). The regulations define "fire-related incident" and specify information owners must provide to the NRC. In case of a fire-related incident, the owner must take measures as soon as practically and safely possible to contain any potential releases of PCBs and combustion products into water. Activities should revise spill contingency plans to include these release reporting and response requirements.

2. As of 1 October 1985, activities may no longer install PCB transformers in or near commercial buildings.

3. As of 1 December 1985, transformer owners must register all PCB transformers (including those stored for reuse) with fire response personnel with primary jurisdiction, that is the fire department that would normally initially respond to a fire involving the transformers. The regulations specify information owners must provide to the fire department.

4. As of 1 December 1985, owners of PCB transformers in commercial buildings must register them with building owners. Owners of PCB transformers near commercial buildings must register them with owners of all buildings located within 30 meters of the PCB transformer. The regulations specify information that owners must provide. While our interpretion is that this requirement does not apply where one Navy activity owns PCB transformers and another Navy activity owns the buildings, owners of PCB transformers in or near buildings should register them with building owners and tenants. Owners and tenants can then take action to reduce exposures to building occupants and fire response personnel in case of fire. Actions could include assigning one person to promptly notify the fire department in case of fire, instructing personnel in safe evacuation procedures and the need to keep a safe distance from fire fighting operations to avoid toxic exposures, ensuring that unprotected cleanup crews do not enter the building, and ensuring that building occupants do not return to the building until cleanup is completed.

5. As of 1 December 1985, activities must not store combustible materials within 5 meters of any PCB transformer or its enclosure

6. As of 1 December 1985, transformer owners must mark the outside of all PCB transformer enclosures (vault doors, machinery room doors, fences, hallways, or other means of access (except for grates and manhole covers)) with the PCB mark M_L (see 40 CFR 761.45). The mark must be placed so it is easily read by firemen responding to a fire involving this equipment.

7. As of 1 October 1990 activities may no longer use network PCB transformers with higher secondary voltages (secondary voltages equal to or greater than 480 volts, including 480/277 volt systems) in or near commercial buildings.

Enclosure (1)

8. As of 1 October 1990, all radial PCB transformers and lower secondary voltage network PCB transformers (secondary voltages below 480 volts) used in or near commercial buildings must be equipped with electrical protection to avoid transformer failures caused by high current faults. In addition to this protection, all radial PCB transformers with higher secondary voltages (480 volts and above, including 480/277 volt systems) used in or near commercial buildings must have electrical protection to avoid transformer failures caused by sustained low current faults. The regulations describe the required types and performance of electrical protection.

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T-6240

ROUTINE

R 011345Z OCT 85

FM DRMO CAMP LEJEUNE NC//ZWM//

TO CG MCB CAMP LEJEUNE NC
CG SECOND MARDIV
NAVHOSP CAMP LEJEUNE NC
HAMS TWO NINE

CG SECOND FSSG
MCAS NEW RIVER NC
NAVDENCLINIC CAMP LEJEUNE NC

UNCLAS //N04400//

SUBJ: DISPOSAL OF LITHIUM BATTERIES

1. REFERENCE: BO6240.5, ENCLOSURE 2, NOTE 2.

2. LITHIUM BATTERIES ARE TO BE TURNED INTO THIS ACTIVITY AS HAZARDOUS WASTE VICE HAZARDOUS MATERIAL. AS STATED IN REFERENCE 1, IF AN ITEM TO BE TRANSPORTED IS A HAZARDOUS WASTE SUBJECT TO RCRA, THE TRAFFIC MANAGEMENT BRANCH MUST TRANSPORT. IT FURTHER STATES A NORTH CAROLINA HAZARDOUS WASTE SHIPPING MANIFEST PREPARED PRIOR TO TRANSPORTING, WILL BE ATTACHED TO DD-1348-1 AND WILL BE CARRIED BY THE DRIVER OF VEHICLE USED TO TRANSPORT WASTE.

BT

DLVR:NAVDENCLINIC CAMP LEJEUNE NC(4)...ACT
DLVR:NAVHOSP CAMP LEJEUNE NC(4)...ACT
DLVR:DRMO CAMP LEJEUNE NC(4)...ORIG

BLOG(2)...ACT FOR CG MCB CAMP LEJEUNE(10) 04400/ 1/0163
BCOS(1) BSDO(1) CEOR(1) DOST(1) DSSC(1) FSMO(1) MCEX(1) OICB(1)

RTD:000-000/COPIES:0022

273206/274 1 OF 1 MATA0278 274/13:59Z 011345Z OCT 85
CSN:RXIA00056 DRMO CAMP LEJE

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T-6240

6240/1
NREAD
12 Sep 1985

From: Director, Natural Resources and Environmental Affairs Division, Marine Corps Base, Camp Lejeune
To: Commanding Officer, Marine Corps Air Station, New River (Attn: Grounds Safety Manager)

Subj: LABORATORY ANALYSIS OF HAZARDOUS MATERIAL; RESULTS OF

Ref: (a) CO, MCAS, New River ltr 5100/222 of 10 May 1985

Encl: (1) JTC Environmental Consultants, Inc. Report No. 88 dated 6 Aug 1985
(2) Hazardous Wastes Characteristic Analysis of Air Station Barrels dated 11 Sep 1985

1. Enclosures (1) and (2) provide data requested by the reference for 26 drums stored at the Air Station's Hazardous Waste Storage Area. The drums were marked with the sample numbers at the time of collection. The drums with sample numbers 38, 39, 41, 42, 43 and 44 will have to be sampled again due to breakage of samples during shipment to commercial laboratory.

2. Enclosure (2) summarizes the data in enclosure (1) and also includes the EPA hazardous waste ID number. Point of contact in this matter is Ms. Elizabeth Betz, Natural Resources and Environmental Affairs Division, telephone extension 5977.

J. I. WOOTEN

Blind copy (w/o encl) to:
SupvChemist

Writer: E. Betz, NREAD 5977
Typist: J. Cross 12Sep85

REPORT # 88

LABORATORY ANALYSIS ON

NAVAL SAMPLES

(A/E CONTRACT N62470-84-B-6932)

JTC REPORT # 85-313

PREPARED FOR:

DEPARTMENT OF THE NAVY

ATLANTIC DIVISION

NAVAL FACILITIES ENGINEERING COMMAND

NORFOLK, VA 23511

PREPARED BY:

JTC ENVIRONMENTAL CONSULTANTS, INC.

4 RESEARCH PLACE, SUITE L-10

ROCKVILLE, MARYLAND 20850

AUGUST 6, 1985

Ann E. Rosecrance

Ann E. Rosecrance
Laboratory Director

(ENCLOSURE 1)

JTC Environmental Consultants, Inc.

Date 8-6-85 Report No. 88 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 85-313 Table 1 Date of Sample Receipt 6-28-85

Camp Lejeune

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		Flashpoint °F	Corrosivity (pH)	Reactivity Cyanide mg/kg	Reactivity Sulfide mg/kg				
#33	12-0984	130	‡	2	<5				
34	12-0985	117	6-7	2	<5				
35	12-0986	95	6-7	0.6	<5				
36	12-0987	<85	6-7	3	<5				
37	12-0988	118	10	0.5	<5				
40	12-0989	>200	6-7	1	<5				
40A	12-0990	<85	6	2	<5				
45	12-0991	<85	5	0.4	<5				
46	12-0992	<85	6-7	1	<5				
47	12-0993	<85	5	1	<5				
48	12-0994	>200	5	2	<5				
49	12-0995	>200	6-7	1	<5				
50	12-0996	<85	7	3	<5				
51	12-0997	110	6	1	<5				
52	12-0998	<85	8	2	<5				
53	12-0999	<85	11-12	1	<5				
54	12-1000	>200	5	0.3	<5				
55	12-1001	105	8	<1	<5				
56	12-1002	>200	5-6	0.8	12				
57	12-1003	<85	7	<3	<5				
unreadable A	12-1004	101	10	0.4	<5				
unreadable B	12-1005	<85	6-7	<4	<5				

‡ test

JTC Environmental Consultants, Inc.

Date 8-6-85 Report No. 88 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 85-313 Table 2 Date of Sample Receipt 6-28-85

Camp Lejeune

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		PCB mg/g	TOX %						
#33	12-0984	<10	0.09						
[redacted]	12-0985	<5	0.07						
35	12-0986	<5	6.05						
36	12-0987	<5	0.10						
37	12-0988	*	*						
40	12-0989	*	*						
40A	12-0990	*	*						
45	12-0991	*	*						
46	12-0992	<5	3.52						
47	12-0993	*	*						
48	12-0994	*	*						
49	12-0995	<5	0.08						
[redacted]	12-0996	<5	0.35						
51	12-0997	<10	3.07						
52	12-0998	<5	0.10						
53	12-0999	<5	54.4						
54	12-1000	*	*						
55	12-1001	<5	1.34						
56	12-1002	*	*						
57	12-1003	*	*						
nreadableA	12-1004	*	*						
nreadableB	12-1005	<5	3.56						

* see results for composite analysis

JTC Environmental Consultants, Inc.

Date 8-6-85 Report No. 88 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 85-313 Table 3 Date of Sample Receipt 6-28-85

Camp Lejeune

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		As mg/kg	Ba mg/kg	Cd mg/kg	Cr mg/kg	Pb mg/kg	Hg mg/kg	Se mg/kg	Ag mg/kg
#33	12-0984	<1	30	<1	160	440	0.06	<1	<1
34	12-0985	<1	100	<1	<10	<5	<0.05	<1	<1
35	12-0986	<1	500	13	320	20	<0.05	<1	<1
36	12-0987	<1	<20	<1	30	100	<0.05	<1	<1
37	12-0988	*	*	*	*	*	*	*	*
40	12-0989	*	*	*	*	*	*	*	*
40A	12-0990	*	*	*	*	*	*	*	*
45	12-0991	*	*	*	*	*	*	*	*
46	12-0992	<1	<20	2	2100	5	0.13	<1	<1
47	12-0993	*	*	*	*	*	*	*	*
48	12-0994	*	*	*	*	*	*	*	*
49	12-0995	<1	<20	<1	<10	20	<0.05	<1	<1
50	12-0996	<1	100	3	300	900	0.25	<1	<1
51	12-0997	<1	100	1	30	40	<0.05	<1	<1
52	12-0998	<1	<20	<1	1600	<5	<0.05	<1	<1
53	12-0999	<1	500	<1	5400	<5	<0.05	<1	<1
54	12-1000	*	*	*	*	*	*	*	*
55	12-1001	<1	50	3	1200	7	<0.05	<1	<1
56	12-1002	*	*	*	*	*	*	*	*
57	12-1003	*	*	*	*	*	*	*	*
unreadableA	12-1004	*	*	*	*	*	*	*	*
unreadableB	12-1005	<1	<20	5	1600	60	0.71	<1	<1

JTC Environmental Consultants, Inc.

Date 8-6-85 Report No. 88 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 85-313 Table 4 Date of Sample Receipt 6-28-85

Camp Lejeune

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		PCB ug/g	TOX %						
45 54 56 57	Composite 1	< 5	3.56						
37 40A 47	Composite 2	< 5	0.67						
40 48 unreadable A	Composite 3	< 5	0.09						

Sample Description NF-12 #88 Hazardous Waste

wy #	JIC #	Description
#33	12-0984	thick black liquid - like molasses
34	0985	reddish liq. with light brown oily layer on top
35	0986	oily, granular, brownish liquid mixture
36	0987	black layer on top, reddish black opaque liquid on bottom with whitish film along bottom
37	0988	clear orangy liquid with brownish granular specks along sides & bottom
40	0989	greenish yellow opaque liq. with oily flecks
40A	0990	dark reddish brown liq, light colored film along bottom
45	0991	pale yellow liq, brown film along bottom
46	0992	2" black liq. on top, then ½" light brown opaque liquid, then 1" dark brown scummy layer, then 2" brown opaque liq. on bottom
47	0993	thick black liq with greyish scum along its bottom, clearish 1" ~~layer~~ liquid on bottom
48	0994	opaque brownish liq with black spotty film on it
49	0995	thin, oily film on top of whitish liquid with a few worm like grey chunks along bottom
50	0996	black liq with greenish film along bottom & sides
51	0997	thick reddish brown oily layer on top with greyish scum along its bottom, 2" clear liq. on bottom
52	0998	reddish liq with greyish film on top
53	0999	thick brown liq. layer on top with thick black liq layer on bottom
54	1000	clear liq with orangy film along bottom
55	1001	2" thick dark greenish layer with clumps along its bottom, with opaque orangy liq on top and bottom
56	1002	pale greenish yellow liquid

JTC #	Description
12- 1003	clear yellow liq with thin film along bottom
1004	thick brownish liquid - like mud
1005	black oily layer on top, 2" opaque greenish layer on bottom

JTC Environmental Consultants, Inc.

Date 8-6-85 Report No. 88 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 85-313 Table 5 Date of Sample Receipt 6-28-85

Camp Lejeune

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		As mg/kg	Ba mg/kg	Cd mg/kg	Cr mg/kg	Pb mg/kg	Hg mg/kg	Se mg/kg	Ag mg/kg
45, 54, 56, 57	Composite 1	<1	<20	<1	4000	54	0.79	<1	<1
37, 40A, 47	Composite 2	<1	<20	<1	2700	<5	<0.05	<1	<1
40, 48, unreadable A	Composite 3	<1	<20	<1	<10	<5	<0.05	<1	<1

HAZARDOUS WASTES CHARACTERISTIC ANALYSIS
OF AIR STATION BARRELS

Prepared by: Elizabeth A. Betz
Date: 11 September 1985

CHARACTERISTIC	SAMPLE # 33	SAMPLE # 34	SAMPLE # 35	SAMPLE # 36
Corrosivity: pH	No Result See Note 1	6-7 Neutral	6-7 Neutral	6-7 Neutral
Ignitability: Flash Point (140° F)	Ignitable 130°	Ignitable 117	Ignitable 95	Ignitable < 85
Reactivity: Cyanide (ppm)	2	2	0.6	3
Sulfide (ppm)	< 5	< 5	< 5	< 5
Toxcity (Limits) As (5 ppm)	< 1	< 1	< 1	< 1
Ba (100 ppm)	30	100	Toxic 500	20
Cd (1 ppm)	< 1	< 1	Toxic 13	< 1
Cr (5 ppm)	Toxic 160	10	Toxic 320	Toxic 30
Pb (5 ppm)	Toxic 440	5	Toxic 20	Toxic 100
Hg (0.2 ppm)	0.06	< 0.05	< 0.05	< 0.05
Se (1.0 ppm)	< 1	< 1	< 1	< 1
Ag (5 ppm)	< 1	< 1	< 1	< 1
PCB	< 10	< 5	< 5	< 5
Total Organic % Halogens (TOX)	0.09	0.07	6.05	0.10
Recommended EPA Hazardous Waste ID Number	D001	D001	D001	D001
Comments (Other EPA Hazardous Waste ID Number)	D007 D008		D005 D006 D007 D008	D007 D008

(ENCLOSURE 2)

HAZARDOUS WASTES CHARACTERISTICS ANALYSIS
OF AIR STATION BARRELS

Prepared by: Elizabeth A. Betz
Date: 11 September 1985

CHARACTERISTIC	See Note 2 SAMPLE # 37	SAMPLE # 38	SAMPLE # 39	See Note 4 SAMPLE # 40
Corrosivity: pH	10 Slightly Alkaline	See Note 3	See Note 3	6-7 Neutral
Ignitability: Flash Point (140°F)	Ignitable 118	See Note 3	See Note 3	>200
Reactivity:		See Note 3	See Note 3	
Cyanide (ppm)	0.5			1
Sulfide (ppm)	<5			<5
Toxicity (Limits)		See Note 3	See Note 3	
As (5 ppm)	<1			<1
Ba (100 ppm)	<20			<20
Cd (1 ppm)	<1			<1
Cr (5 ppm)	Toxic 2700			<10
Pb (5 ppm)	<5			<5
Hg (0.2 ppm)	<0.05			<0.05
Se (1.0 ppm)	<1			<1
Ag (5 ppm)	<1			<1
PCB	<5	See Note 3	See Note 3	<5
Total Organic % Halogens (TOX)	0.67	See Note 3	See Note 3	0.09
Recommended EPA Hazardous Waste ID Number	D001			None
Comments (Other EPA Hazardous Waste ID Number)	D007			

HAZARDOUS WASTES CHARACTERISTIC ANALYSIS
OF AIR STATION BARRELS

Prepared by: Elizabeth A. Betz
Date: 11 September 1985

CHARACTERISTIC	See Note 2 SAMPLE # 40A	SAMPLE # 41	SAMPLE # 42	SAMPLE # 43
Corrosivity: pH	6 Neutral	See Note 3	See Note 3	See Note 3
Ignitability: Flash Point (140°F)	Ignitable $<$85	See Note 3	See Note 3	See Note 3
Reactivity: Cyanide (ppm) Sulfide (ppm)	2 $<$5	See Note 3	See Note 3	See Note 3
Toxicity (limits) As (5 ppm) Ba (100 ppm) Cd (1 ppm) Cr (5 ppm) Pb (5 ppm) Hg (0.2 ppm) Se (1.0 ppm) Ag (5 ppm)	 $<$1 $<$20 $<$1 Toxic 2700 $<$5 $<$0.05 $<$1 $<$1	See Note 3	See Note 3	See Note 3
PCB	$<$5	See Note 3	See Note 3	See Note 3
Total Organic % Halogens (TOX)	0.67	See Note 3	See Note 3	See Note 3
Recommended EPA Hazardous Waste ID Number	D001			
Comments (Other EPA Hazardous Waste ID Number)	D007			

HAZARDOUS WASTES CHARACTERISTIC ANALYSIS
OF AIR STATION BARRELS

Prepared by: Elizabeth A. Betz
Date: 11 September 1985

CHARACTERISTIC	SAMPLE # 44	See Note 5 SAMPLE # 45	SAMPLE # 46	See Note 2 SAMPLE # 47
Corrosivity: pH	See Note 3	5 Slightly Acidic	6-7 Neutral	5 Slightly Acidic
Ignitability: Flash Point (140 F)	See Note 3	Ignitable ∠85	Ignitable ∠85	Ignitable ∠85
Reactivity: Cyanide (ppm) Sulfide (ppm)	See Note 3	 0.4 ∠5	 1 ∠5	 1 ∠5
Toxicity (limits) As (5 ppm)	See Note 3	 ∠1	 ∠1	 ∠1
Ba (100 ppm)		∠20	∠20	∠20
Cd (1 ppm)		∠1	Toxic 2	∠1
Cr (5 ppm)		Toxic 4000	Toxic 2100	Toxic 2700
Pb (5 ppm)		Toxic 54	5	∠5
Hg (0.2 ppm)		Toxic 0.79	0.13	∠0.05
Se (1.0 ppm)		∠1	∠1	∠1
Ag (5 ppm)		∠1	∠1	∠1
PCB		∠5	∠5	∠5
Total Organic % Halogens (TOX)		3.56	3.52	0.67
Recommended EPA Hazardous Waste ID Number		D001	D001	D001
Comments (Other EPA Hazardous Waste ID Number)		D007 D008 D009	D006 D007	D007

HAZARDOUS WATES CHARACTERISTIC ANALYSIS
OF AIR STATION BARRELS

Prepared by: Elizabeth A. Betz
Date: 11 September 1985

CHARACTERISTIC	See Note 4 SAMPLE # 48	SAMPLE # 49	SAMPLE # 50	SAMPLE # 51
Corrosivity pH	5 Slightly Acidic	6-7 Neutral	7 Neutral	6 Neutral
Ignitability: Flash Point (140°F)	>200	>200	Ignitable <85	Ignitable 110°F
Reactivity: Cynaide (ppm) Sulfide (ppm)	 2 <5	 1 <5	 3 <5	 1 <5
Toxicity (limits): As (5 ppm) Ba (100 ppm) Cd (1 ppm) Cr (5 ppm) Pb (5 ppm) Hg (0.2 ppm) Se (1.0 ppm) Ag (5 ppm)	 <1 <20 <1 <10 <50 <0.05 <1 <1	 <1 <20 <1 <10 Toxic 20 <0.05 <1 <1	 <1 100 Toxic 3 Toxic 300 Toxic 900 Toxic 0.25 <1 <1	 <1 100 1 Toxic 30 Toxic 40 <0.05 <1 <1
PCB	<5	<5	<5	<10
Total Organic % Halogens (TOX)	0.09	0.08	0.35	3.07
Recommended EPA Hazardous Waste ID NUMBER	NONE	D008	D001	D001
Comments (Other EPA Hazardous Waste ID Number)			D006 D007 D008 D009	D007 D008

HAZARDOUS WASTES CHARACTERISTIC ANALYSIS
OF AIR STATION BARRELS

Prepared by: Elizabeth A. Betz
Date: 11 September 1985

CHARACTERISTIC	SAMPLE # 52	SAMPLE # 53	See Note 5 SAMPLE # 54	SAMPLE #55
Corrosivity: pH	8 Neutral	11-12 Alkaline	5 Slightly Acidic	8 Neutral
Ignitability: Flash Point (140°F)	Ignitable <85	Ignitable <85	>200	Ignitable 105°
Reactivity: Cyanide (ppm) Sulfide (ppm)	2 <5	1 <5	0.3 <5	<1 <5
Toxicity (limits): As (5 ppm) Ba (100 ppm) Cd (1 ppm) Cr (5 ppm) Pb (5 ppm) Hg (0.2 ppm) Se (1.0 ppm) Ag (5 ppm)	<1 <20 <1 Toxic 1600 <5 <0.05 <1 <1	<1 Toxic 500 <1 Toxic 5400 <5 <0.05 <1 <1	<1 <20 <1 Toxic 4000 Toxic 54 Toxic 0.79 <1 <1	<1 50 Toxic 3 Toxic 1200 Toxic 7 <0.05 <1 <1
PCB	<5	<5	<5	<5
Total Organic % Halogens (TOX)	0.10	54.4	3.56	1.34
Recommended EPA Hazardous Waste ID Number	D001	D001	D007	D001
Comments (Other EPA Hazardous Waste ID Number)	D007	D005 D007	D008 D009	D006 D007 D008

HAZARDOUS WASTES CHARACTERISTIC ANALYSIS
OF AIR STATION BARRELS

Prepared by: Elizabeth A. Betz
Date: 11 September 1985

CHARACTERISTIC	See Note 5 SAMPLE # 56	See Note 5 SAMPLE # 57	See Notes 4 & 6 SAMPLE # A	See Note 6 SAMPLE # B
Corrosivity: pH	5-6 Slightly Acidic	7 Neutral	10 Slightly Alkaline	6-7 Neutral
Ignitability: Flash Point (140°F)	>200	Ignitable <85	Ignitable 101	Ignitable <85
Reactivity:				
Cyanide (ppm)	0.8	<3	0.4	<4
Sulfide (ppm)	12	<5	<5	<5
Toxicity (limits)				
As (5 ppm)	<1	<1	<1	<1
Ba (100 ppm)	<20	<20	<20	<20
Cd (1 ppm)	<1	<1	<1	Toxic 5
Cr (5 ppm)	Toxic 4000	Toxic 4000	<10	Toxic 1600
Pb (5 ppm)	Toxic 54	Toxic 54	<5	Toxic 60
Hg (0.2 ppm)	Toxic 0.79	Toxic 0.79	<0.05	Toxic 0.71
Se (1.0 ppm)	<1	<1	<1	<1
Ag (5 ppm)	<1	<1	<1	<1
PCB	<5	<5	<5	<5
Total Organic % Halogens (TOX)	3.56	3.56	0.07	3.56
Recommended EPA Hazardous Waste ID Number	D001	D001	D001	D001
Comments (Other EPA Hazardous Waste ID Number)	D008 D009	D007 D008 D009		D006 D007 D008 D009

File

DEPARTMENT OF THE NAVY
NAVAL HOSPITAL
CAMP LEJEUNE, NORTH CAROLINA 28542-5008

IN REPLY REFER TO
6240
371
5 Sep 85

From: Commanding Officer
To: Commanding General, Marine Corps Base, Camp Lejeune, NC 28542
Via: Maintenance Officer, Marine Corps Base, Camp Lejeune, NC 28542

Subj: ENVIRONMENTAL HEALTH INSPECTION RESULTS

Ref: (a) NAVMED P-5010
(b) Base Order 6240.7

Encl: (1) Environmental Health/Sanitation Inspection Report dtd 26 Aug 85
(2) Environmental Health/Sanitation Inspection Report dtd 23 Mar 84
(3) Quality Control Laboratory Report dtd 22 Aug 85
(4) Quality Control Laboratory Report dtd 23 Aug 85
(5) Quality Control Laboratory Report dtd 26 Aug 85

1. In accordance with reference (a), an environmental health inspection was performed by the Occupational and Preventive Medicine Department. Enclosures (1) and (2) note the facility, time, and date of inspection and is submitted for your information and/or appropriate action.

2. It is the contention of this division that the water supplied to Building SH-8/SH-14 is unfit for consumption. Enclosures (3), (4), and (5) demonstrate an extensive background bacterial proliferation at this site. In accordance with enclosures (1) and (2), this situation was first identified in March of 1984 and the status has remained the same until the present date.

3. The following recommendations are submitted to attenuate this problem at Building SH-8:

a. This water supply should not be used for drinking purposes, outlets should be secured, and signs should be posted stating that "water supply is not fit for consumption". Water bulls should be utilized for drinking purposes.

b. Increase contact time of the water in the holding tank, to allow a chlorine residual to develop. This can be accomplished by restricting water use to a minimum level or install a larger holding tank to allow an adequate water supply to accumulate prior to usage.

4. If any additional information is required, please contact LT Rockford, Surveillance Section of the Occupational and Preventive Medicine Department at extension 1930/2767.

M. P. GENTRY
By direction

Copy to:
AC/S Logistics
Training Facilities Officer
Utilities Director
Water Quality Control Lab

ENVIRONMENTAL HEALTH/SANITATION INSPECTION REPORT

NAV HOSP (CLNC) 6240/1A (8-83)

FROM: Commanding Officer
TO: Maintenance Officer, Marine Corps Base, Camp Lejeune, NC

REF: (a) NAVMED P-5010

1. In accordance with reference (a) an environmental health/sanitation inspection of SH-8 / SH-14 Hadnot Point / Sneeds Ferry Rd. was conducted on 26 Aug 85 by S.T. Twomey / Hm'. Findings and recommended corrective action are as follows.

AN * INDICATES THAT THE FINDING HAS BEEN PREVIOUSLY REPORTED.

FINDINGS	RECOMMENDED CORRECTIVE ACTION
(1) SH-14 Chlorine Residual 0.0 ppm. (AT back of Building)	
(2) SH-8 Chlorine Residual 0.0 ppm.	
(3) Holding TANK being in SH-14. WATER Then being pumped to SH-8 where ~~30-40~~ 30-40 MARINES are using H_2O for CONSUMPTION. - Believe INSUFFICIENT CONTACT TIME. - Holding TANK with INSUFFICIENT Volume.. - well lines with BACTERIAL CONTAMINATION.	
(4) All MARINES WERE WARNED NOT TO Consume WATER. USE only for vehicle wash.. etc.	
(5) All WATER outlets in SH-8 were Secured till further NOTICE by order of SANITATION Inspector.	

Stephen T. Twomey Hm' USN

2. The overall sanitary condition was found to be: UNSATISFACTORY

Copy to:

APPROVED:
M. P. Gentry
By direction

Encl (1)

ENVIRONMENTAL HEALTH/SANITATION INSPECTION REPORT

NAV HOSP (CLNC) 6240/1A (8-83)

FROM: Commanding Officer
TO: Maintenance Officer, Marine Corps Base, Camp Lejeune, NC

REF: (a) NAVMED P-5010

1. In accordance with reference (a) an environmental health/sanitation inspection of THE NONPOTABLE WATER SYSTEMS ABOARD CAMP LEJEUNE was conducted on 16 MARCH 1984 by HMC BURLH/HM1 TORRES. Findings and recommended corrective action are as follows.

AN * INDICATES THAT THE FINDING HAS BEEN PREVIOUSLY REPORTED.

FINDINGS	RECOMMENDED CORRECTIVE ACTION
a. AMMUNITION DEPOT (SH8): RAW WATER FROM WELLS IS BEING CHLORINATED IN A SMALL TANK AND FED TO THE SA'GOTS FOR USE. THE WATER IS NOT FILTERED, THERE IS INSUFFICIENT CHLORINE/WATER CONTACT TIME, THE CHLORINE RUNS OUT PERIODICALLY.	RECOMMENDATION - RECOMMEND THIS WATER SUPPLY NOT BE USED FOR DRINKING AND THAT SIGNS BE POSTED TO THAT EFFECT." UNTREATED WATER NOT FOR CONSUMPTION".
b. COURTHOUSE BAY DEMO RANGE (BB97): RAW WATER IS BEING DRAWN FROM WELLS AND CHLORINATED AS NOTED IN 1.a.	RECOMMENDATION - SAME AS 1.a.
c. SANITARY LANDFILL (FC-19): RAW WATER IS BEING DRAWN FROM WELLS AND CHLORINE IS FED DIRECTLY INTO THE WATER LINE. THE WATER IS NOT FILTERED, NO CHLORINE/WATER CONTACT TIME.	RECOMMENDATION - SAME AS 1a. (CONT)

2. The overall sanitary condition was found to be:

Copy to:
AC/S LOGISTICS
TRAINING FACILITIES OFFICER
UTILITIES DIRECTOR
WATER QUALITY CONTROL LAB

APPROVED:

* U.S. GOVERNMENT PRINTING OFFICE: 1983—639-014/212

Encl (2)

QUALITY CONTROL LABORATORY REPORT
MISCELLANEOUS BACTERIOLOGICAL ANALYSIS OF WATER

MCBCL 11330/8 (REV. 4/78)

WATER TYPE	SAMPLE COLLECTED BY	DATE COLLECTED
POT SHE	WATER PLANT	8/22/85

LOCATION	MARKED	COLIFORM	
		TOTAL	FECAL
SH-8		∅	
NEXT OF			
[illegible]			

REMARKS

TNTC - NOT - [illegible]

SIGNATURE [signature] DATE 8/23/85

COPY TO

- ☐ NREAD
- ☐ UTILITIES DIRECTOR
- ☐ WATER TREATMENT PLANT (GENERAL FOREMAN)
- ☐ BASE PREVENTIVE MEDICINE
- ☐ MCAS PREVENTIVE MEDICINE
- ☐ _____

Encl (3)

QUALITY CONTROL LABORATORY REPORT
MISCELLANEOUS BACTERIOLOGICAL ANALYSIS OF WATER

MCBCL 11330/8 (REV. 4/78)

WATER TYPE	SAMPLE COLLECTED BY	DATE COLLECTED
POTABLE	WATER PLANT	8/23/85

LOCATION	MARKED	COLIFORM TOTAL	COLIFORM FECAL
3001		0	
Cl2 : 1.0			
TIME 1015			
SH-8		0*	
Cl2 : 1.0			
TIME 1045			

REMARKS

* SH-8, TNTC NON-COLIFORM

SIGNATURE H P Barbee DATE 8-24-85

COPY TO

- ☐ NREAD
- ☐ UTILITIES DIRECTOR
- ☐ WATER TREATMENT PLANT (GENERAL FOREMAN)
- ☑ BASE PREVENTIVE MEDICINE
- ☐ MCAS PREVENTIVE MEDICINE
- ☐ _____

Encl (4)

QUALITY CONTROL LABORATORY REPORT
MISCELLANEOUS BACTERIOLOGICAL ANALYSIS OF WATER

MCBCL 11330/8 (REV. 4/78)

POC x2994
SGT Osborne

WATER TYPE	SAMPLE COLLECTED BY	DATE COLLECTED
	HUNNICUTT	5/26/85

LOCATION	MARKED	COLIFORM	
		TOTAL	FECAL
SH-8	BATHROOM	(1) Ø	
SH-14	PUMP HOUSE	(2) Ø	

REMARKS

(1) 137 non-colifom colonies

(2) 268 non-colifom colonies

SIGNATURE [signature] DATE 8/27/85

COPY TO

- ☐ NREAD
- ☐ UTILITIES DIRECTOR
- ☐ WATER TREATMENT PLANT (GENERAL FOREMAN)
- ☒ BASE PREVENTIVE MEDICINE
- ☐ MCAS PREVENTIVE MEDICINE
- ☐ _____

Encl (5)

T-6240

N. C. Department of Human Resources
Div. of Health Services
P. O. Box 2091 * Raleigh, North Carolina 27602-2091

James G. Martin, Governor
Philip J. Kirk,Jr.,Secretary

Ronald H. Levine, M.D.,M.P.H.
State Health Director

September 20, 1985

DANNY SHARP
US Marine Corps Base Camp LeJeune
Marine Corps Base
Camp LeJeune NC 28542
EPA NUMBER: NC6170022580

Dear DANNY SHARP:

The United States Environmental Protection Agency has granted the State of North Carolina Interim Authorization for Phase II Components A and B to operate the State's Hazardous Waste Management Program in lieu of the Federal Program under the RCRA.

Section 3007(a) authorizes access to facilities which handle hazardous waste. Access is granted to 'duly designated' officers or employees of the EPA (or State, if that State has a hazardous waste program authorized under section 3006 of the Act.)

Pursuant to section 3006 and N.C.G.S. 130-166.18, an inspection was conducted 09/05/85 by Mr. DOUG HOLYFIELD Solid and Hazardous Waste Management Branch. The inspection revealed noncompliance in several areas. Attached is a copy of the inspection report which denotes the deficiencies.

A compliance date of 10/16/85 has been established for the correction of these deficiences. If you have any questions pertaining to this subject, please contact me at (919) 733-2178.

Sincerely,

William Paige
Environmental Engineer
Solid and Hazardous Waste
Management Branch
Environmental Health Section

copy: DOUG HOLYFIELD

SUBPART C - PRE-TRANSPORT REQUIREMENTS

7. Packaging (262.30)
   D.O.T. compliance

8. Labeling (262.31)
   D.O.T. compliance

9. Marking (262.32)
   D.O.T. compliance (a)
   'HAZARDOUS WASTE' label (b)

10. Placarding (262.33)
    D.O.T. compliance

11. Accumulation Time (262.34)
    Subpart I; J (a)(1)
    accumulation date (a)(2)
    'Hazardous Waste' (a)(3)
    Subpart C; D (a)(4)*
  X personnel training (a)(4)

SUBPART D - RECORDKEEPING AND REPORTING

12. Recordkeeping (262.40)
    manifest retention (a)
    biennial/exception report (b)
    test/waste analysis (c)

13. Biennial Reporting (262.41)
    submitted (a)(1-6)
    submitted (b)

14. Exception Reporting (262.42)
    transporter contact (a)
    exception report (b)(1)(2)

Remarks: 265.16(B), (D)(2)(4)

TSDF INSPECTION FORM - PART 264

Name of Site	EPA I.D.	County
US Marine Corps Base Camp LeJeune	NC6170022580	Onslow

Location		Inspection Date	Inspector
Camp LeJeune	NC 28542	09 / 05 / 85	DOUG HOLYFIELD

Compliance Date	Facility Contact
10 / 16 / 85	DANNY SHARP

An inspection of your facility has been made this date and you are notified of the violations, if any, marked below with a cross (X).

SUBPART B - GENERAL FACILITY STANDARDS

1. Required Notices (264.12)
   - foreign shipments (a)
   - off-site notification (b)
   - new owner/operator

2. General Waste Analysis (264.13)
   - chemical/physical lab reports (a)(1)
   - review/repeat of analysis (a)(3)(4)
   - inspect/analyze plan (a)(4)
   - analysis plan (b)(c)

3. Security (264.14)
   (The facility may be exempt under (a)(1)(2)
   - 24 hour surveillance system (b)(1)
   - or
   - artificial/natural barrier (b)(2)(i)
   - and
   - entry control (b)(2)(ii)
   - danger sign(s) (c)

4. General Inspection Requirements (264.15)
   - inspect for malfunction, operator errors, discharges, etc. (a)(1)(2)
   - inspect monitoring, safety and emergency equipment, etc. (b)(1)
   - written schedule (b)(2)(3)
   - remedial action (c)
   - inspection log (d)

15. Emergency Procedures (264.56)
    activation of alarm system (a)(1)
    notification to State/Local agencies
    of discharge (a)(2), (d)(1)(2)
    hazard assessment (c)
    reasonable prevention measures (e)
    monitor for leaks, pressure buildup,
    etc. (f)
    proper management of recovered waste,
    contaminated soil or sureface water (g)
    compatibility with contaminated areas (h)(1)
    emergency equipment cleaned (h)(2)
    notification of compliance (i)
    written report (15 days)/operating
    record notation (j)

SUBPART E - MANIFEST SYSTEM, RECORDKEEPING

16. Use of Manifest System (264.71)
    sign, date (a)(1)
    note discrepancies (a)(2)
    copy to transporter (a)(3)
    copy to generator (30 days) (a)(4)
    TSDF copy (a)(5)
    rail or water transporter (b)(1)(2)(3)(4)(5)
    generator compliance (c)

17. Manifest Discrepancies (264.72)
    bulk discrepancies (a)(1)
    batch discrepancies (a)(2)
    written report, if required (b)

18. Operating Record (264.73)
    written (a)
    quantity, handling methods, dates (b)(1)
    location/quantity with cross reference (b)(2)
    waste analysis (b)(3)
    incident reports (b)(4)
    inspection record (b)(5)
    monitoring, testing results(for
    incinerators) (b)(6)
    notice to generators (b)(7)
    closure/post closure cost (b)(8)
19. Availability, Retention, and Disposition of Records (264.74)

access to records (a)
retention (b)
records submitted (c)

20. Annual Report (264.75)

submit by March 1 (a)(b)(c)(d)(e)(f)(g)(h)

21. Unmanifested Waste Report (264.76)

within 15 days (a)(b)(c)(d)(d)(e)(f)(g)

22. Additional Reports (264.77)

Section 264.55(i) report (a)
facility closure (c)

SUBPART G - CLOSURE AND POST-CLOSURE

23. Closure Plan; Amendment of Plan (264.112)

written (a)
inventory modification (a)(2)
amendment (b)
180 day notice (c)

24. Disposal or Decontamination of Equipment (264.114)

equipment disposal/decontamination

25. Post-Closure Plan; Amendment of Plan (264.118)

written (a)
amendment/modification (b)(c)

SUBPART H - FINANCIAL REQUIREMENTS

26. Cost Estimate For Closure (264.142)

written (a)
anniversary adjustment (b)
change adjustment (c)
available for inspection (d)

27. Financial Assurance For Closure (264.143)

yes
Specify form

28. Estimate For Post-Closure Care (264.144)

written (a)
anniversary adjustment (b)
change adjustment (c)
available for inspection (d)

29. Financial Assurance For Post-Closure Care (264.145)
    yes:
    Specify form

30. Liability Requirements (264.147)
    sudden occurrences (a)
    non-sudden occurrences (b)

31. Incapacity of Owners or Operators, Guarantors or Financial Institutions (264.148)
    compliance (a)(b)

Remarks:

T-6240

6240
NREAD
9 Sep 85

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Distribution List

Subj: RESULTS OF 5 SEPTEMBER 1985 HAZARDOUS WASTE INSPECTION BY NORTH CAROLINA DIVISION OF HEALTH SERVICES (DHS)

Ref: (a) BO 6240.5
(b) DHS Hazardous Waste Management Permit No. NC 6170022580

Encl: (1) Summary of Findings and Recommendations Arising from 5 September 1985 Hazardous Waste (HW) Inspection by NC DHS

1. The subject inspection was conducted by Mr. Douglas Holyfield of the Solid and Hazardous Waste Management Branch of DHS to determine compliance with requirements outlined in references (a) and (b). The enclosure lists discrepancies identified during the subject inspection. Mr. Holyfield has advised that he tentatively plans to conduct a reinspection on 16 October 1985 and that all discrepancies should be corrected by that date.

2. Addresses are requested to initiate immediate corrective action. Please notify Mr. Danny Sharpe, Natural Resources and Environmental Affairs Division, telephone extensions 2083 or 2195 of any questions or problems encountered in dealing with this matter.

J. I. WOOTEN
By direction

DISTRIBUTION:
HMDC-2d MARDIV
HMDC-2dFSSG
HMDC-MCAS
HMDC-NAVHOSP
HMDC-NAVDENT
HMDC-MCB (LOG)
TMO
DRMO

Copy to:
AC/S FAC
BSJA

SUMMARY OF FINDINGS AND RECOMMENDATIONS
ARISING FROM 5 SEPTEMBER 1985 HAZARDOUS WASTE (HW) INSPECTION
BY NORTH CAROLINA DIVISION OF HEALTH SERVICES (DHS)

1. Personnel Training

a. Failure to keep clear, concise training records on each person actively involved in HW management: The inspector also commented on the need for accurate job descriptions for these individuals which clearly show their specific HW handling duties. See Attachment (A) for a suggested format for keeping this information.

b. Employees without proper HW training working in HW handling facilities without direct supervision from a properly trained person: Paragraph 4a(3) of BO 6240.5 requires organizational commanders to provide this training to all newly assigned personnel. Paragraph 4k(3) requires Hazardous Material Disposal Coordinators (HMDC) to identify training requirements for their command. Employees working with HW should not work unsupervised until properly trained. As a minimum, the employee should be familiar with hazards posed by each waste; how to collect and store each waste; spill contingency plan for dealing with emergenices, and who to notify in case of discrepancies.

2. Hazardous Waste Manifests Not Readily Available at Long Term HW Storage Facility, Building TP-451: Facility operator will maintain two separate records on a calendar year basis as follows:

a. Facility operator will file and maintain in numerical order, clear, legible copies of all HW manifests for shipments of HW into the TP-451 facility. Facility operator will sign and return generator copy of each HW manifest as follows:

(1) Copies of HW manifests from Marine Corps Air Station, New River (EPA ID No. NC 8170022570) will be returned to the HMDC, Marine Corps Air Station, New River.

(2) Copies of HW manifests from base and base tenants (EPA ID NO. NC 6170022580) will be returned to Traffic Management Officer, Assistant Chief of Staff, Logistics, Marine Corps Base, Camp Lejeune.

b. TP-451 facility operator will file and maintain in numerical order clear, legible copies of all HW manifests for shipment by the TP-451 facility operator to off-base treatment, storage and disposal (TSD) facilities. This record will include shipments of HW directly from generator storage areas to TSD facility. Facility operator will attach signed copy of HW manifest

returned by TSD facility to the original HW manifest. Operator records should identify any shipments originating from any location other than the TP-451 facility. These HW would be those that DRMO has accepted accountability for but not physical custody. The facility operator should ensure that the correct EPA ID number is used on the manifest and should sign manifest as generator. Copies of the HW manifest signed by outside TSD facility should be returned to TMO or MCAS, New River HMDC, as appropriate, for filing.

3. Records of weekly inspection of HW storage areas not properly maintained. Paragraph 4a and 5b of BO 6240.5 assigns responsibilities for implementing weekly insepction requirements. Attachment (B) is an acceptable format on which to record inspections and outlines the significant items to look for on an inspection. The State Inspector indicated he plans to visit several shops aboard Camp Lejeune and MCAS, New River in mid-October to determine if corrective action has been taken.

TRAINING RECORD: HAZARDOUS WASTE MANAGEMENT/DISPOSAL

NAME OF ORGANIZATION: _____

_____

EMPLOYEE NAME: _____

JOB TITLE: _____

HAZARDOUS WASTE RELATED DUTIES: _____

DATE	TITLE OF COURSE AND DESCRIPTION OF TRAINING (SEE NOTE 1)	EMPLOYEE SIGNATURE

ATTACHMENT A

DATE	TITLE OF COURSE AND DESCRIPTION OF TRAINING (SEE NOTE 1)	EMPLOYEE SIGNATURE

NOTE 1: FOR INFORMAL TRAINING, ENTER "ON THE JOB TRAINING" FOR COURSE TITLE AND LIST NAME OF INSTRUCTOR IN DESCRIPTION OF TRAINING.

ATTACHMENT A

INSPECTION FORM FOR HAZARDOUS WASTE HANDLING AND STORAGE AREAS

AREA OF CONCERN	YES	NO	CORRECTIVE ACTION NEEDED (use back of page to log action taken)
A. CONDITION OF CONTAINERS			
1. Are containers closed			
2. Are containers leaking			
3. Are containers bulging			
4. Are containers collapsed			
5. Are containers corroded			
6. Are containers over-filled			
7. Other problems present			
B. LABELING AND MARKING			
1. Are HW labels in place			
2. Are HW labels filled out			
3. Are hazards (i.e., flammable, corrosive, etc.) labels or markings adequate			
C. Are HWs being disposed of by deadlines			
D. SECURITY AND EMERGENCIES			
1. Is access limited to authorized personnel only			
2. Is emergency response information posted			
3. Supplies and equipment readily available			

DATE: _____

SIGNATURE: _____

ATTACHMENT (B)

T-6240

OCT 01 1985

6240
NREAD

Director, Natural Resources and Environmental Affairs Division,
Marine Corps Base, Camp Lejeune
Assistant Chief of Staff, Facilities, Marine Corps Base, Camp Lejeune

DISPOSAL OF PEROXIDE AND ETHER CHEMICALS

Encl:(1) Cmdr, DefPropDispRegOff ltr DRMR-MEH (Ms. Luscavage (AV)683-6104/mp) of 27 Sep 85

1. On 1 October 1985 Mr. George Eggers, DRMO, provided the enclosure to Mr. D. Sharpe, NREAD. Mr. Eggers advised that he had approximately three gallons of Ether and four pounds of Methyl Ethyl Ketone Peroxide. Mr. Eggers has contacted the local EOD for assistance in disposal of these items.

2. Mr. Sharpe called Mr. Steve Olson, Code 114, Atlantic Division, NAVFAC, for assistance. Mr. Olson advised Mr. Sharpe to contact the State hazardous waste management agency. Mr. Olson also advised that the subject type disposal was routinely done at other locations in coordination with regulatory agency.

3. Mr. Sharpe contacted Mr. Jimmy Carter, Solid and Hazardous Waste Management Branch, North Carolina Division of Health Services and reviewed the proposed action. Mr. Carter obtained verbal permission from Mr. Bill Myers, Branch Head, to make emergency disposal provided proper procedures are followed. An after-the-fact written permit and public notice will be required.

4. The following summarizes requirements:

a. An emergency coordinator (recommend Mr. Danny Sharpe, NREAD).

b. An EPA HW ID number (which Base already has).

c. A statement that material was either completely destroyed or that residues were collected for proper disposal.

d. That emergency procedures are followed to protect public safety during process. (Fire Department standby, escort for transportation, and at the actual disposal site).

5. Lieutent Way, EOD, is working on procedures (including siting) for the disposal. Tentative date for disposal is 2 October 1985, subject to approval to proceed and EOD being able to do the work that day.

6. We will have to depend on EOD for technical guidance. Esssentially, EOD will establish procedures and Fire Department will provide emergency support.

7. Approval to proceed is hereby requested.

J. I. WOOTEN

Writer: D. D. Sharpe, NREAD 5003
Typist: J. Cross 10ct85

DEFENSE LOGISTICS AGENCY
DEFENSE PROPERTY DISPOSAL SERVICE
DEFENSE PROPERTY DISPOSAL REGION OFFICE MEMPHIS
2163 AIRWAYS BLVD.
MEMPHIS, TENNESSEE 38114-5297

IN REPLY REFER TO DRMR-MEH (Ms. Luscavage (AV)683-6104/mp)

George - do we have any of these in physical custody?
NL

SUBJECT: Acceptance of Peroxide and Ether Chemicals

TO: Chiefs of DRMOs

1. It has come to our attention that several DRMOs are accepting physical custody of ether chemicals and inorganic/organic peroxides, specifically Methyl Ethyl Ketone Peroxide (MEKP), NSN 6810-01-120-0408. This material will not be accepted by DRMO personnel for two primary reasons: First, it is a direct violation of DPDS-H 6055.1, Mishap Prevention in the DPDO, Chapter 5. Secondly, and more importantly, these chemicals are too dangerous and unpredictable for DRMO personnel to handle and store safely.

2. The following items are known characteristics of peroxide and ether chemicals.

a. Organic/inorganic peroxides are strong oxidizers and will cause spontaneous combustion when brought into contact with combustible and metallic substances, especially under high temperature conditions.

b. Peroxide chemicals are heat and shock sensitive and can easily explode.

c. As peroxide chemicals age, many decompose/crystalize into substances that create a potential time bomb.

d. Most ethers will, upon exposure to air, combine with oxygen to form peroxides which can detonate.

3. A recent Air Force Safety Alert message was dispatched to all Air Force activities indicating a problem with the shelf life for MEKP. The material has been found deteriorating after 12-18 months in storage. The message directed all AF activities to dispose of all MEKP on hand, which is over 12 months old, through the DRMO. The message also stated to "exercise caution in handling, as some containers may rupture when moved." Under no circumstances will DRMO personnel accept physical custody of or attempt to move this MEKP.

4. You are hereby directed to conduct an indepth review of your hazardous storage areas to insure there are no peroxides in your inventory. If you do, in fact, have any of this material on hand, you should take immediate actions to have it removed. DPDS-H 6055.1 states "organic peroxides, ether and partially used containers of either will be destroyed by explosive ordnance disposal (EOD) personnel due to age and the danger of explosion upon recommendation of the DRMR Safety and Health Manager."

Gy/SgT Dunnitt 0558 0392
2T WAY

5. If you have any questions, please contact the DRMR Safety and Health Office or your Environmental Coordinator.

DAVID C. WHITWORTH
Colonel, USA
Commander

Need.

RECEIVED
SEP 30 1985
DPDO—LEJEUNE

Danny DDS Good

ASSISTANT CHIEF OF STAFF, ~~FACILITIES~~
HEADQUARTERS, MARINE CORPS BASE

DATE 22 Aug 84

TO:

BASE MAINT O	DIR, FAMILY HOUSING
PUBLIC WORKS O	DIR, UNACCOMPANIED PERS HSG
COMM-ELECT O	BASE FIRE CHIEF
DIR., NAT. RESOURCES & ENV. AFFAIRS	

ATTN: _____

1. Attached is forwarded for info/~~action~~.

2. Please initial, or comment, and return all papers to this office.

3. Your file copy.

BWE
By dir

"LET'S THINK OF A FEW REASONS
WHY IT CAN BE DONE"

MCBCL 5216/21 (REV. 6-83)

33 Dec 84

330.3
T25 ec

T-6240

UNITED STATES MARINE CORPS
Base Maintenance Division
Marine Corps Base
Camp Lejeune, North Carolina 28542

IN REPLY REFER TO
6280
MAIN
21 AUG 1984

From: Base Maintenance Officer
To: Assistant Chief of Staff, Facilities

Subj: INSPECTION REPORT ON LONG TERM HAZARDOUS WASTE STORAGE FACILITIES AT BUILDINGS TP-451 AND TC-863

Ref: (a) CG MCB CLNC ltr 6280 NREAD of 10 Jul 84

1. The subject inspection report has been reviewed as requested by the reference and repair status is provided as follows:

ITEM 1 - Facility Grounds - Erosion along fence has been repaired.

ITEM 4 - Unloading Pad Drain Valve - New valve has been installed. A valve box is being installed on Ticket Number 19991.

ITEM 5 - Exhaust Fans - New motors have been installed in both fans.

ITEM 6 - Interior Lighting and Electrical Outlets - The light has been repaired. Materials are on order for the nonconforming switch, Ticket Number 8064.

ITEM 8 - Curbs, Grates, Other Fixtures - Materials are being ordered to repair damaged grates.

ITEM 12 - Fire Extinguishers - Construct shed for wheel mounted extinguisher - Job order forwarded to Facilities for funding May 1984. Funds released on 14 August 1984 on Facilities Project Number 4134.

NOT LISTED - New Fork Lift Shed - Materials are being procured on Job Order Number 1606.

H. L. LUTTRELL

Dang plan Scattered DDS

T-6240

UNITED STATES MARINE CORPS
Marine Corps Base
Camp Lejeune, North Carolina 28542-5001

IN REPLY REFER TO:
6280
MAIN

7 AUG 1985

From: Assistant Chief of Staff, Facilities, Marine Corps Base, Camp Lejeune

Subj: HAZARDOUS WASTE AND WASTE OIL PROGRAMS MEETING

1. A meeting will be held in the conference room, Office of the Assistant Chief of Staff, Facilities, on Wednesday 14 August 1985 at 1000.

2. The purpose of the meeting is to discuss present methods and programs for handling hazardous waste and to consider organizing a section to assume staff cognizance of the programs. The Assistant Chief of Staff, Facilities, will chair the meeting.

3. It is requested that a representative from your office who is familiar with the hazardous waste program attend this meeting.

R. A. TIEBOUT

Distribution:
NREAD
BMO
FIRE
PrevMed
DRMO
Safety
AC/S, Log
CO, MCAS, New River

T-6240

6280
NREAD
30 Aug 1985

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Defense Reutilization and Marketing Officer, Camp Lejeune

Subj: INSPECTION REPORT ON LONG TERM HAZARDOUS WASTE STORAGE FACILITIES AT BUILDINGS TP-451 AND TC-863

Ref: (a) Onsite Inspection on 29Aug85 by Messrs. Becker and Martin, NREAD; Mr. Metts, BaseFireProtDiv and Mr. Lonnie Brinson, DRMO
(b) CG MCB CLNC ltr FAC/REA/lf 6280 of 15 Jul 1983

Encl: (1) Inspection Checklist for Long Term Hazardous Waste/ Material Storage Facilities at TP-451/TC-863 dated 29Aug85

1. The enclosure provides results of reference (a) conducted as required by reference (b). It was noted that the grates on the loading platform have been repaired and are now in satisfactory condition. Point of contact in this matter is Mr. Danny Sharpe, extensions 2083/5003.

J. I. WOOTEN
By direction

Copy to:
BaseFireCh
AC/S FAC
SJA
BMO (Attn: Fred Cone)
BaseSafetyO

Writer: D. T. Becker, NREAD 5003
Typist: J. Cross 30Aug85

PARTICIPANTS BECKER, MARTIN, BRINSON, METTS

DATE: 29 Aug 1985

FACILITIES AND EQUIPMENT	SAT	UNSAT	COMMENTS
1. FACILITY GROUNDS	X		Remove trash bin from inside of TP-451 as required by Mr. Metts.
2. FACILITY SECURITY (LOCKS, DOORS, SIGNS, ETC.)	X		
3. EMERGENCY TELEPHONE AND FIRE ALARMS	X		
4. UNLOADING PAD DRAIN VALVE	X		
5. EXHAUST FANS	X		
6. INTERIOR LIGHTING AND ELECTRICAL OUTLETS	X		
7. SAFETY SHOWERS/ EYE LAVAGES	X		
8. CURBS, GRATES, OTHER FIXTURES	X		
9. NON-SPARKING SHOVELS (2)	X		
10. ABSORBENT (EQUIVALENT OF FOUR 55-GAL BARRELS)	X		
11. HAZ MAT PUMPS OR EQUIVALENT		X	Pumping capacity is not adequate
12. FIRE EXTINGUISHERS	X		
13. PROTECTIVE GEAR AND EQUIPMENT	X		Need to replace escape pack in TP-451
14. EMPTY CONTAINERS AND OVERPACK DRUMS	X		

OPERATIONAL CONSIDERATIONS	SAT	UNSAT	COMMENTS
1. Required operator inspections and Inspection Log	X		
2. Emergency Contingency Plan Posting & Operator Familiarity	X		
3. Fire Department Phone number posting	X		
4. Condition of containers in use	X		One drum showed signs of rust on top and on bottom rim. Need to complete labels on 3 drums in Reactiv area of Bldg. TC-863.
5. Presence of odors/vapors, residues in sumps, deck, etc.	X		
6. Unloading Pad Valve Operation	X		
7. Compatibility of Material Storage	X		
8. Implementation of previously recommended corrective action	X		Grates have been replaced.
9. Facility Operators since last Inspection			Lonnie Brinson, George Eggers

ADDITIONAL COMMENTS, EXPLANATIONS, ETC:

Three overpacks in Reactive Bin at TC-863 are not labeled with correct DOT shipping names or UN#'s.

T-6240

6240/2
NREAD
28 Aug 1985

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Commanding General, 2d Marine Division (Attn: Division Engineers), Camp Lejeune

Subj: ANALYSIS OF TWO DRUMS OF HAZARDOUS MATERIAL AT HP-100

Ref: (a) CO, 2d Marines' ltr 6240 MTO of 8 Jan 1985
(b) BO 6240.5

Encl: (1) Excerpts from JTC Environmental Consultants, Inc. Report No. 54 dated 28 June 1985

1. The enclosure provides information requested by reference (a). The data contained in the enclosure indicates that the two barrels should be disposed of per reference (b) as an ignitable waste, using EPA Hazardous Waste Number D001. Turn-in documents and manifests should also indicate that the items are toxic due to cadmium, lead and selenium content. Point of contact in this matter is Mr. Danny Sharpe, extension 2083.

J. I. WOOTEN
By direction

Blind copy to:
SupvChem

Writer: D. D. Sharpe, NREAD 5003
Typist: J. Cross 28Aug85

EXCERPTS FROM JTC ENVIRONMENTAL CONSULTANTS, INCORPORATED
REPORT NO. 54, DATED 28 JUNE 1985

COMPILED BY ELIZABETH A. BETZ
22 AUGUST 1985

Please note the following:

a. Navy samples ID #23A and #23B are from the two 55-gallon drums located in the parking lot at HP-100. Each was labelled with the #29 when they were sampled.

ENCLOSURE 1

JTC Environmental Consultants, Inc.

Date 6-28-85 Report No. 54 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 85-254 Table 5 Date of Sample Receipt 3/28/85 & 5/23/85

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		As	Ba	Cd	Cr	Pb	Hg	Se	Ag
#23A Bldg HP100	12-0920	<1.0 mg/kg	<20 mg/kg	22.6 mg/kg	1.6 mg/kg	148 mg/kg	0.18 mg/kg	1.5 mg/kg	<1.0 mg/kg
#23 Bldg HP100	12-0921	<1.0 mg/kg	<20 mg/kg	4.8 mg/kg	1.4 mg/kg	0.8 mg/kg	<0.10 mg/kg	2.2 mg/kg	<1.0 mg/kg
#27H Bldg 251	12-0922	<50 ug/L	1170 ug/L	2440 ug/L	65 ug/L	9850 ug/L	<1.0 ug/L	141 ug/L	<50 ug/L
#27I Bldg 251	12-0923	290 ug/L	<1000 ug/L	680 ug/L	13,100 ug/L	3,120 ug/L	<1.0 ug/L	1960 ug/L	<50 ug/L
#28J Landfill composite	12-0924	2.3 mg/kg	<20 mg/kg	<0.50 mg/kg	2.3 mg/kg	4.5 mg/kg	<0.10 mg/kg	<0.40 mg/kg	<1.0 mg/kg
#28K Landfill	12-0925								
#28L Landfill	12-0926								
#29 Bldg TP457	12-0927	*	*	*	*	*	*	*	*
#30 Bldg TP457	12-0928	<50 ug/L	7800 ug/L	<25 ug/L	<50 ug/L	62.5 ug/L	22 ug/L	<20 ug/L	<50 ug/L
#31 Bldg TP457	12-0929	<50 ug/L	3130 ug/L	<25 ug/L	185 ug/L	21 ug/L	<1.0 ug/L	<20 ug/L	<50 ug/L
#32O Bldg TP451	12-0930	+	+	+	+	+	1925	+	+
#32P Bldg TP451	12-0931	<50 ug/L	1295 ug/L	<25 ug/L	63,600 ug/L	6250 ug/L	3.7 ug/L	<20 ug/L	<50 ug/L
#32Q Bldg TP451	12-0932	<50 ug/L	1535 ug/L	130 ug/L	93,900 ug/L	40,200 ug/L	7.9 ug/L	<20 ug/L	<50 ug/L

* sample depleted

+ Sample requires rediegestion prior to completion of analysis

JTC Environmental Consultants, Inc.

Date 6-28-85 Report No. 54 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 85-254 Table 1 Date of Sample Receipt 3/28/85 & 5/23/85

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		pH (Corrosivity)	Flashpoint °F	Reactivity Cyanide ppm	Reactivity Sulfide ppm	PCB µg/g			
23A Bldg HP100	12-0920	7.18	< 85	0.9	< 1	< 1			
23B Bldg HP100	12-0921	6.55	< 85	< 1.0	< 1	< 1			
27H Bldg 251	12-0922	1.52	> 200	0.02	< 0.1	< 1			
27I Bldg 251	12-0923	< 1.0	> 200	0.03	< 0.1	< 5			
28J Landfill	composite 12-0924	6.32	> 200	< 0.10	1.0	< 5			
28K Landfill	composite 12-0925								
28L Landfill	composite 12-0926								
29 Bldg TP457	12-0927	< 1.0	153	< 0.05	< 0.1	< 1			
30 Bldg TP457	12-0928	4.89	< 85	< 0.05	< 0.2	< 10			
31 Bldg TP457	12-0929	5.25	< 85	< 0.05	< 0.5	< 10			
32O Bldg TP451	12-0930	9.56	< 85	< 1.0	< 0.5	< 10			
32P Bldg TP451	12-0931	6.85	< 85	6.2	< 1	0.05 µg/ml			
32Q Bldg TP451	12-0932	6.91	< 85	< 1.0	< 0.5	< 0.1 µg/ml			

T-6240

6241/3
NREAD
AUG 20 1985

From: Director, Natural Resources and Environmental Affairs Division, Marine Corps Base, Camp Lejeune
To: Base Maintenance Officer, Marine Corps Base, Camp Lejeune

Subj: TRANSFORMER DISPOSAL; POLYCHLORINATED BIPHENYL (PCB) ANALYSIS RESULTS

Ref: (a) BO 6240.5

Encl: (1) Grainger Laboratories, Incorporated Report No. 0853925 Dated 26 July 1985
(2) Grainger Laboratories, Incorporated Report No. 0853926 Dated 26 July 1985

1. The enclosure is provided for use in turn-in of used transformers to Defense Reutilization and Marketing Office (DRMO). The results indicate that six of the transformers have over 500 part per million (ppm) PCBs and are "PCB Transformers". Ten transformers had 50 to 499 ppm of PCBs, which requires management as "PCB Contaminated Transformer". These 16 transformers should be turned in to DRMO per the reference and stored at the TP-451 DRMO facility.

2. The samples from Allis-Chalmer Transformer, Serial #1769758 and Automatic Recloser Transformer, Serial #958 were broken. These should be retained for resampling. The Supervisory Chemist, Natural Resources and Environmental Affairs Division, will be contacting Base Maintenance Officer's representative to resample this transformer. Point of contact in this matter is Mr. D. Sharpe, extension 2083.

3. The remaining transformers, including the empty ESCO Transformer, Serial #8918422 and the empty General Electric Transformer, Serial #J447333Y70A, should be turned in to DRMO and stored at Lot 203.

J. I. WOOTEN

Copy to:
DRMO w/o Encl

Blind copy to:
QCL, NREAD

Writer: E. Betz, NREAD, 5977
Typist: A. Blackstock, 19 August 1985

Pls return to NREAD T-6240

6240/2
NREAD
14 AUG 1985

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Commanding General, 2d Force Service Support Group, Camp Lejeune (Attn: EngrSpt)

Subj: TESTING OF UNKNOWN CHEMICALS AT TP-457

Ref: (a) OIC, SASSY Management Unit ltr 11000 SMU/JJH/sb of 11 Feb 1985
(b) BO 6240.5

Encl: (1) Excerpts from JTC Environmental Consultants, Inc. Report No. 54 dated 28 June 1985

1. The enclosure provides information requested by the Engineer Support Officer's endorsement to reference (a). The information is required for disposal of the subject items per reference (b). The container marked "29" should be managed as a corrosive EPA hazardous waste No. D002. Containers marked "30" and "31" are highly flammable and should be disposed of as ignitable wastes, EPA hazardous waste No. D001.

2. Point of contact in this matter is Mr. Danny Sharpe, Natural Resources and Environmental Affairs Division, extension 5003.

R. A. TIEBOUT
By direction

Blind copy to:
SupvChem, NREAD

Writer: D. D. Sharpe, NREAD 5003
Typist: J. Cross 9Aug85

EXCERPTS FROM JTC ENVIRONMENTAL CONSULTANTS, INC.
REPORT NO. 54, DATED 28 JUNE 1985

COMPILED BY ELIZABETH A. BETZ
7 AUGUST 1985

Please note the following:

a. Navy sample ID #29 is a composite of the seven five-gallon drums stored at TP-457. Each was labelled with the #29 when they were sampled.

b. Navy sample ID #30 and 31 are from the two 55-gallon drums stored at TP-457. The barrels were labelled with the sample numbers when they were sampled.

(ENCLOSURE 1)

JTC Environmental Consultants, Inc.

Date 6-28-85 Report No. 54 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 85254 Table 1 Date of Sample Receipt 3/28/85 & 5/23/85

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		pH (Corrosivity)	Flashpoint °F	Reactivity Cyanide ppm	Reactivity Sulfide ppm	PCB µg/g			
#23A Bldg HP100	12-0920	7.18	< 85	0.9	< 1	< 1			
#23B Bldg HP100	12-0921	6.55	< 85	< 1.0	< 1	< 1			
#27H Bldg 251	12-0922	1.52	> 200	0.02	< 0.1	< 1			
#27I Bldg 251	12-0923	< 1.0	> 200	0.03	< 0.1	< 5			
#28J Landfill (composite)	12-0924	6.32	> 200	< 0.10	1.0	< 5			
#28K Landfill (composite)	12-0925								
#28L Landfill (composite)	12-0926								
#29 Bldg TP457	12-0927	< 1.0	153	< 0.05	< 0.1	< 1			
#30 Bldg TP457	12-0928	4.89	< 85	< 0.05	< 0.2	< 10			
#31 Bldg TP457	12-0929	5.25	< 85	< 0.05	< 0.5	< 10			
#32O Bldg TP451	12-0930	9.56	< 85	< 1.0	< 0.5	< 10			
#32P Bldg TP451	12-0931	6.85	< 85	6.2	< 1	0.05 µg/ml			
#32Q Bldg TP451	12-0932	6.91	< 85	< 1.0	< 0.5	< 0.1 µg/ml			

JTC Environmental Consultants, Inc.

Date 6-28-85 Report No. 54 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 85-254 Table 5 Date of Sample Receipt 3/28/85 & 5/23/85

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		As	Ba	Cd	Cr	Pb	Hg	Se	Ag
#23A Bldg HP100	12-0920	<1.0 mg/kg	<20 mg/kg	22.6 mg/kg	1.6 mg/kg	148 mg/kg	0.18 mg/kg	1.5 mg/kg	<1.0 mg/kg
#23B Bldg HP100	12-0921	<1.0 mg/kg	<20 mg/kg	4.8 mg/kg	1.4 mg/kg	0.8 mg/kg	<0.10 mg/kg	2.2 mg/kg	<1.0 mg/kg
#[redacted] Bldg 251	12-0922	<50 ug/L	1170 ug/L	2440 ug/L	65 ug/L	9850 ug/L	<1.0 ug/L	141 ug/L	<50 ug/L
#27I Bldg 251	12-0923	290 ug/L	<1000 ug/L	680 ug/L	13,100 ug/L	3,120 ug/L	<1.0 ug/L	1960 ug/L	<50 ug/L
#28J Landfill	12-0924								
#28K Landfill	12-0925	2.3 mg/kg	<20 mg/kg	<0.50 mg/kg	2.3 mg/kg	4.5 mg/kg	<0.10 mg/kg	<0.40 mg/kg	<1.0 mg/kg
#28L Landfill	12-0926								
#29 Bldg TP457	12-0927	*	*	*	*	*	*	*	*
#30 Bldg TP457	12-0928	<50 ug/L	7800 ug/L	<25 ug/L	<50 ug/L	62.5 ug/L	22 ug/L	<20 ug/L	<50 ug/L
#31 Bldg TP457	12-0929	<50 ug/L	3130 ug/L	<25 ug/L	185 ug/L	21 ug/L	<1.0 ug/L	<20 ug/L	<50 ug/L
#32O Bldg TP451	12-0930	+	+	+	+	+	1925	+	+
#32P Bldg TP451	12-0931	<50 ug/L	1295 ug/L	<25 ug/L	63,600 ug/L	6250 ug/L	3.7 ug/L	<20 ug/L	<50 ug/L
#32Q Bldg TP451	12-0932	<50 ug/L	1535 ug/L	130 ug/L	93,900 ug/L	40,200 ug/L	7.9 ug/L	<20 ug/L	<50 ug/L

* sample depleted

+ sample requires redigestion prior to completion of analysis

Pls return
* NREAD

T-6240

6240/2
NREAD
14 AUG 1985

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Commanding General, 2d Force Service Support Group,
(Attn: EngrSPT), Camp Lejeune

Subj: REQUEST FOR ANALYSIS

Ref: (a) CO 2dANGLICO ltr 4400 S-4 of 14 Feb 1985
(b) BO 6240.5

Encl: (1) Excerpts from JTC Environmental Consultants, Inc.
Report No. 54 dated 28 June 1985

1. The enclosure is forwarded as requested by the endorsement to reference (a). The information is required to turn the hazardous property in to Defense Reutilization and Marketing Office per reference (b). Both of these containers should be handled as corrosive wastes. Point of contact in this matter is Mr. Danny Sharpe, Natural Resources and Environmental Affairs Division, extension 2083.

R. A. TIEBOUT
By direction

Blind copy to:
SupvChem NREAD

Writer: D. D. Sharpe, NREAD 5003
Typist: J. Cross 9Aug85

EXCERPTS FROM JTC ENVIRONMENTAL CONSULTANTS, INC.
REPORT NO. 54, DATED 28 JUNE 1985

COMPILED BY ELIZABETH A. BETZ
7 AUGUST 1985

Please note the following:

a. Navy sample ID #27H and 27I are two 55-gallon drums at Bldg 251. The barrels were labelled with H and I when they were sampled.

(ENCLOSURE 1)

JTC Environmental Consultants, Inc.

Date 6-28-85 Report No. 54 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 85254 Table 1 Date of Sample Receipt 3/28/85 & 5/23/85

NAVY SAMPLE ID	JTC SAMPLE ID		ANALYSIS PARAMETER							
			pH (Corrosivity)	Flashpoint °F	Reactivity Cyanide ppm	Reactivity Sulfide ppm	PCB µg/g			
#23A Bldg HP100	12-0920		7.18	< 85	0.9	< 1	< 1			
#23B Bldg HP100	12-0921		6.55	< 85	< 1.0	< 1	< 1			
#27H Bldg 251	12-0922		1.52	> 200	0.02	< 0.1	< 1			
#27I Bldg 251	12-0923		< 1.0	> 200	0.03	< 0.1	< 5			
#28J Landfill	composite	12-0924	6.32	> 200	< 0.10	1.0	< 5			
#28K Landfill	composite	12-0925								
#28L Landfill	composite	12-0926								
#29 Bldg TP457	12-0927		< 1.0	153	< 0.05	< 0.1	< 1			
#30 Bldg TP457	12-0928		4.89	< 85	< 0.05	< 0.2	< 10			
#31 Bldg TP457	12-0929		5.25	< 85	< 0.05	< 0.5	< 10			
#32O Bldg TP451	12-0930		9.56	< 85	< 1.0	< 0.5	< 10			
#32P Bldg TP451	12-0931		6.85	< 85	6.2	< 1	0.05 µg/ml			
#32Q Bldg TP451	12-0932		6.91	< 85	< 1.0	< 0.5	< 0.1 µg/ml			

JTC Environmental Consultants, Inc.

Date 6-28-85 Report No. 54 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 85-254 Table 5 Date of Sample Receipt 3/28/85 & 5/23/85

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		As	Ba	Cd	Cr	Pb	Hg	Se	Ag
23A Bldg HP100	12-0920	<1.0 mg/kg	<20 mg/kg	22.6 mg/kg	1.6 mg/kg	148 mg/kg	0.18 mg/kg	1.5 mg/kg	<1.0 mg/kg
23B Bldg HP100	12-0921	<1.0 mg/kg	<20 mg/kg	4.8 mg/kg	1.4 mg/kg	0.8 mg/kg	<0.10 mg/kg	2.2 mg/kg	<1.0 mg/kg
7H Bldg 251	12-0922	<50 ug/L	1170 ug/L	2440 ug/L	65 ug/L	9850 ug/L	<1.0 ug/L	141 ug/L	<50 ug/L
7I Bldg 251	12-0923	290 ug/L	<1000 ug/L	680 ug/L	13,100 ug/L	3,120 ug/L	<1.0 ug/L	1960 ug/L	<50 ug/L
8J Landfill	12-0924	2.3 mg/kg	<20 mg/kg	<0.50 mg/kg	2.3 mg/kg	4.5 mg/kg	<0.10 mg/kg	<0.40 mg/kg	<1.0 mg/kg
8K Landfill	12-0925								
8L Landfill	12-0926								
9 Bldg TP457	12-0927	*	*	*	*	*	*	*	*
0 Bldg TP457	12-0928	<50 ug/L	7800 ug/L	<25 ug/L	<50 ug/L	62.5 ug/L	22 ug/L	<20 ug/L	<50 ug/L
1 Bldg TP457	12-0929	<50 ug/L	3130 ug/L	<25 ug/L	185 ug/L	21 ug/L	<1.0 ug/L	<20 ug/L	<50 ug/L
20 Bldg TP451	12-0930	+	+	+	+	+	1925	+	+
2P Bldg TP451	12-0931	<50 ug/L	1295 ug/L	<25 ug/L	63,600 ug/L	6250 ug/L	3.7 ug/L	<20 ug/L	<50 ug/L
2Q Bldg TP451	12-0932	<50 ug/L	1535 ug/L	130 ug/L	93,900 ug/L	40,200 ug/L	7.9 ug/L	<20 ug/L	<50 ug/L

* sample depleted

+ sample requires redigestion prior to completion of analysis

T-6240

6280
NREAD
13 Aug 1985

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Defense Reutilization and Marketing Officer, Camp Lejeune

Subj: INSPECTION REPORT ON LONG TERM HAZARDOUS WASTE STORAGE FACILITIES AT BLDGS. TP-451 AND TC-863

Ref: (a) Onsite Inspection on 24 Jul 85 by Messrs. Sharpe, Becker, and Martin, NREAD; Mr. Metts, Base FireProtDiv, and Mr. Eggers, DRMO
(b) CG MCB CLNC ltr FAC/REA/hf 6280 of 15 Jul 83

Encl: (1) Inspection Checklist for Long Term Hazardous Waste/ Material Storage Facilities at TP-451/TC-863

1. Enclosure (1) provides results of reference (a) conducted as required by reference (b). It was noted that Mr. Lonnie Brinson and Mr. Larry Hensley have periodically worked at the facility. Please ensure that these and any other persons working at the facility are provided appropriate training and that records of their training are maintained. Point of contact in this matter is Mr. Danny Sharpe, extensions 5003/2083.

J. I. WOOTEN
By direction

Copy to:
BaseFireCh
ACS/FAC
SJA
BMO (Attn: Fred Cone)
BaseSafetyO

Writer: D. D. Sharpe, NREAD 5003
Typist: J. Cross 13Aug85

PARTICIPANTS Messrs. Metts, Becker, Sharpe Martin and Eggers DATE:

FACILITIES AND EQUIPMENT	SAT	UNSAT	COMMENTS
1. FACILITY GROUNDS	X		
2. FACILITY SECURITY (LOCKS, DOORS, SIGNS, ETC.)	X		
3. EMERGENCY TELEPHONE AND FIRE ALARMS	X		
4. UNLOADING PAD DRAIN VALVE	X		
5. EXHAUST FANS	X		
6. INTERIOR LIGHTING AND ELECTRICAL OUTLETS	X		
7. SAFETY SHOWERS/ EYE LAVAGES	X		
8. CURBS, GRATES, OTHER FIXTURES		X	
9. NON-SPARKING SHOVELS (2)	X		
10. ABSORBENT (EQUIVALENT OF FOUR 55-GAL BARRELS)	X		Recommend obtaining "Safety Step" type in addition to present stocks
11. HAZ MAT PUMPS OR EQUIVALENT		X	Pumping capacity is not adequate
12. [redacted]RE EXTINGUISHERS	X		
13. PROTECTIVE GEAR AND EQUIPMENT	X		Need to replace "Escape Pack" in TP-451
14. EMPTY CONTAINERS AND OVERPACK DRUMS	X		

ENCLOSURE (1).

OPERATIONAL CONSIDERATIONS	SAT	UNSAT	COMMENTS
1. Required operator inspections and Inspection Log	X		
2. Emergency Contingency Plan Posting & Operator Familiarity	X		
3. Fire Department Phone number posting	X		
4. Condition of containers in use	X		
5. Presence of odors/vapors, residues in sumps, deck, etc.	X		
6. Unloading Pad Valve Operation	X		
7. Compatibility of Material Storage	X		
8. Implementation of previously recommended corrective action	X		
9. Facility Operators since last Inspection			Lonnie Brinson - Larry Hensley

ADDITIONAL COMMENTS, EXPLANATIONS, ETC:

6240/1
NREAD
8 Aug 1985

From: Director, Natural Resources and Environmental Affairs Division, Marine Corps Base, Camp Lejeune
To: Defense Reutilization and Marketing Officer, Camp Lejeune

Subj: HAZARDOUS WASTE ANALYSIS

Encl: (1) Supervisory Chemist, NREAD ltr 6241/1 NREAD of 6 Aug 1985
(2) JTC Report #54 (Addendum) dated 2 Aug 1985

1. Enclosures (1) and (2) provide information required to identify three barrels of "unknown" hazardous wastes located at the DRMO storage facilities at Building TP-451. The wastes fall into both the ignitable and the toxic categories of hazardous wastes and should be disposed of accordingly. Enclosure (2) provides data on Sample 32-0 left out of enclosure (1). Point of contact in this matter is Mr. Danny Sharpe, telephone 451-5003.

D. D. SHARPE
Acting

Blind copy to:
SupvChem

Writer: D. D. Sharpe, NREAD 5003
Typist: J. Cross 8Aug85

UNITED STATES MARINE CORPS
Natural Resources and Environmental Affairs Division
Marine Corps Base
Camp Lejeune, North Carolina 28542

IN REPLY REFER TO:
6241/1
NREAD
6 August 1985

From: Supervisory Chemist, Water Quality Control Lab, Environmental Branch
To: Director, Natural Resources Environmental Affairs Division
Via: Supervisory Ecologist, Environmental Branch DDS

Subj: THREE UNKNOWN BARRELS STORED AT TP-451; ANALYSIS OF

Encl: (1) Excerpts for JTC Environmental Consultants, Inc. Report #54 Dated 28 June 1985

1. The enclosure provides data on the three barrels received by DRMO from MCAS-NR presently stored at TP-451. The barrels are labelled 32-O, 32-P and 32-Q.

Elizabeth A. Betz
ELIZABETH A. BETZ

ENCLOSURE (1)

EXCERPTS FROM JTC ENVIRONMENTAL CONSULTANTS, INC.
REPORT NO. 54 DATED 28 JUNE 1985

COMPILED BY ELIZABETH A. BETZ
6 AUGUST 1985

Please note the following:

a. Navy sample ID #32-O, 32-P and 32-Q are from the barrels from MCAS-NR stored at TP-451. The barrels were labelled with the sample numbers when they were sampled.

(ENCLOSURE 1)

JTC Environmental Consultants, Inc.

Date 6-28-85 Report No. 54 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 85254 Table 1 Date of Sample Receipt 3/28/85 & 5/23/85

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		pH (Corrosivity)	Flashpoint °F	Reactivity Cyanide ppm	Reactivity Sulfide ppm	PCB µg/g			
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#[redacted] Bldg HP100	12-0921	6.55	< 85	< 1.0	< 1	< 1			
#27H Bldg 251	12-0922	1.52	> 200	0.02	< 0.1	< 1			
#27I Bldg 251	12-0923	< 1.0	> 200	0.03	< 0.1	< 5			
#28J Landfill	composite 12-0924	6.32	> 200	< 0.10	1.0	< 5			
#28K Landfill	composite 12-0925								
#28L Landfill	composite 12-0926								
#29 Bldg TP457	12-0927	< 1.0	153	< 0.05	< 0.1	< 1			
#30 Bldg TP457	12-0928	4.89	< 85	< 0.05	< 0.2	< 10			
#31 Bldg TP457	12-0929	5.25	< 85	< 0.05	< 0.5	< 10			
#320 Bldg TP451	12-0930	9.56	< 85	< 1.0	< 0.5	< 10			
#32P Bldg TP451	12-0931	6.85	< 85	6.2	< 1	0.05 µg/ml			
#[redacted] Bldg TP451	12-0932	6.91	< 85	< 1.0	< 0.5	< 0.1 µg/ml			

JTC Environmental Consultants, Inc.

Date 6-28-85 Report No. 54 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 85-254 Table 5 Date of Sample Receipt 3/28/85 & 5/23/85

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		As	Ba	Cd	Cr	Pb	Hg	Se	Ag
#23A Bldg HP100	12-0920	<1.0 mg/kg	<20 mg/kg	22.6 mg/kg	1.6 mg/kg	148 mg/kg	0.18 mg/kg	1.5 mg/kg	<1.0 mg/kg
#23B Bldg HP100	12-0921	<1.0 mg/kg	<20 mg/kg	4.8 mg/kg	1.4 mg/kg	0.8 mg/kg	<0.10 mg/kg	2.2 mg/kg	<1.0 mg/kg
#27H Bldg 251	12-0922	<50 ug/L	1170 ug/L	2440 ug/L	65 ug/L	9850 ug/L	<1.0 ug/L	141 ug/L	<50 ug/L
#27I Bldg 251	12-0923	290 ug/L	<1000 ug/L	680 ug/L	13,100 ug/L	3,120 ug/L	<1.0 ug/L	1960 ug/L	<50 ug/L
#28J Landfill (visqueen)	12-0924	2.3 mg/kg	<20 mg/kg	<0.50 mg/kg	2.3 mg/kg	4.5 mg/kg	<0.10 mg/kg	<0.40 mg/kg	<1.0 mg/kg
#28K Landfill (visqueen)	12-0925								
#28L Landfill (visqueen)	12-0926								
#29 Bldg TP457	12-0927	*	*	*	*	*	*	*	*
#30 Bldg TP457	12-0928	<50 ug/L	7800 ug/L	<25 ug/L	<50 ug/L	62.5 ug/L	22 ug/L	<20 ug/L	<50 ug/L
#31 Bldg TP457	12-0929	<50 ug/L	3130 ug/L	<25 ug/L	185 ug/L	21 ug/L	<1.0 ug/L	<20 ug/L	<50 ug/L
#32O Bldg TP451	12-0930	+	+	+	+	+	1925	+	+
#32P Bldg TP451	12-0931	<50 ug/L	1295 ug/L	<25 ug/L	63,600 ug/L	6250 ug/L	3.7 ug/L	<20 ug/L	<50 ug/L
#32Q Bldg TP451	12-0932	<50 ug/L	1535 ug/L	130 ug/L	93,900 ug/L	40,200 ug/L	7.9 ug/L	<20 ug/L	<50 ug/L

* Sample depleted

\+ Sample requires rediqestion prior to completion of analysis

REPORT #54 (Addendum)

LABORATORY ANALYSIS ON

NAVAL SAMPLES

(A/E CONTRACT N62470-84-B-6932)

JTC REPORT # 85-254

PREPARED FOR:

DEPARTMENT OF THE NAVY

ATLANTIC DIVISION

NAVAL FACILITIES ENGINEERING COMMAND

NORFOLK, VA 23511

PREPARED BY:

JTC ENVIRONMENTAL CONSULTANTS, INC.

4 RESEARCH PLACE, SUITE L-10

ROCKVILLE, MARYLAND 20850

AUGUST 2, 1985

Ann E. Rosecrance

Ann E. Rosecrance
Laboratory Director

ENCLOSURE (2)

JTC Environmental Consultants, Inc.

Date 8-2-85 Report No. 54 Add to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 85-254 Table 1 Date of Sample Receipt 3/28/85 & 5/23/85

Camp Lejeune

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		As ug/L	Ba ug/L	Cd ug/L	Cr ug/L	Pb ug/L	Hg ug/L	Se ug/L	Ag ug/L
#320 Bldg. TP451	12-0930	<50	<1000	7400	1,370,000	47,200	1925	157	<50

T-6240

UNITED STATES MARINE CORPS
MARINE CORPS RECRUIT DEPOT/WESTERN RECRUITING REGION
SAN DIEGO, CALIFORNIA 92140

5800
5E1C22
10 JUL 1985

MEMORANDUM OF LAW (85-7)

From: Assistant Chief of Staff, Staff Judge Advocate
To: Chief of Staff
Assistant Chief of Staff, G-4
Assistant Chief of Staff, G-1
Public Affairs Officer

Subj: LEGAL ASPECTS OF HAZARDOUS WASTES

Ref: (a) Executive order 12088
(b) Resource Conservation and Recovery Act (RCRA) 42 U.S.C. 6901-87
(c) Comprehensive Environmental Response Compensation and Recovery Act, 42 U.S.C. §9601-57
(d) MCO 5100.25
(e) MCO 4570.24A
(f) MCO P11000.8B, CH 4, Sec 6

Encl: (1) References for Hazardous Waste Analysis
(2) Excerpt from Title 22, California Administrative Code, §66698-66670
(3) Extract from Test Methods for Evaluating Solid Waste, SW-846
(4) Hazardous Waste Chemistry, or "Better Litigation Through Chemistry"

1. Introduction. As the laws and regulations governing hazardous materials and hazardous wastes become more and more stringent, they are being made applicable to smaller and smaller quantities of an increasingly larger variety of materials. The materials to which hazardous waste laws now apply are commonly found on virtually every Marine Corps installation. Included are commonplace items such as pesticides, automobile batteries, solvents, paint thinners, acids, etc. As more and more laws are passed to regulate hazardous materials and hazardous wastes, the potential for a violation by a Marine Corps activity has increased. This is a matter which deserves commanders' attention, because the typical hazardous waste statute imposes liability not only on the person who carelessly handles hazardous material but also on the person in charge of the installation or facility where the violation occurred, i.e., the Commanding General.

2. Background. On 20 May 1985, I attended a program entitled Hazardous Waste: Chemistry and Legal Aspects. The program was exceptionally good: Much of what was presented is applicable to Marine Corps installations, which, by virtue of a Congressional waiver of federal supremacy, are subject to not only federal, but also state and local hazardous waste laws. As hazardous waste laws proliferate, the potential for an inadvertent violation increases, and for that reason it is appropriate to provide a "heads up" for senior staff members and commanders on this subject. (The embarrassment caused by the issuance of a hazardous pollution citation to a Marine Corps Commanding General, and the attendant publicity that will surely bring cannot be lightly

viewed). My briefing for you on this subject will consist of a review of the points made by the speakers at the recent hazardous waste conference. The points covered by each and their relevance to the Marine Corps will be discussed in succeeding paragraphs.

3. Discussion. The principal speaker, in my view, at least, was Mr. Ronald Van Buskirk, an attorney in private practice with the law firm of Pilsbury, Madison, and Sutro. Mr. Van Buskirk, (whose clients include Chevron Oil) made the following points:

In the last several years there has been a drastic change in the hazardous waste and hazardous material laws. The emphasis now is on severe punishment in an effort to deter hazardous material accidents. Criminal and civil penalties typically range from $1,000 to as high as $25,000 per day of violation. Thus, storing relatively commonplace items which, under the new laws, fit under the definition of hazardous waste, e.g., drums of used solvents, degreasing agents, discarded batteries, etc., for more than ninety days (the threshhold at which a federal permit for a hazardous storage facility is required) could bring a penalty, for each day that the violation continues.

a. Civil litigation will likely mushroom. Suits claiming environmental pollution, resulting in a variety of illnesses, can be expected. There will undoubtedly be spurious claims filed as well. This, of course, could require extensive defensive work, by G-4 staffs and thorough JAG manual investigations into previously unaddressed concerns, if we are to defend against spurious claims.

b. There will be a legislation explosion. New laws can be expected with continual refinement and amendment of existing laws. For example, statutes of limitations are being extended. (Statutes of limitations in HW matters typically start to run at the time the pollution was discovered, not at the time of the illegal spill, storage, or dumping).

c. There will be a relaxation of standards of proof. At one time the law provided sanctions only for a "knowing" violation. The responsibility threshhold has been relaxed to "known or should have known." Some statutes even impose a flat prohibition, e.g., "it is unlawful," without regard to good-or-bad-intentions.

d. Scientific detection is improving. More sophisticated equipment and techniques are being utilized in an effort to uncover evidence of violation of hazardous waste laws.

e. Electronic data bases are being used to track the passage of hazardous materials from the manufacturer to the wholesaler, the retailer, and finally to the purchaser in an effort to provide a cradle-to-grave coverage of the hazardous materials that have proliferated in the market place.

f. Politics will become even more important in hazardous waste matters. For example, the District Attorney of the City of Los Angeles, Ira Reiner, built his career on cracking down on hazardous waste violations.

4. Compliance Strategies. Mr. Van Buskirk offered the following recommendations for insuring that a facility, corporation, or government activity, has a comprehensive compliance plan.

a. Each facility or activity must have a comprehensive environmental compliance program. Top level management, in a variety of disciplines, must be made a part of the environmental compliance program.

b. The activity should conduct a thorough environmental audit to determine the nature of the environmental risks. What hazardous materials, ranging from swimming pool acids and pesticides at the PX, to rat poisons used by exterminators, to degreasing agents and solvents in motor "T" operations, are brought into the facility? In what quantitites? How are they stored? Where do they go? Are there contingency plans for dealing with accidental spills - such as the collapse of a shelf full of pesticides at the PX? Do those contingency plans satisfy the complex legal requirements imposed by EPA and state agencies? Have they been submitted to safety engineers and lawyers, for review for safety and legal sufficiency?

c. Close attention must be paid to how records relating to environmental matters are maintained and organized. For example, if there is an internal memo that alleges that environmental problems exist, the organization must be sure to maintain a record of response. Failure to maintain such a record will lead to the inference that management, having been alerted to the existence of a problem, disregarded the matter (they must have disregarded or there would have been a memo to respond to it). Similarly, the organization should exercise control over who creates and who maintains documents that could be potentially damaging. For example, in today's society nearly everyone has concerns over contamination of the aquifers which provide the drinking water supplies for much of our population. However, few are competent to render an expert technical opinion as to just what effect on marine aquatic life the dumping of a half-pint of paint thinner into an estuary would have. While even half-baked complaints must be answered, they should not be filed without a documented answer.

d. Documents which are required by law to be maintained should be kept in a separate file and not commingled with other items on the same matter. Marine Corps activities are subject to environmental inspection by state and local officials. They can demand access to those environmental records which the law mandates. Those records shuould be separate from other records, to preclude discovery of interim memoranda which in their incomplete status could raise questions.

e. Management must be alert to the concerns of its employees. A disgruntled employee who perceives that management has a cavalier attitude regarding the handling of hazardous materials and hazardous wastes could create extensive problems as an "environmental whistleblower." The case of Karen Silkwood, who reported problems at Kerr-McGee, comes immediately to mind.

5. Amanda Haas, an attorney in private practice in the Santa Clara Valley (the San Jose area) listed the legal and health problems that resulted from the contamination of an aquifer in the Santa Clara Valley. It was discovered

that an underground tank used by the Fairchild Camera and Instrument Company to store solvents used in the industrial processes of high tech manufacturing had leaked. A well located two thousand feet from Fairchild proved to be contaminated with trichlorolethane (TCE). (Over sixty thousand gallons of TCE were unaccounted for and apparently leaked into the aquifer). A study of miscarriages and abnormal deliveries of babies in the area has indicated a miscarriage rate twice normal and a deforminity percentage three times normal. Note: There are more hazardous waste sites identified on the EPA's high priority clean-up list in Santa Clara County than any other county in the United States. Issues she sees are the control and safe disposal of solvents used in a variety of settings, from surgery, to the process for decaffinating coffee.

6. Mr. Steven Councilman, a prosecutor for the District Attorney's office in San Francisco said that hazardous waste enforcement has three goals. The first is to punish violators. In this regard he characterized hazardous waste violations as creating insidious problems. It is a crime that continues. For example, a contaminated aquifer will continue to be contaminated for long periods of time. The second goal of hazardous waste law enforcement is to deter future violators. The third goal is to settle uncertainties in the law. He outlined his office's policy as "use a leaky barrel-go to jail". He said that his agency, like many others, targets for prosecution the highest person in the corporate (or governmental) chain who should have known or should have prevented the conduct which resulted in contamination.

7. Summary. All speakers strongly emphasized the need for environmental assessments and inventories of hazardous wastes, the creation of waste management plans, and tight controls on the ordering, storage use, and disposal of hazardous materials.

8. Conclusion. The foregoing principles are equally applicable to Marine Corps facilities. By reference (a) the President directed federal facility managers to comply with EPA and state and local agencies in the prevention, control and abatement of environmental pollution. References (b) and (c) are statutes which impose strict requirements on all persons, including those in the military, for the proper handling of hazardous wastes. Reference (d) implements statutory and DoD requirements for each military activity to inform personnel working with hazardous substances of the hazards involved, handling precautions, relevant symptoms, emergency treatment and applicable protective equipment. Reference (e) implements federal statutes and DoD procedures for hazardous waste disposal. Chapter 4, Section 6 of reference (f) is CMC's comprehensive guidance on hazardous waste management.

9. Recommendation. Federal law has stripped federal officers and employees of their immunity from prosecution or liability for the payment of fines. Thus all persons, including top level staff must be concerned with proper handling of hazardous materials and the proper, legal, disposal of even small quantities of hazardous wastes.

RUFUS C. YOUNG, Jr.

T-6240

FIRE PROTECTION DIVISION
Marine Corps Base
Camp Lejeune, North Carolina 28542-5000

11320
FIRE
28 Jun 1985

From: Base Fire Chief
To: Assistant Chief of Staff, Facilities

Subj: HAZARDOUS MATERIAL SPILL TRAINING EXERCISE

Ref: (a) Fire Chief ltr 11320 FIRE dtd 14 Jun 85

1. The subject drill/training exercise was conducted as proposed and outlined in reference(a).

2. At 0859, Mr. George Eggers reported to the Fire Dispatcher a chemical spill on the apron between buildings TC-863 and TP-451. Engine Company No. 5, Engine Company No. 3, Truck Company No. 2 and the Duty Chief were dispatched. The Military Police and ambulance were also notified to respond. At 0903, Engine Company No. 5 arrived and met Mr. Eggers some 500 feet from the building. He told personnel of Engine Company No. 5 what he had spilled (DS2, 55 gallon drum turned over, small amount leaking), and where it was located. Engine Company No. 5 notified Engine Company No. 3 to take charge of evacuating the area and notified the Duty Chief. The Duty Chief arrived on the scene at 0904, and took charge. A Command Post was set up some 500 feet from the building. Engine Company No. 5 personnel were instructed to don protective breathing apparatus and approach the leaking drum for a closer inspection. At 0905, Engine Company No. 3 arrived and set up crowd control. At 0908, Truck Company No. 2 arrived and were instructed to assist Engine Company No. 5. At 0909, Engine Company No. 5 verified the type of chemical spilled and how much. The Duty Chief requested an Industrial Hygenist and Environmental be notified. At 0914, the ambulance was on the scene. At this time, a meeting was held between the Duty Chief (On Scene Coordinator), Industrial Hygenist, Environmental, Safety, and the operator of the facility, and it was determined that the proper course of action would be to upright the drum and neutralize the approximate two gallons spilled with the proper neutralizing agent, and put the drum in an over pack container. This was done by firefighters wearing protective clothing and self contained breathing apparatus. Drill was secured at 0944. At 0946, the Military Police arrived on the scene and they were notified that the drill was secured.

3. Problems/Lessons Learned:

a. The Command Post set up by the Fire Department was down wind, which would have caused problems with drifting fumes had this been the real thing.

b. The Fire Department does not have the proper protective clothing to properly deal with chemical spills. (Proper clothing has been orderd)

c. Evacuation and crowd control seems to be somewhat of a problem.

Subj: HAZARDOUS MATERIAL SPILL TRAINING EXERCISE

d. The Military Police did not arrive on the scene for 45 minutes after notification. This was due to building number TC-863 and its location. The Desk Sergeant thought it was in Camp Geiger. The building number was reaffirmed as TC-863 and next to building TP-451 in the Old Piney Green Trailer Park Area at 0916. There was still a long delay in finding the right location. It appears the building number was the reason for the delay. I think a building with this type of contents should have a number consistant with other buildings in this same area.

5. A critique of the exercise was held with all participating personnel. Problems and lessons learned were discussed and it was agreed that the drill was very worth while.

E. J. PADGETT

Copy to:
CO, NAVHOSP (PMU)
CO, NAVHOSP (Emergency)
AC/S, Trng & Opers
PMO
MAIN
NREA
EnvEngr
B Safety
2d FSSG Safety O
CPD Training
DPDO

JdW
Dan DO's

T-6240

6280/2
FAC

31 MAY 1985

Assistant Chief of Staff, Facilities, Marine Corps Base, Camp Lejeune

Civilian Personnel Officer
Via: Assistant Chief of Staff, Manpower

HAZARDOUS WASTE WORK FORCE INQUIRY

Encl: (1) Ulster County Community College ltr undated (w/Encl)

1. Request your assistance in completing the subject inquiry and returning it as shown. Assistance in the inquiry regarding hazardous material/waste handling will be provided by the Natural Resources and Environmental Affairs Division.

R. A. TIEBOUT

Copy to:
NREAD

21 MAY 1985

ULSTER
COUNTY
COMMUNITY
COLLEGE

STONE RIDGE, NEW YORK 12484
TEL. (914) 687-7621/338-2211

HAZARDOUS WASTE WORK FORCE INQUIRY - REGION IV

The United States Environmental Protection Agency has commissioned Ulster County Community College to determine the characteristics of the hazardous waste work force in the various environmental regions. A formal report which details the characteristics of the work force in Regions I, II, and III is currently available. The EPA has expanded the study to include Region IV. Your cooperation is essential for complete and accurate results.

The inquiry accompanying this letter, developed through a joint effort of regulatory personnel, industry representatives and educators, will collect information by sampling organizations that are involved with hazardous wastes. The information requested pertains to personnel and their training. The data generated will aid in the process of identifying, planning, and coordinating training programs; defining training needs; and providing input for budgets.

Funding for the project has been provided by the United States Environmental Protection Agency through its Office of National Work Force Development, with Mrs. Patricia Powers as Project Officer. A final report will be submitted to the EPA. If you are interested in receiving a copy of this report, check the appropriate box at the end of the inquiry. Return your inquiry in the enclosed, self-addressed stamped envelope by June 14, 1985.

Thank you for your time and assistance.

Sincerely,

Richard Kirgan

Richard Kirgan, Project Coordinator

Tel. No.: (914) 687-7621, Ext. 207

ENCLOSURE (1)

A. Please provide the name, title, business, and address of the individual who is completing this inquiry.

1. Name _____

Title _____

Business _____

Address _____

B. How many employees are involved in hazardous waste related activities at your facility?

2. _____

C. How many employees have received hazardous waste training at your facility?

3. _____

D. How many employees actually handle hazardous waste at your facility?

4. _____

E. Which of the following categories is the most appropriate description of your facility? (Check only one)

5. _____ Generator

6. _____ Transporter

7. _____ Laboratory

8. _____ Treatment, Storage, and Disposal Facility

9. _____ Educational Institution

10. _____ Regulatory Agency

11. _____ Consulting/Engineering Firm

F. How many of the employees who work within the category checked in question E are involved in hazardous waste related activities?

12. _____

G. How many of the employees who work within this category have received hazardous waste training?

13. _____

H. How many of the employees who work within this category actually handle hazardous waste?

14. _____

I. Of the employees who work within this category and who have received hazardous waste training, how many were trained by the following and within the following time periods?

	On-the-job training	Government agency	Private Contractor or consulting firm	College/ University
15. within past 6 mo.	_____	_____	_____	_____
16. within past 6 mo.-1 yr.	_____	_____	_____	_____
17. within past 1 - 2 yrs.	_____	_____	_____	_____
18. within past 3 yrs. or more	_____	_____	_____	_____

J. Is additional hazardous waste training needed for the employees who work within this category?

19. For managers Yes ___ No ___

20. For technical staff Yes ___ No ___

K. Is there an adequately trained hazardous waste workforce available to meet staffing needs within this category?

21. For managers Yes ___ No ___

22. For technical staff Yes ___ No ___

L. Are there plans to expand the hazardous waste staff of this category?

23. For managers Yes ___ No ___

24. For technical staff Yes ___ No ___

M. If yes, how many additional employees are being contemplated for this category?

25. For managers _____

26. For technical staff _____

N. Please check this box if you wish to receive a copy of the report.

27. ☐

(over)

O. Comments _____

_____

_____

_____

Thank you.

Richard Kirgan, Project Coordinator
Ulster County Community College Room 511
Stone Ridge, New York 12484 Tel. No. (914) 687-7621, Ext. 207

NATURAL RESOURCES AND ENVIRONMENTAL AFFAIRS DIVISION
Marine Corps Base
Camp Lejeune, North Carolina 28542

20 June 85
Date

From: Director
To: Danny

See PP 2e

Julian

T-6240

UNITED STATES MARINE CORPS
Marine Corps Base
Camp Lejeune, North Carolina 28542-5001

IN REPLY REFER TO:
6280/2
FAC
15 JUN 1985

From: Commanding General, Marine Corps Base, Camp Lejeune

Subj: HAZARDOUS MATERIAL AND USED OIL MANAGEMENT STUDY

Ref: (a) LANTDIV ltr N62470-85-B-7979 over 09AZ1 B6 dtd 5Jun85

1. Regarding the subject study, the reference announced the tentative selection of the firm of Environmental and Safety Designs Inc., (ENSAFE) of Memphis, TN. Further, the reference indicates a proposal conference will be held at Camp Lejeune on 26 June 1985. (The input of all cognizant activities will be vital to ensure the A/E propsal includes accurately all work to be done.)

2. Per phonecon between Mr. Paul Parker, LANTDIV, and Mr. Alexander, Fac, MCB on 17 June 1985, a meeting is scheduled for 1000, 26 June in the Base Maintenance Conference Room, Bldg 1202. Specifically, the following issues will be discussed in the proposal conference:

	Issue	POC
a.	HM/W Inventory	AC/S, Logistics, MCB COMCABEAST/Supply
b.	Type of HM/W and used POLs Generated & HM/W Sales Records	DRMO
c.	Used POL Handling and Storage	BMO
d.	Battery Acid Storage and Treatment	BMO
e.	Oily Waste Cleanup and Disposal	NREAD

Dawn

3. Request that above POCs present a brief (5-10 minutes) introduction for each issue and be available to answer the A/E's questions. Mr. Paul Parker (Code 114) and Mr. Mike Hammersly (Code 09A), LANTDIV, will be conducting the conference.

Subj: HAZARDOUS MATERIAL AND USED OIL MANAGEMENT STUDY

4. During the visit by ENSAFE, a guided tour of MCB Facilities will be conducted on Wednesday afternoon, 26 June. Details and the itinerary will be furnished on/about 24 June 1985.

5. POC is Mr. Bob Alexander, MCB Environmental Engineer, at ext. 3034/3035.

R. A. TIEBOUT
By direction

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BSAFD

SCOPE OF WORK
FOR HAZARDOUS WASTE/MATERIALS AND USED OIL MANAGEMENT STUDY

I. INTRODUCTION

Objective

The purpose of this contract is to provide for an engineering study of hazardous material/waste (HM/HW) and used oil management practices at Marine Corps Base Camp Lejeune. The study will recommend facilities and management procedures for ensuring compliance with oil pollution and HM/HW regulations and maximum beneficial utilization of recoverable used oils and HM/HW. As used in this scope, the term "used oil" is meant to include all lubricants, fuel oils and other petroleum-based wastes. HW as used in this scope is defined as in 40 CFR 261. HM are chemicals that pose a health hazard in their use, storage, or transportation or are HW which are being reused or recycled. The contractor shall be required to provide an evaluation of feasible alternatives for the collection, treatment, and disposal or utilization of HM/HW and used oils; develop separate HM/HW and used oil management plans; documentation for a military construction project to build recommended facilities; and an interim plan for managing HM/HW and used oils until required facilities can be built and/or management procedures implemented.

Background

Various local, state, and Federal regulations, most notably the Resource Conservation and Recovery Act and the Clean Water Act, have placed severe restrictions on the discharge of HM/HW and oils to the environment. In compliance with these requirements, the Marine Corps is modifying facilities to abate HM/HW and oil discharges and to provide source separation, processing and storage of these wastes prior to reuse or disposal. Facilities are required to receive, treat, and store or dispose of these wastes. It is intended that these facilities, together with modifications to existing management procedures, will provide a comprehensive program for cost-effective compliance with environmental regulations.

Contract Requirements and Scope of Work

The Contractor shall be required to:

a. Review previous studies on HM/HW and used oil handling at MCB, Camp Lejeune and outlying fields and evaluate the current applicability of study findings and recommendations. Copies of previous reports will be furnished by the Government. (e.g. ESR U5020)

b. Identify sources and points of generation of HM/HW and used oil, and document volumes, frequency of generation, and characteristics by updating existing inventories. Field visits must be made to all sources. Waste streams must be sampled, and generation rates measured where necessary to provide information on waste stream composition. The government will provide data on generation rates and characteristics of HM/HW sales records. Study results shall be presented in both graphical and narrative form for each major waste stream.

c. Document Federal, state, and local regulations and Department of Defense instructions governing the handling, disposal, and reuse of HM/HW and used oil. The government will furnish copies of applicable DOD/ Navy Department instructions and policy statements.

d. Review and document existing facilities and practices for the management of HM/HW and used oils. Facilities under construction or in the planning stage must be reviewed and documented. Reviews must include, but not be limited to, an evaluation of:

1. Waste reduction, segregation, and reuse practices.

2. Plans and process flow diagrams of all collection, treatment, and disposal systems.

3. Operations and maintenance procedures.

4. Personnel staffing and training.

5. System costs and revenue generated by the sales of recovered used oils and HM/HW.

6. Management responsibilities.

7. Minimization of the various types of HM (particulary solvents) used for the same operations.

8. Review Plans and Specs and identify modifications, if any, on N62470-84-C-7804, Disposal of Waste Oil, Bldg. BB-9 and N62470-81-B-1464, Replace Boilers and Fuel Storage Tanks. Provide recommendations for firing rates and blending (e.g., need for second burner). If waste oil burning is a selected option, delineate all required equipment, O/M procedures, testing, and training.

e. Determine the most feasible and economical system for the collection, treatment, and disposal or reuse of HM/HW and used oil from activity operation considerations:

1. Compliance with applicable Federal, state, and local regulations.

2. Impact on present and future operations.

3. Capital, recurring operations and maintenance, and life cycle costs.

4. Beneficial utilization of recovered HM/HW and used oils, with emphasis on use of waste fuel oils as fuel supplements and the re-refining of used lube oils for reuse as lube oils, and the reuse of HW as HM.

5. Joint ventures with other Federal or commercial organizations.

f. All assumptions made in evaluating alternatives must be fully documented. A sensitivity analysis must be conducted to determine the continued attractiveness of the selected system with changes in factors influencing the decision. Examples of the factors to be included in the sensitivity analysis are future variations in the price of recoverable HM and oils and virgin petroleum products, and possible errors in the estimation of HM/HW, and used oil generation rates.

g. Prepare project documentation for facilities required by the selected system. The emphasis shall be on optimal utilization of existing facilities. New facilities will be funded by USMC O&M pollution abatement, MILCON, or minor local construction funds. Construction options shall be presented in various combinations of funding categories for budgeting flexibility. All local construction alternatives should provide the minimum of new facilities construction. Documentation shall be submitted on DD Form 1391. This shall be in accordance with: (1) MCO P11000.5E or OPNAVINST 11010.1C for minor construction projects, or (2) NAVFACINST 11010.32E, "Preparation of Supporting Document for Proposed Military Construction Program Projects." Economic analyses shall conform to NAVFAC P-422, "Economical Analysis Manual." Submittals must emphasize, but need not be limited to:

1. Project life cycle costs, including capital and recurring operations and maintenance costs.

2. Conceptual plans, design flows, effluent quality, schematic drawings, and related flow diagrams for all collection, treatment, and disposal or reuse systems, including existing facilities. These plans should be segregated into individual units by building and/or shop organization as well as master collection systems.

3. Required modifications to existing facilities.

4. Descriptions of major collection, treatment, and disposal or reuse components (i.e., pumps, separators, piping systems, etc.), to include useful life projections and efficiencies of existing facilities.

5. Operating and maintenance requirements, including number and qualifications of personnel required to operate and maintain the systems comparative to existing provisions.

6. Collaterial equipment required (i.e., trucks, portable tanks, etc.) and their functions.

7. Methods for disposing of treated wastewater, used oils, HM/HW, and treated residues.

h. Develop separate used oil and HM/HW managemnt plans. The plans shall establish procedures and responsibilities for ensuring compliance with oil pollution and HM/HW regulations and maximum beneficial utilization of recovered oils, fuels and HM. Plans must include, but not be limited to:

1. Regulatory compliance requirements.

2. Existing collection, treatment, and disposal or reuse practices, with a description of command responsibilities for each step.

3. Facilities, equipment, personnel, and procedures required for comprehensive HM/HW and used oil management programs, including command responsiblities and logistical support.

4. Implementation plans and schedules for instituting the recommended management programs, as well as interim practices to be utilized until the recommended program can be fully implemented and the required facilities can be constructed.

5. Revised oil spill prevention control and countermeasures (SPCC) and HM/HW/oil spill contingency plans.

Contract Scheduling

Prestudy meeting	30 days after contract award
Submittal of work plan and schedule	15 days after ~~contract award~~ preproposal meeting
Preliminary Reports	180 days after contract award
Final report	30 days after approval of draft report

I. Submittals

7 Copies of the Preliminary Report
5 to Marine Corps Base, Camp Lejeune
2 to LANTNAVFACENGCOM Code 114

Same Distribution For Final Report

Atlantic Division, Naval Facilities Engineering Command Points of Contact

Project Manager - ~~Mr. Bryant, P.E.~~ M.L. Hammersley, Code 09A21B36 (804) 444-9701
Waste Oils - Mr. Paul B. Parker, Code 114 (804) 444-9559
HM/HW - ~~Mr. Steve A. Brewer, Code 114~~

II. ACTIVITY POINTS OF CONTACT

A. Oily Waste Study

Mr. Thomas H. Hankins, P.E.
Manager, Mechanical Section, Design Branch
Public Works Division

Marine Corps Base
Camp Lejeune, NC 28542-5001
A/V 484-3238 or COMM (919) 451-3228

B. HM/HW Study

Mr. Robert Alexander, Envrionmental Engineer
Office of Assistant Chief of Staff, Facilities
Marine Corps Base
Camp Lejeune, NC 28542-5001
A/V 484-3034, COMM (919) 451-3034

Mr. Carl Baker, Manager
Civil Section, Public Works Division
Marine Corps Base
Camp Lejeune, NC 28542-5001
A/V 484-3238, COMM (919) 451-3238

Pls return
To NREAD
T-6240

6240
NREAD
17 JUL 1985

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Defense Reutilization and Marketing Officer (DRMO), Camp Lejeune

Subj: LONG TERM HAZARDOUS WASTE STORAGE FACILITIES AT TP-451/ TC-863 COMPLEX

Ref: (a) DHS Hazardous Waste Permit No. NC 6700 225 80
(b) CG MCB CLNC ltr FAC/REA/hf 6280 of 15 Jul 1983
(c) BO 6240.5

Encl: (1) Inspection Checklist for Long Term Hazardous Waste Storage Facilities at TP-451/TC/863 dtd 24 Jun 1985

1. The enclosure provides findings of the most recent inspection of the subject facilities per references (a) and (b). Please advise this office in writing within 15 days of any problems foreseen in DRMO correcting any of the discrepancies listed in the enclosure.

2. Additionally, during the above discussed inspection, it was learned that recently DRMO has been accepting accountability, but not physical custody, of hazardous material based on lack of storage space. It was noted during the above inspection that valuable space at the subject facilities was used for storage of property which could be stored safely and legally at other DRMO facilities at Camp Lejeune. Also, better utilization of space appears to be possible, particularly if additional shelves are provided.

3. It is requested that in the future, all Hazardous Material Disposal Coordinators and this office be provided prior written notice when DRMO plans to discontinue receipt of any type of hazardous property, or when the subject facilities will be shut down for over one working day. It is requested that a meeting be scheduled with Mr. Danny Sharpe, Natural Resources and Environmental Affairs Division, extension 2195, and your office in the near future to discuss these and other issues related to the implementation of references (a), (b) and (c).

R. A. TIEBOUT
By direction

Writer: D. D. Sharpe, NREAD 5003
Typist: J. Cross 17Jul85

T-6240

FIRE PROTECTION DIVISION
Marine Corps Base
Camp Lejeune, North Carolina 28542-5000

11320
FIRE
14 Jun 1985

From: Base Fire Chief
To: Assistant Chief of Staff, Facilities

Subj: Hazardous Materials Emergency Spill Training Exercise

1. It is proposed to hold the subject training exercise at 0900, 25 June 1985. The drill will consist of a simulated spill of hazardous waste at building TC-863 on the apron in front of the building. The call will be made by the operator of the facility to the Fire Dispatcher (I was moving a 55 gallon drum of chemicals with a fork lift and it fell of, and the drum is leaking. No other chemicals involved at this time). Normal response will be made, Engine Company No. 5, Engine Company No. 3, Truck Company No.2, Duty Chief, Military Police, Ambulance, and Environmental.

2. Recovery procedures for this type of spill will be exercised, the drum will have water in it and be leaking. The Industrial Hygenist will be called in.

3. This type of drill should last approximately 20 to 30 minutes. If all goes well, the next drill could involve a fire which would call for the activating of the Emergency Crisis Center.

E. J. PADGETT

Copy to:
CO, NAVHOSP (PMU)
CO, NAVHOSP (Emergency)
AC/S, Trng & Opers
PMO
MAIN
NREA
EnvEngr
B Safety
2d FSSG Safety O
CPD Training
DPDO

T-6240

UNITED STATES MARINE CORPS
Marine Corps Base
Camp Lejeune, North Carolina 28540

6280
LOG
9 July 1985

From: Assistant Chief of Staff, Logistics
To: Director, Regional Automated Services Center

Subj: PROGRAMMING SUPPORT FOR HAZARDOUS MATERIAL

1. As discussed during a conversation with Capt Norman (RASC) during the latter part of June 1985, Environmental Safety and Design, Inc. has been contracted to do a study on Camp Lejeune's hazardous material/waste handling and facilities. In order to accomplish this study the base is required to provide certain information:

a. What hazardous materials are used and stocked?

b. What hazardous waste is generated?

c. Who are the users of hazardous material?

d. How much of each hazardous material does each user use annually?

2. Currently the RASC holds for the AC/S Logistics a set of computer tapes which were generated from the DOD Hazardous Material Information System (HMIS). Previous work with the RASC has resulted in a match of the HMIS tapes and the DSSC E01 inventory file and the SMU GABF inventory file. This match resulted in two tailored HMIS files which displayed only those items processed by each of the intermediate supply levels. This first step answers which items are used. What is now needed is a program which will take each of the tailored HMIS files and match it against the appropriate DSSC history files and the SMU SASSY history or AUAF file and list by unit AC all NSN's, (in NSN sequence), utilized by the unit and the total quantity utilized in the previous 12 month periods.

3. It is requested that a program to extract this information be produced and the output be provided on four part paper by 16 Aug 1985. The production of this output may result in the savings of considerable research dollars and result in the design of proper facilities at all levels to enable proper and safe utilization and storage of hazardous materials/waste.

4. The point of contact for this office concerning this matter is Barbara Huffman, ext 2535/2507.

B. D. CHAMBLESS

Copy to:
OIC, SMU, 2d FSSG
OIC, DSSC, MCB, CLNC
Base Environmental Engr.
BOSMAD (ISMO)

T-6240

DEPARTMENT OF THE NAVY
NAVAL DENTAL CLINIC
CAMP LEJEUNE, NORTH CAROLINA 28542

IN REPLY REFER TO
5402/6240
NDC CL NC:00
MAY 31 1995

From: Commanding Officer, Naval Dental Clinic, Camp Lejeune
To: Commanding General, Marine Corps Base, Camp Lejeune
(Attn: Assistant Chief of Staff, Facilities)

Subj: HAZARDOUS MATERIAL DISPOSAL PROGRAM

Ref: (a) Base Order 6240.5

1. In accordance with reference (a), the following individual is appointed to coordinate this command's Hazardous Material Disposal Program.

Hazardous Material Disposal Coordinator

DTC Richard G. Panepinto, USN
NDC, Building 65, Camp Lejeune
451-5314/5357

2. This individual will participate in any training sessions required relative to this assignment.

M. C. CLEGG

Copy to:
LTJG Henry
DTC Panepinto

HAZARDOUS MATERIAL (HM)/WASTE (HW) MANAGEMENT

1. REFERENCES:

a. Resource Conservation and Recovery Act as implemented by EPA regulations published 19 Nov 1980 in 40 CFR 260-265

b. Hazardous Waste Management Permit, N. C. Division of Health Services, dated 7 Sep 1984

c. BO 6240.5

d. BO 11090.1B

e. AS(H)O 6280.1

2. LOCAL DISPOSAL PROCEDURES, BO 6240.5

a. Generating unit ensures item collected/stored in proper container.

b. Generating unit prepares Form DD 1348-1 and submits to Command Hazardous Material Disposal Coordinator (HMDC).

c. HMDC reviews adequacy of form preparation and the identification of the hazardous item. HMDC arranges laboratory report from NREAD, if required.

d. HMDC arranges for Preservation, Packaging and Packing (PP&P), 2nd Supply Battalion, 2d FSSG to certify item for transportation.

e. Generating unit carries Form DD 1348-1 to Defense Property Disposal Office (DPDO).

f. DPDO inspects item and accepts accountability by signing Form DD 1348-1.

g. DPDO arranges transportation by generating organization, if item is a hazardous material,or by Traffic Management Officer (TMO) AC/S Logistics, MCB, if item is a hazardous waste, to the DPDO Storage Facility, Building TP-451

h. Item is transported to DPDO facility, re-inspected by DPDO, and then unloaded. DPDO has taken physical custody at this point.

3. COMMON HM/HW MANAGEMENT CONCERNS AND PROBLEMS:

a. Storage of hazardous materials in improperly labeled containers, leading to costly, unnecessary delays in identification and turn-in to DPDO and increased hazards to personnel.

b. Personnel awareness of HM/HW characteristics and management considerations.

c. Inadequate materials handling equipment at the work site and availability of suitable empty containers.

d. Inadequate security of HM/HW storage areas.

e. Dumping of oil from POVs and failure to report spills.

4. HAZARDOUS MATERIAL DISPOSAL COORDINATORS:

ORGANIZATION	HMDC	TELEPHONE NO.
2d Marine Division	Division Engineers	
	LtCol Marapoti	2755
	MGySgt Kaup	2302
2d Force Service Support Group	Engineer Support Office	
	Maj Tiberg	3456
	Capt Cerveny	1042
	SSgt Lamm	
Marine Corps Air Station (H), New River	Ground Safety Office	
	Ms. Mary Wheat	6518
	Mr. Jim Bivens	6506
Naval Hospital	Occupational & Preventive Medicine Department	
	LT(JG) Hazuka	1930/2767
	Mr. John McClosky	2707
Naval Dental Clinic	DT-C Richard Panepinto	5314/5357
Marine Corps Base Camp Lejeune	AC/S, Logistics	
	Capt Owens	2535/2507

T-6240

6240
NREAD
17 June 1985

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Commanding Officer, Naval Energy and Environmental Support Activity, Port Hueneme, California 93043 (Attn: 110I/Jones)

Subj: POLYCHLORINATED BIPHENYLS INVENTORY FOR CALENDAR YEAR 1984

Ref: (a) CO, NEESA, Port Hueneme ltr 6270 Ser 110I/135 of 25 Jan 1985

Encl: (1) PCB Inventory Calendar year 1983 (PCBUPDI and PCBUPDZ) updated as of 14 June 1985

1. The enclosure is submitted per the reference. Questions may be directed to Mr. Danny Sharpe, Autovon 484-5003, commercial (919) 451-5003.

J. I. WOOTEN
By direction

Copy to:
CMC (LFL)
NAVFACENGCOM (114)

Writer: D. Sharpe, NREAD 5003
Typist: J. Cross 17Jun85

REPORT DATE 01/14/85 PCBUP01--THIS IS PART 1 OF A 2-PART REPORT ON YOUR 1984 PCB INVENTORY. IT LISTS THE TYPE OF PCB ITEMS AT YOUR ACTIVITY. PART 2 LISTS STATUS OF THE PCB ITEMS. PAGE 12

UIC	ID NUMBER/LOCATION	XFRMR KVA	TESTED PPM	CONTAINR T.C.D.O	NO. OF ITEMS	KILOGRAMS	GALLONS	CUBIC FT (SOLIDS)	FOR DRUM/OTHER SOLID OR LIQUID
M67001	110065 B 825 CLMS		>= 500	T	1	1103.2	202.0	0.0	L
M67001	1PMC92476 B 1140		>= 500	T	1	524.5	96.0	0.0	L
M67001	2PMC92476 B MP-51	Lined out in error	>= 500	T	1	524.5	96.0	0.0	L
~~M67001~~	~~2PXC49674 B FC-412~~		>= 500	T	1	546.4	100.0	0.0	L
~~M67001~~	~~3151011 B TP-451~~	Delete These Three (See Note 1)	>= 500	T	1	0.0	0.0	0.0	L
~~M67001~~	~~3152042 LOT 140~~		>= 500	T	1	0.0	0.0	0.0	L
~~M67001~~	~~3151944 LOT 140~~		>= 500	T	1	0.0	0.0	0.0	L
M67001	3160915 B M-1		>= 500	T	1	0.0	0.0	0.0	L
M67001	3161516 B M-1		>= 500	T	1	234.9	43.0	0.0	L
M67001	3161516 B M-15		>= 500	T	1	1453.5	266.0	0.0	L
~~M67001~~	~~3416736 B TP-451~~	Delete (See Note 1)	>= 500	T	1	1398.9	256.0	0.0	L
M67001	37584 B AS-705		>= 500	T	1	0.0	0.0	0.0	L
M67001	3PMC92476 B MP-53		>= 500	T	1	1513.6	277.0	0.0	L
M67001	3PXC49674 B FC412		>= 500	T	1	524.5	96.0	0.0	L
M67001	4161514 B M-1		>= 500	T	1	546.4	100.0	0.0	L
M67001	4PMC92476 B MP-55		>= 500	T	1	1453.5	266.0	0.0	L
M67001	5181A45 B AS-4141		>= 500	T	1	524.5	96.0	0.0	L
M67001	5538054 B AS-3504		>= 500	T	1	1562.8	286.0	0.0	L
M67001	5538055 B AS-3502		>= 500	T	1	579.2	106.0	0.0	L
M67001	5639274 B AS-3619		>= 500	T	1	983.6	180.0	0.0	L
M67001	5639275 B AS-3620		>= 500	T	1	109.2	20.0	0.0	L
M67001	5PMC92476 B MP-57		>= 500	T	1	557.3	102.0	0.0	L
M67001	5PXC49674 B FC400		>= 500	T	1	524.5	96.0	0.0	L
M67001	6740378 B AS-205		>= 500	T	1	546.4	100.0	0.0	L
M67001	6PMC92476 B 1140		>= 500	T	1	956.2	175.0	0.0	L
M67001	74V9680 B AS-601		>= 500	T	1	524.5	96.0	0.0	L
M67001	76640 B FC-100		>= 500	T	1	1409.4	258.0	0.0	L
M67001	76641 B FC-200		>= 500	T	1	1256.8	230.0	0.0	L
M67001	7PMC92476 B MP-56		>= 500	T	1	945.3	173.0	0.0	L
M67001	8036876 B 900		>= 500	T	1	731.7	135.0	0.0	L
M67001	8036879 B 901		>= 500	T	1	535.5	98.0	0.0	L
M67001	8036880 B 901		>= 500	T	1	535.5	98.0	0.0	L
M67001	8PMC92476 B MP-52		>= 500	T	1	535.5	98.0	0.0	L
~~M67001~~	~~6BARRELS, 55-GAL B TP-451~~	Delete (See Note 1)	>= 500	T	1	731.7	135.0	0.0	L
M67001	F-964669 B AS-4108		>= 500	D	12	3387.9	620.0	0.0	L
M67001	F-964679 B AS-4108		>= 500	T	1	1120.2	205.0	0.0	L
M67001	F864601 B AS-4010		>= 500	T	1	1120.2	205.0	0.0	L
M67001	G854895 B 671 M PARK		>= 500	T	1	983.6	180.0	0.0	L
M67001	G854205 B MP-460		>= 500	T	1	1120.2	205.0	0.0	L
M67001	H223491-68P B AS-4121		>= 500	T	1	546.4	100.0	0.0	L
M67001	H223581-68P B AS-4012		>= 500	T	1	289.6	53.0	0.0	L
M67001	H361513P71A B 1771		>= 500	T	1	513.6	94.0	0.0	L
M67001	H376026P73A B TC-480		>= 500	T	1	628.4	115.0	0.0	L
M67001	H866978 B AS-4100		>= 500	T	1	683.0	125.0	0.0	L
M67001	H881992 B AS-4025		>= 500	T	1	765.0	140.0	0.0	L
M67001	PAT1046-01 B AS-320		>= 500	T	1	650.2	119.0	0.0	L
M67001	PCV0741-01 B AS-4028		>= 500	T	1	1344.2	246.0	0.0	L
M67001	PCV0804-01 B M-1		>= 500	T	1	874.3	160.0	0.0	L
					1	1174.8	215.0	0.0	L

Note 1. These Transformers/barrells have been shipped to disposal by DPDO

Encl (1)

UIC	ID NUMBER/LOCATION	XFRMR KVA	TESTED PPM	CONTAINR T,C,D,O	NO. OF ITEMS	KILOGRAMS	GALLONS	CUBIC FT (SOLIDS)	FOR DRUMS/OTHER SOLID OR LIQUID
M67001	PXC49674 B FC-414		>= 500	T	1	544.4	100.0	0.0	L
M67001	PXC8872 B 901		>= 500	T	1	544.4	100.0	0.0	L
M67001	RPK0874 B MP-2		>= 500	T	1	1364.1	250.0	0.0	L
M67001	F63707366P B AS-312		>= 500	T	1	633.8	116.0	0.0	L
M67001	TAV2471-01 B FC-420		>= 500	T	1	1748.6	320.0	0.0	L
~~M67001~~	~~TRANSF. LOT 140 (PG 5)~~ (See Note 2) Delete		>= 500	T	15	3016.3	552.0	0.0	L
~~M67001~~	~~TRANSF. LOT 140 (PG 6)~~ (" ")		>= 500	T	6	1626.7	260.0	0.0	L
	3380120 B H1		> 500	T	1		80.0	0.0	L
					85	47864.4	8760.0	0.0	

NOTE 2 These Transformers shipped to Disposal by DPDO in January 1982.

The following Transformers were considered as "Non-PCB" until Testing after Removal from Service indicate "PCB Contamination."

M67001	55J16756	340	T	1		25	0	L	
	B546992	99	T	1		25	0	L	
	57J6035	310	T	1		25	0	L	
	8671240	220	T	1		40	0	L	
	C119617	71	T	1		50	0	L	
	B974341	99	T	1		50	0	L	
	C122774	52	T	1		50	0	L	
	C127301	52	T	1		40	0	L	
	B901024	120	T	1		62	0	L	
	B901022	110	T	1		62	0	L	
	8486164	96	T	1		1	0	L	
	D305901	130	T	1		1	0	L	
	Barrell, 55 gallon BTP-451 (See Note 3)	1130	D	1		40	0	L	

NOTE 3 Oil Drained from 8486164 and D305901

PCBUPD2--THIS IS PART 2 OF A 2-PART REPORT ON YOUR 1984 PCB INVENTORY. IT LISTS THE STATUS OF PCB ITEMS AT YOUR ACTIVITY. PART 1 LISTS THE TYPES OF PCB ITEMS.

UIC	ID NUMBER/LOCATION	IN SERVICE	REMOVED FROM SERVICE	IN STORAGE	STORED FOR REUSE	STORED FOR DISPOSAL	SENT TO DISPOSAL	DATE TO DPDO HAULER	A, C, D	
M67001	110065 B 825 CLHS	YES								
M67001	1PMC92476 B 1140	YES								
M67001	2PMC92476 B HP-51	YES								
M67001	2PXC49674 B FC-411	YES								
M67001	3151811 B TP-451		YES	YES		YES	yes	0784	*C	See Note 1
M67001	3152943 LOT 140		YES	YES		YES	Yes	0784	*C	" "
M67001	3152944 LOT 140		YES	YES		YES	Yes	0784	*C	" "
M67001	3160915 B H-1	YES								
M67001	316151266 B H-1	YES								
M67001	3161516 B H-15	YES								
M67001	3416736 B TP-451		YES	YES		YES	Yes	0784	*C	" "
M67001	37584 B AS-705	YES								
M67001	3PMC92476 B HP-53	YES								
M67001	3PXC49674 B FC412	YES								
M67001	4161514 B H-1	YES								
M67001	4PMC92476 B HP-55	YES								
M67001	5181A45 B AS-4141	YES								
M67001	5538054 B AS-3504	YES								
M67001	5538055 B AS-3502	YES								
M67001	5639274 B AS-3619	YES								
M67001	5639275 B AS-3620	YES								
M67001	5PMC92476 B HP-57	YES								
M67001	5PXC49674 B FC400	YES								
M67001	6740378 B AS-205	YES								
M67001	6PMC92476 B 1140	YES								
M67001	74V5680 B AS-901	YES								
M67001	76640 B FC-100	YES								
M67001	76641 B FC-200	YES								
M67001	7PMC92476 B HP-56	YES								
M67001	8036878 B 900	YES								
M67001	8036879 B 901	YES								
M67001	8036880 B 901	YES								
M67001	8PMC92476 B HP-52	YES								
M67001	BARRELS, 55-GAL B TP-451			YES		YES		0784	*C	" "
M67001	F-964669 B AS-4106	YES								
M67001	F-964679 B AS-4108	YES								
M67001	F864601 B AS-4010	YES								
M67001	G-854895 B 671 M PARK	YES								
M67001	G854205 B HP-460	YES								
M67001	H223491-68P B AS-4121	YES								
M67001	H223581-68P B AS-4012	YES								
M67001	H361513P71A B 1771	YES								
M67001	H376026P73A B TC-480	YES								
M67001	H886978 B AS-4100	YES								
M67001	H887992 B AS-4025	YES								
M67001	PAT1046-01 B AS-320	YES								
M67001	PCV0741-01 B AS-4020	YES								
M67001	PCV0804-01 B H-1	YES								

Note #1 These Transformers & Barrells were in DPDO Custody Prior To LAST inventory update.

UIC	ID NUMBER/LOCATION	IN SERVICE	REMOVED FROM SERVICE	IN STORAGE	STORED FOR REUSE	STORED FOR DISPOSAL	SENT TO DISPOSAL	DATE TO HAULER	DPDO A, C, D
M67001	PXC49674 B FC-414	YES							
M67001	PXC8872 B 901	YES							
M67001	RFK0874 B HP-2	YES							
M67001	T63707366P B AS-312	YES							
M67001	TAV2471-01 B FC-420	YES							
M67001	TRANSF. LOT 140 (PG 5)						YES	182	C
M67001	TRANSF. LOT 140 (PG 6)						YES	182	C
M67001	55J16256	NO	yes	yes	No	yes	No		C
	B546992	NO	yes	yes	NO	yes	NO		C
	57J6035	NO	yes	yes	NO	yes	NO		C
	8671240	NO	yes	yes	NO	yes	NO		C
	C119617	NO	yes	yes	NO	yes	NO		C
	B974341	NO	yes	yes	NO	yes	NO		C
	C12274	NO	yes	yes	NO	yes	NO		C
	C127301	NO	yes	yes	NO	yes	NO		C
	B901024	NO	yes	yes	NO	yes	NO		C
	B901022	NO	Yes	yes	NO	yes	NO		C
	8486164	NO	Yes	yes	NO	yes	NO		C
	D305901	NO	yes	yes	NO	yes	NO		C
	Barrel, 55gal BTP451	NO	yes	yes	NO	yes	NO		C

REPORT DATE 01/14/85 PCLUP01--THIS IS PART 1 OF A 2-PART REPORT ON YOUR 1984 PCB INVENTORY. IT LISTS THE TYPE OF PCB ITEMS AT YOUR ACTIVITY. PART 2 LISTS STATUS OF THE PCB ITEMS. PAGE 12

UIC	ID NUMBER/LOCATION	XFRMR KVA	TESTED PPM	CONTAINR T,C,D,O	NO. OF ITEMS	KILOGRAMS	GALLONS	CUBIC FT (SOLIDS)	FOR DRUM/OTHER SOLID OR LIQUID
M67001	110065 B 825 CLMS		>= 500	T	1	1103.2	202.0	0.0	L
M67001	1PMC92476 B 1140		>= 500	T	1	524.5	96.0	0.0	L
M67001	2PMC92476 B MP-51	Lined out in error	>= 500	T	1	524.5	96.0	0.0	L
~~M67001~~	~~2PXC49674 B PC-412~~		>= 500	T	1	546.4	100.0	0.0	L
~~M67001~~	~~3151811 B TP-451~~	Delete These Three (See Note 1)	>= 500	T	1	0.0	0.0	0.0	L
~~M67001~~	~~3152043 LOT 140~~		>= 500	T	1	0.0	0.0	0.0	L
~~M67001~~	~~3152944 LOT 140~~		>= 500	T	1	0.0	0.0	0.0	L
M67001	3160915 B M-1		>= 500	T	1	234.9	43.0	0.0	L
M67001	3161512B6 B M-1		>= 500	T	1	1453.5	266.0	0.0	L
M67001	3161516 B M-15		>= 500	T	1	1398.9	256.0	0.0	L
~~M67001~~	~~3414736 B TP-451~~	Delete (See Note 1)	>= 500	T	1	0.0	0.0	0.0	L
M67001	37564 B AS-705		>= 500	T	1	1513.6	277.0	0.0	L
M67001	3PMC92476 B MP-53		>= 500	T	1	524.5	96.0	0.0	L
M67001	3PXC49674 B PC412		>= 500	T	1	546.4	100.0	0.0	L
M67001	4161514 B M-1		>= 500	T	1	1453.5	266.0	0.0	L
M67001	4PMC92476 B MP-55		>= 500	T	1	524.5	96.0	0.0	L
M67001	5181A45 B AS-4141		>= 500	T	1	1562.8	286.0	0.0	L
M67001	5538054 B AS-3504		>= 500	T	1	579.2	106.0	0.0	L
M67001	5538055 B AS-3502		>= 500	T	1	983.6	180.0	0.0	L
M67001	5639274 B AS-3619		>= 500	T	1	109.2	20.0	0.0	L
M67001	5639275 B AS-3620		>= 500	T	1	557.3	102.0	0.0	L
M67001	5PMC92476 B MP-57		>= 500	T	1	524.5	96.0	0.0	L
M67001	5PXC49674 B PC400		>= 500	T	1	546.4	100.0	0.0	L
M67001	6740378 B AS-205		>= 500	T	1	956.2	175.0	0.0	L
M67001	6PMC92476 B 1140		>= 500	T	1	524.5	96.0	0.0	L
M67001	74V5660 B AS-401		>= 500	T	1	1401.8	258.0	0.0	L
M67001	76640 B PC-100		>= 500	T	1	1256.8	230.0	0.0	L
M67001	76641 B PC-200		>= 500	T	1	941.3	173.0	0.0	L
M67001	7PMC92476 B MP-56		>= 500	T	1	731.7	135.0	0.0	L
M67001	8036876 B 900		>= 500	T	1	535.5	98.0	0.0	L
M67001	8036879 B 901		>= 500	T	1	535.5	98.0	0.0	L
M67001	8036880 B 901		>= 500	T	1	535.5	98.0	0.0	L
M67001	8PMC92476 B MP-52		>= 500	T	1	731.7	135.0	0.0	L
~~M67001~~	~~6BARRELS, 55-GAL B TP-451~~	Delete (See Note 1)	>= 500	D	12	3387.9	620.0	0.0	L
M67001	F-964669 B AS-4106		>= 500	T	1	1120.2	205.0	0.0	L
M67001	F-964679 B AS-4108		>= 500	T	1	1120.2	205.0	0.0	L
M67001	F864601 B AS-4010		>= 500	T	1	943.6	180.0	0.0	L
M67001	G-854895 B 671 M PARK		>= 500	T	1	1120.2	205.0	0.0	L
M67001	G854205 B MP-460		>= 500	T	1	546.4	100.0	0.0	L
M67001	M223491-68P B AS-4121		>= 500	T	1	289.6	53.0	0.0	L
M67001	M223581-68P B AS-4012		>= 500	T	1	513.6	94.0	0.0	L
M67001	M361513P71A B 1771		>= 500	T	1	628.4	115.0	0.0	L
M67001	M376026P73A B TC-480		>= 500	T	1	683.0	125.0	0.0	L
M67001	M886978 B AS-4100		>= 500	T	1	765.0	140.0	0.0	L
M67001	M887992 B AS-4025		>= 500	T	1	650.2	119.0	0.0	L
M67001	PAT1046-01 B AS-320		>= 500	T	1	1344.2	246.0	0.0	L
M67001	PCV0741-01 B AS-4026		>= 500	T	1	874.3	160.0	0.0	L
M67001	PCV0804-01 B M-1		>= 500	T	1	1174.8	215.0	0.0	L

Note 1. These Transformers/barrells have been shipped to disposal by DPDO

Encl (1)

UIC	ID NUMBER/LOCATION	XFRMR KVA	TESTED PPM	CONTAINR T,C,D,O	NO. OF ITEMS	KILOGRAMS	GALLONS	CUBIC FT (SOLIDS)	FOR DRUMS/OTHER SOLID OR LIQUID
M67001	PXC49674 B FC-414		>= 500	T	1	544.4	100.0	0.0	L
M67001	PXC8872 B 901		>= 500	T	1	544.4	100.0	0.0	L
M67001	RPXC8874 B MP-2		>= 500	T	1	1364.1	250.0	0.0	L
M67001	#63707366P B AS-312		>= 500	T	1	631.8	116.0	0.0	L
M67001	TAV2471-01 B FC-420		>= 500	T	1	1748.6	320.0	0.0	L
~~M67001~~	~~TRANSF. LOT 140 (PG 5)~~ (Delete See Note 2)		>= 500	T	15	3016.3	552.0	0.0	L
~~M67001~~	~~TRANSF. LOT 140 (PG 6)~~ (" ")		>= 500	T	6	1626.7	260.0	0.0	L
	3380120 B H1		> 500	T	1		80.0	0.0	L
					85	47866.4	8760.0	0.0	

NOTE 2 These Transformers shipped to Disposal by DPDO in January 1982.

The following Transformers were considered as "Non-PCB" until Testing after Removal from Service indicate "PCB Contamination."

M67001	55J16756	340	T	1		25	0	L	
	B546992	99	T	1		25	0	L	
	57J6035	310	T	1		25	0	L	
	8671240	220	T	1		40	0	L	
	C119617	71	T	1		50	0	L	
	B974341	99	T	1		50	0	L	
	C12274	52	T	1		50	0	L	
	C127301	52	T	1		40	0	L	
	B901024	120	T	1		62	0	L	
	B901022	110	T	1		62	0	L	
	8486164	96	T	1		1	0	L	
	D305901	130	T	1		1	0	L	
	Barrell, 55 gallon BJP-451 (See Note 3)	0130	D	1		40	0	L	

NOTE 3 Oil Drained from 8486164 and D305901

PCBUPD2--THIS IS PART 2 OF A 2-PART REPORT ON YOUR 1984 PCB INVENTORY. IT LISTS THE STATUS OF PCB ITEMS AT YOUR ACTIVITY. PART 1 LISTS THE TYPES OF PCB ITEMS.

UIC	ID NUMBER/LOCATION	IN SERVICE	REMOVED FROM SERVICE	IN STORAGE	STORED FOR REUSE	STORED FOR DISPOSAL	SENT TO DISPOSAL	DATE TO HAULER	DPDO A, C, D	
M67001	110065 B 825 CLHS	YES								
M67001	1PMC92476 B 1140	YES								
M67001	2PMC92476 B HP-51	YES								
M67001	2PXC49674 B FC-411	YES								
M67001	3151811 B TP-451		YES	YES		YES	yes	0784	*C	See Note 1
M67001	3152943 LOT 140		YES	YES		YES	Yes	0784	*C	" "
M67001	3152944 LOT 140		YES	YES		YES	Yes	0784	*C	" "
M67001	3160915 B H-1	YES								
M67001	316151266 B H-1	YES								
M67001	3161516 B H-15	YES								
M67001	3416736 B TP-451		YES	YES		YES	yes	0784	*C	" "
M67001	37584 B AS-705	YES								
M67001	3PMC92476 B HP-53	YES								
M67001	3PXC49674 B FC412	YES								
M67001	4161514 B H-1	YES								
M67001	4PMC92476 B HP-55	YES								
M67001	5181A45 B AS-4141	YES								
M67001	5538054 B AS-3504	YES								
M67001	5538055 B AS-3502	YES								
M67001	5639274 B AS-3619	YES								
M67001	5639275 B AS-3620	YES								
M67001	5PMC92476 B HP-57	YES								
M67001	5PXC49674 B FC400	YES								
M67001	6740378 B AS-205	YES								
M67001	6PMC92476 B 1140	YES								
M67001	74Y5680 B AS-901	YES								
M67001	76640 B FC-100	YES								
M67001	76641 B FC-200	YES								
M67001	7PMC92476 B HP-56	YES								
M67001	8036878 B 900	YES								
M67001	8036879 B 901	YES								
M67001	8036880 B 901	YES								
M67001	8PMC92476 B HP-52	YES								
M67001	BARRELS, 55-GAL B TP-451			YES		YES		0784	*C	" "
M67001	F-964669 B AS-4106	YES								
M67001	F-964679 B AS-4108	YES								
M67001	F864601 B AS-4010	YES								
M67001	G-854895 B 671 M PARK	YES								
M67001	G854205 B HP-460	YES								
M67001	H223491-68P B AS-4121	YES								
M67001	H223581-68P B AS-4012	YES								
M67001	H361513P71A B 1771	YES								
M67001	H376026P73A B TC-480	YES								
M67001	H886978 B AS-4100	YES								
M67001	H887992 B AS-4025	YES								
M67001	PAT1046-01 B AS-320	YES								
M67001	PCV0741-01 B AS-4020	YES								
M67001	PCV0804-01 B H-1	YES								

NOTE #1 These Transformers & Barrells were in DPDO Custody prior To LAST inventory update

UIC	ID NUMBER/LOCATION	IN SERVICE	REMOVED FROM SERVICE	IN STORAGE	STORED FOR REUSE	STORED FOR DISPOSAL	SENT TO DISPOSAL	DATE TO HAULER	DPDO A, C, D
M67001	PXC49674 B FC-414	YES							
M67001	PXC8872 B 901	YES							
M67001	RFX0874 B HP-2	YES							
M67001	T63707366P B AS-312	YES							
M67001	TAV2471-01 B FC-420	YES							
M67001	TRANSF. LOT 140 (PG 5)						YES	182	C
M67001	TRANSF. LOT 140 (PG 6)						YES	182	C
M67001	55J16256	NO	yes	yes	No	yes	No		C
	B546992	NO	Yes	yes	NO	yes	NO		C
	57J6035	NO	Yes	yes	NO	yes	NO		C
	8671240	NO	yes	yes	NO	yes	NO		C
	C119617	NO	Yes	yes	NO	yes	No		C
	B974341	NO	yes	yes	NO	yes	NO		C
	C12274	NO	yes	yes	NO	yes	NO		C
	C127301	NO	Yes	yes	NO	yes	NO		C
	B901024	NO	Yes	yes	NO	yes	NO		C
	B901022	NO	Yes	yes	NO	yes	NO		C
	8486164	NO	Yes	yes	NO	yes	NO		C
	D305901	NO	yes	yes	NO	yes	NO		C
	Barrel, 55gal BTP451	NO	yes	yes	NO	yes	NO		C

T-6240

6240
NREAD
17 June 1985

From: Director, Natural Resources and Environmental Affairs Division, Marine Corps Base, Camp Lejeune
To: Assistant Chief of Staff, Facilities (Attn: Environmental Engineer), Marine Corps Base, Camp Lejeune

Subj: HAZARDOUS WASTE MANAGEMENT; SOLVENT RECYCLING

Encl: (1) Miscellaneous information on Finish Engineering Co., Inc. Solvent Recovery System
(2) Safety-Kleen Sales Management letter of March 15, 1985

1. Recommend you investigate feasibility of accomplishing the subject recycling, either inhouse (see enclosure (1)) or by contract services (see enclosure (2)). This could be addressed by your HM/HW study. With the large number of solvent vats at Camp Lejeune, there has to be significant potential in this area.

J. I. WOOTEN

Writer: D. Sharpe, NREAD 5003
Typist: J. Cross 17Jun85

T-6240

6240/3
NREAD
29 May 1985

From: Director, Natural Resources and Environmental Affairs Division, Marine Corps Base, Camp Lejeune
To: Base Maintenance Officer, Marine Corps Base, Camp Lejeune

Subj: TRANSFORMER DISPOSAL; POLYCHLORINATED BIPHENYL (PCB) ANALYSIS RESULTS

Ref: (a) BO 6240.5

Encl: (1) Grainger Laboratories, Inc. Report #0853202 dated 24 April 1985

1. The enclosure is provided for use in turn-in of used transformers to DPDO. The results indicate that none of the transformers tested met the 500 Part Per Million (PPM) PCB limit for "PCB Transformers". However, 12 transformers had 50 to 499 PPM of PCB, which require management as "PCB Contaminated Transformers". These 12 should be turned in to DPDO per the reference and stored at the TP-451 DPDO facility.

2. The sample from Westinghouse transformer 15KVA, 10 gallon capacity, Serial #61113602 was broken. This transformer should be retained for resampling. The Supervisory Chemist, NREAD, will be contacting Base Maintenance Officer representative shortly to resample this transformer. Point of contact in this matter is Mr. D. Sharpe, extension 2083.

3. The remaining transformers, including the empty Line Material Transformer, Serial #1156224, should be turned in to DPDO and stored at Lot 203.

J. I. WOOTEN

Copy to:
DPDO w/o Encl

Blind copy to:
SupvChem

Writer: D. Sharpe, NREAD 5003
Typist: J. Cross 29May85

T-6240

6280
NREAD
3 June 1985

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Defense Property Disposal Officer

Subj: INSPECTION REPORT ON LONG TERM HAZARDOUS WASTE STORAGE FACILITIES AT BUILDINGS TP-451 AND TC-863

Ref: (a) CO MCB CLNC ltr PAC/REA/hf 6280 of 15 Jul 1983
(b) On-site Inspection on 29 May 1985 by Mr. D. Sharpe, NREAD; Mr. P. White, BaseFireProtDiv, and Mr. G. Eggers, DPDO

Encl: (1) Inspection Checklist for Long Term Hazardous Waste Storage Facilities at Buildings TP-451 and TC-863 dated 29 May 1985

1. Reference (a) obligated this command to ensure that the subject facilities are operated in accordance with the permit application contained therein. Routine inspections are conducted to monitor current status of compliance. The enclosure documents findings made during reference (b). On 31 May 1985 Mr. Ritter of Base Safety Office was advised of the continuing problem with water in electric conduit in the office at Building TP-451.

2. There appears to be a continuing problem with damage to grates over spill containment sumps. One specific problem is highlighted in the enclosure. Please advise this office of the status of existing initiative to replace damaged grates throughout the facility.

3. Point of contact in this matter is Mr. D. Sharpe, extensions 5003/2083.

J. I. WOOTEN
By direction

Copy to:
BFireCh
AC/S PAC
SJA (Attn: Capt Beale)
BMO (Attn: Fred Cone)
BaseSafetyO

Writer: D. Sharpe, NREAD 5003
Typist: J. Cross 3Jun85

PARTICIPANTS: Mr. George Eggers, DPDO; Mr. F. White, BFireDept; Mr. D. Sharpe and Mr. M. Martin, NREAD

DATE: 29 May 1985

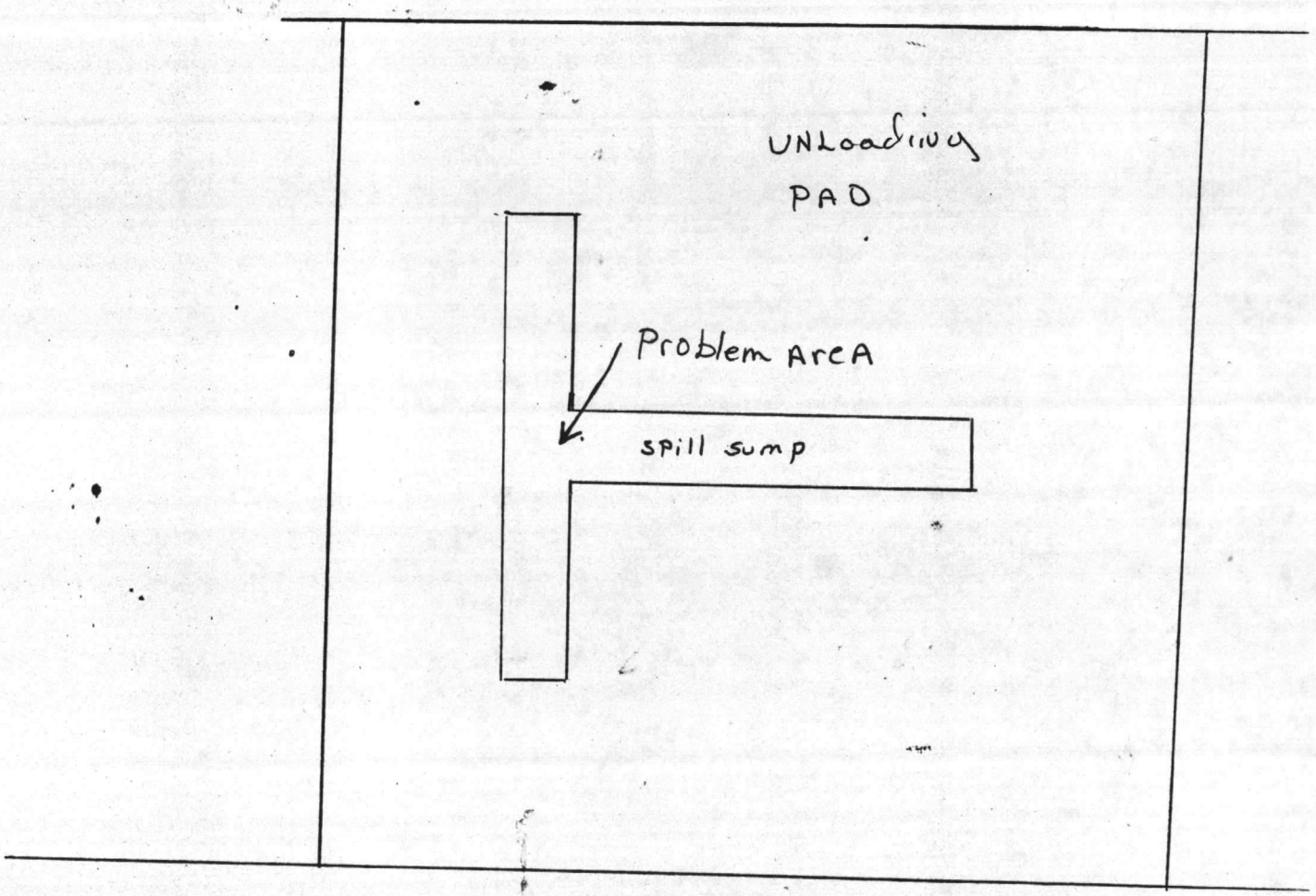
FACILITIES AND EQUIPMENT	SAT	UNSAT	COMMENTS
1. FACILITY GROUNDS	X		
2. FACILITY SECURITY (LOCKS, DOORS, SIGNS, ETC.)	X		
3. EMERGENCY TELEPHONE AND FIRE ALARMS	X		
4. UNLOADING PAD DRAIN VALVE	X		
5. EXHAUST FANS	X		
6. INTERIOR LIGHTING AND ELECTRICAL OUTLETS		X	Electric outlet in office still has water collecting in it.
7. SAFETY SHOWERS/ EYE LAVAGES	X		
8. CURBS, GRATES, OTHER FIXTURES		X	Unloading pad needs immediate reinforcement at the spot shown on Attachment A to eliminate a minor design defect
9. NON-SPARKING SHOVELS (2)	X		
10. ABSORBENT (EQUIVALENT OF FOUR 55-GAL BARRELS)	X		
11. HAZ MAT PUMPS OR EQUIVALENT	X		
12. FIRE EXTINGUISHERS	X		
13. PROTECTIVE GEAR AND EQUIPMENT	X		
14. EMPTY CONTAINERS AND OVERPACK DRUMS	X		

ENCLOSURE (1)

OPERATIONAL CONSIDERATIONS	SAT	UNSAT	COMMENTS
1. Required operator inspections and Inspection Log	X		
2. Emergency Contingency Plan Posting & Operator Familiarity	X		
3. Fire Department Phone number posting	X		Mr. Eggers advised that new signs were prepared. Please post immediately on exterior fencing/ Building walls.
4. Condition of containers in use	X		
5. Presence of odors/vapors, residues in sumps, deck, etc.	X		
6. Unloading Pad Valve Operation	X		
7. Compatibility of Material Storage	X		
8. Implementation of previously recommended corrective action		X	Mr. Ritter of Base Safety advised on 31 May 1985 of the continuing problem with water in the condui
9. Facility Operators since last Inspection	X		

ADDITIONAL COMMENTS, EXPLANATIONS, ETC:

Area Requiring Reinforcement To Eliminate Safety Hazard And damage To Crates.



TP-451

ATTACHMENT (A)

OPNAV 5216/144A (Rev. 8-81)
S/N 0107-LF-052-2320

DEPARTMENT OF THE NAVY

T-6240

Memorandum

DATE: 5 Jun 85

FROM: Commanding General, Marine Corps Base, Camp Lejeune

TO: Distribution List

SUBJ: HAZARDOUS WASTE TRAINING

Encl: (1) Description of Classes

1. Subject training will be conducted during 25 July - 1 August 1985. The Hazardous Waste Managers' Seminar (HWMS) is scheduled for 25-26 July 1985, and the Hazardous Waste Facility Operators' (HWFOC), 29 July - 1 August 1985. Course descriptions are provided in the enclosure.

2. Nominations to attend subject course should be submitted by 13 June 1985 to the Civilian Personnel Division, Training Branch. Nominations should include name, rank or grade, social security number, job title and description of hazardous waste handling duties. Telephone nominations are acceptable.

3. Point of contact is Mr. L. C. Greene, ext 1539.

HOSEA HORNE, JR.
By direction

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CO, NAVDENCLINIC (Lt Turner)
CG, 2d Mar Div (MGySgt Kaup)
CG, 2d FSSG (SSgt Lamm)

Nominated
Tom
Gaines
(+ ENV Prot Specialist if Not one of the above)

☆U.S. GOVERNMENT PRINTING OFFICE: 1985 — 505-012/18049

NAVY HAZARDOUS WASTE TRAINING INFORMATION
CAMP LEJEUNE, NC - 25 JULY 1 AUGUST 1985

HAZARDOUS WASTE MANAGERS SEMINAR (25-26 July 1985)

Purpose. This seminar will provide participants with the knowledge required to manage and supervise hazardous waste (HW) facility operations in compliance with applicable regulations, and in a safe and environmentally sound manner. The seminar also fulfills regulatory training requirements. All participants receive a certificate of attendance.

Target Audience. This seminar is specifically intended for Navy and Marine Corps personnel involved in the management of HW programs and the supervision of HW facility operations.

Seminar Content. The seminar focuses on the regulatory and technical aspects of the Navy HW management program and its implementation at shore activities. Seminar topics include current hazardous materials and waste management regulations; Department of Defense and Navy policy on environmental protection, health and safety programs; overview of hazardous material classification, identification, and information systems; transportation requirements; and spill prevention plan and spill contingency plan development and implementation.

HAZARDOUS WASTE FACILITY OPERATORS COURSE (29 July-1 August 1985)

Purpose. This four-day course will provide the students with the knowledge required to perform their jobs in a safe, efficient, and environmentally sound manner. The course also fulfills regulatory training requirements. Students successfully completing this course are awarded a certificate.

Target Audience. This course is specifically directed to Navy and Marine Corps personnel who actually package, label, handle, transport, sample, and store hazardous wastes. This course is not intended for program managers or others whose involvement is peripheral or policy-oriented.

Course Content. The course provides knowledge in the safe and environmentally sound operations of hazardous waste facilities in accordance with all applicable EPA and Navy guidelines. The curriculum of the course includes hazardous materials and hazardous waste laws and regulations; Navy hazardous materials environmental management program policy; hazardous material identification and classification; information sources; health effects and personal safety; labeling, packaging, handling, storage, and transportation procedures; spill response planning; and emergency response procedures.

FIRE PROTECTION DIVISION
Marine Corps Base
Camp Lejeune, North Carolina 28542-5000

6280/2
FIRE
3 Jun 1985

From: Base Fire Chief
To: Natural Resourses Environmental Affairs

Subj: DISASTER PLANNING FOR HAZARDOUS SUBSTANCE SPILL TRAINING EXERCISE

1. DPDO has asked for an emergency spill training exercise, and since the Base Fire Chief is the On Scene Coordinator for HazMat Spills, I have been asked to coordinate the exercise. Hazardous Material Spills have the potential for becoming disasters and therefore, will involve areas of expertise under your cognizance.

2. Please provide a representative to discuss and/or assist in the development of this type training exercise on 11 June 1985, at 1300, in the Conference Room of Building #1. Point of contact is Chief Padgett, ext 5815.

E. J. PADGETT

Copy to:
ACofS, Fac

T-6240

OPNAV 5216/145 (Rev. 3-78)
S/N 0107-LF-052-1625
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CLASSIFICATION: UNCLASSIFIED

DATE: 21 MAY 1985

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(ADDRESS & PHONE NO.): (804) 444-9565

INSTRUCTIONS

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DISTRIBUTION

STANDARD REFERENCES AND ENCLOSURES, IF ANY; TEXT AND SIGNATURE BLOCK

Subj: NAVY HAZARDOUS WASTE TRAINING COURSES

Encl: (1) Navy Hazardous Waste Facility Operators Course Brochure
(2) Final FY-85 Course Schedule

1. The Naval Energy and Environmental Support Activity (NAVENENVSA) is providing two hazardous waste (HW) training courses, sponsored by this Command, to be held at MCB, Camp Lejeune from 25 July - 1 August 1985.

2. Class title: HW Managers Seminar
Dates: 25-26 July 1985 (0730-1600)
Nomination Deadline: 13 June 1985
Class Size: 40
Scope: Regulatory and Technical Aspects of HW Management
Target Audience: Navy HW Program Managers and Supervisors of HW Facility Operations

3. Class title: HW Facility Operators Course
Dates: 29 July - 1 August 1985 (0730-1600)
Nomination Deadline: 13 June 1985
Class Size: 40
Scope: Basic Guidelines to handle HW in a safe and environmentally sound manner. Covers HW laws and regulations, identification and classification; general information on labeling, packaging, transportation and storage; and personnel planning for emergency response.

COPY TO

Commander
Atlantic Division
Naval Facilities Engineering Command
Norfolk, VA 23511-6287

← ADDRESS REPLY AS SHOWN AT LEFT; OR, REPLY HEREON AND RETURN

CLASSIFICATION

UNCLASSIFIED

II-R-2

Subj: NAVY HAZARDOUS WASTE TRAINING COURSES

Target Audience: Navy personnel who package, label, handle, transport, sample or store HW. Priority will be given to personnel working in HW treatment, storage or disposal facilities.

4. A complete course description is included as enclosure (1). In addition, a complete FY-85 course schedule is provided as enclosure (2) in the event all appropriate personnel are not able to attend the course. Information copy recipients are encouraged to take advantage of training scheduled nearest their activities (see enclosure (2)); however, if the present need exists for training prior to a course in your local area some quotas may be available for the subject course.

5. Activities wishing to nominate personnel to attend either class should send the following information to NAVENENVSA with a copy to this Command: Nominee's name; rank or grade; social security number; job title and description of HW handling duties; activity name; point of contact name; code; and phone number.

6. Questions regarding subject training courses should be directed to Ms. Christine Connelly (NAVENENVSA 112H), AUTOVON 360-4504, FTS 799-4504, and Commercial (805) 952-4504. Point of contact at this Command is Mr. Steve Olson, A/V 564-9565, FTS 954-9565 or Commercial (804) 444-9565.

J. R. Bailey

J. R. BAILEY
By direction

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NAVY HAZARDOUS WASTE TRAINING INFORMATION

HAZARDOUS WASTE SEMINAR

Purpose. This one-day seminar will provide participants with the knowledge required to manage and supervise hazardous waste (HW) facility operations in compliance with applicable regulations, and in a safe and environmentally sound manner. The seminar also fulfills regulatory training requirements. All participants receive a certificate of attendance.

Target Audience. This seminar is specifically intended for Navy personnel involved in the management of HW programs and the supervision of HW facility operations.

Seminar Content. The seminar focuses on the regulatory and technical aspects of the Navy HW management program and its implementation at shore activities. Seminar topics include current hazardous materials and waste management regulations; Department of Defense and Navy policy on environmental protection, health and safety programs; overview of hazardous material classification, identification, and information systems; transportation requirements; and spill prevention plan and spill contingency plan development and implementation.

HAZARDOUS WASTE FACILITY OPERATORS'COURSE

Purpose. This four-day course will provide the students with the knowledge required to perform their jobs in a safe, efficient, and environmentally sound manner. The course also fulfills regulatory training requirements. Students successfully completing this course are awarded a certificate.

Target Audience. This course is specifically directed to Navy personnel who actually package, label, handle, transport, sample, and store hazardous wastes. This course is not intended for program managers or others whose involvement is peripheral or policy-oriented.

Course Content. The course provides knowledge in the safe and environmentally sound operations of hazardous waste facilities in accordance with all applicable EPA and Navy guidelines. The curriculum of the course includes hazardous materials and hazardous waste laws and regulations; Navy hazardous materials environmental management program policy; hazardous material identification and classification; information sources; health effects and personal safety; labeling, packaging, handling, storage, and transportation procedures; spill response planning; and emergency response procedures.

NOMINATION PROCEDURE

Submit nominations, by message to NAVENENVSA PORT HUENEME CA. Nominee's name, rank or grade, social security number, job title, brief description of hazardous waste duties, activity name, POC, code, phone number, and name and date of class desired should appear on the message. An information copy of the message should be sent to the cognizant Engineering Field Division (EFD). These messages must

be received at the Naval Energy and Environmental Support Activity (NAVENENVSA) six weeks prior to the course/seminar, as the classes are limited to 40 students. Nominating activities are responsible for arranging and funding necessary travel and lodging. This training is provided by NAVENENVSA and sponsored by the EFDs. The NAVENENVSA acceptance notification will be sent by message to the nominee's activity. This notification includes student's name, reporting instructions, and classroom location. Further information may be obtained by contacting the EFD or Ms. Christine Connelly, NAVENENVSA 112H, AUTOVON 360-4504.

FY85 SCHEDULE
for
HAZARDOUS WASTE MANAGERS SEMINAR (HWMS)
and
HAZARDOUS WASTE FACILITY OPERATORS COURSE (HWFOC)

LOCATION	HWMS DATES	HWFOC DATES	ANNOUNCEMENT OF COURSE BY EFD DEADLINE	NOMINATION DEADLINE
* Long Beach, CA	6- 7 Dec	10-13 Dec	15 Nov	8 Nov
* Beaufort, SC	24-25 Jan	28-31 Jan	13 Dec	13 Dec
* San Francisco, CA	21-22 Feb	25-28 Feb	10 Jan	10 Jan
Portsmouth, NH	21-22 Mar	25-29 Mar	12 Feb	7 Feb
Camp Pendleton, CA	29-30 Apr	23-26 Apr	21 Feb	12 Mar
Seattle, WA	2- 3 May	6- 9 May	7 Mar	21 Mar
* Rota, Spain	16-17 May	20-23 May	26 Mar	4 Apr
Philadelphia, PA	10-11 June	4- 7 June	4 Apr	23 Apr
Jacksonville, FL	13-14 June	17-20 June	7 May	2 May
Washington, DC	22-23 July	16-19 July	16 May	4 June
Camp Lejeune, NC	25-26 July	29 July- 1 Aug	13 June	13 June
San Diego, CA	22-23 Aug	26-29 Aug	9 July	11 July
Norfolk, VA	23-24 Sep	17-20 Sep	18 July	6 Aug
Newport, RI	26-27 Sep	30 Sep- 3 Oct	15 Aug	15 Aug
Corpus Christi, TX	24-25 Oct	28-31 Oct		12 Sep

* These courses will be taught by NAVENENVSA personnel. The remainder of the courses will be conducted under contract.

Enclosure (2)

T-6260.4

DEPARTMENT OF THE NAVY
NAVAL HOSPITAL
CAMP LEJEUNE, N.C. 28542

IN REPLY REFER TO
6260.4
371
31 May 85

From: Commanding Officer
To: Commanding General, Marine Corps Base, Camp Lejeune, NC 28542 (Attn: Base Maintenance Officer)

Subj: FOLLOW-UP SURVEY OF MERCURY SPILL SITE, SSB-25

Ref: (a) CO, NHCLNC ltr 6260.4 ser 371 of 22 May 85

Encl: (1) Survey Report

1. In response to reference (a), the subject survey was conducted by personnel from the Industrial Hygiene Branch. The survey report is forwarded as enclosure (1).

2. If further information is desired, please contact the Industrial Hygiene officer, extension 1930/2767.

M. P. GENTRY
By direction

Copy to:
Base Saf Off
Dir, Util Br, Bldg 1202
EnvAffOff, MCB

See ATTACHED Ltr. from CO Hosp dated 22 MAY 85

Industrial Hygiene Follow-up Survey
Mercury Spill Site
SSB-25, Courthouse Bay

Ref: (a) CO, NavHosp ltr 6260.4 ser 371, 22 May 85

1. Findings. As a follow-up to reference (a), monitoring for mercury (Hg) vapor was performed by Mr. J. McCloskey, Environmental Health Technician. The spill had occurred in a pit located under an elevated water tank. Monitoring data is listed below:

Monitoring Instrument.....Jerome Gold Film Hg Vapor Analyzer
Weather Conditions.....Partly cloudy, no wind

	Vapor Concentration in milligrams per cubic meters (mg/m^3)	Threshold Limit Value for 8 hours (mg/m^3)
Top of pit upon removing lid	> 0.1	0.05
Inside of pit after airing for 5 minutes (within 2' of ground	0.01	0.05
ground outside pit	nondetectable	0.05

2. Comments and Recommendations

a. No Hg was visible in the pit. The gravel bottom has been replaced (or covered) with fresh stones. There are occasions when a worker must remain in the pit for periods up to 1 hour. Due to the shallowness of the pit, the breathing zone of the individual could be near the pit surface. Therefore, it is recommended that the pit be aired for at least 30 minutes before entry to ensure that any residual mercury vapor has dissipated.

Technically reviewed and approved:

L. M. Hazeka, LTJG, MSC, USNR
Industrial Hygienist

DEPARTMENT OF THE NAVY
NAVAL HOSPITAL
CAMP LEJEUNE, N.C. 28542

IN REPLY REFER TO
6260.4
371
22 May 85

From: Commanding Officer
To: Commanding General, Marine Corps Base, Camp Lejeune, NC 28542 (Attn: Base Maintenance Officer)

Subj: SURVEY OF MERCURY SPILL AREA AT ELEVATED WATER TANK, COURTHOUSE BAY

Ref: (a) Phoncon btwn Mr. Price, Water Plant Supv, and Mr. J. McCloskey on 8 May 85
(b) 6240.5

Encl: (1) Survey Report
(2) Direct Reading Report, Post Cleanup

1. The subject survey was conducted in response to reference (a). Survey results are forwarded in enclosure (1).

2. If further information is desired, please contact the Industrial Hygiene Branch, extension 1930/2767.

M. P. GENTRY
By direction

Copy to:
BaseSafO
Dir, UtilBr, Bldg 1202
EnvAffOff, MCB

Industrial Hygiene Survey
Special, Mercury Spill, Bldg SBB-25, Courthouse Bay

1. The survey was conducted on 9 May 1985 by Mr. John McCloskey, Environmental Health Technician. Monitoring equipment used was a Jerome, Gold Film Mercury Vapor Analyzer. Vacuuming was accomplished with a Nilfisk Mercury Vacuum.

2. Findings. The actual spill site was inside a 4½ foot deep, outdoor pit under the water tank, Bldg SBB-25. The pit is approximately 3 feet square and contains piping, gauges, electric wiring and an electrical socket. It is constructed of concrete block and has a metal cover. The bottom of the pit is sand and gravel. Apparently, a manometer containing elemental mercury had been broken. There were numerous globules of mercury observed in the pit but none visible on the surrounding ground. Monitoring of air in the pit revealed mercury vapor levels in excess of 1.0 milligrams per cubic meter (mg/m^3). Some vacuuming was accomplished at the time of survey but a complete cleanup/decontamination will require implementation of the procedures and safety precautions listed below.

3. Comments and Recommendations

a. The pit should be posted as a "danger area". Personnel involved in the cleanup should wear full body protection suits, gloves, and air supplied respirators while in the pit. Respirators should be positive pressure (Type C) and approved by the National Institute of Occupational Safety and Health (NIOSH). Best skin protection is provided by butyl rubber or polyethylene. Coveralls should be cuffless with a minimum of seams. Nondisposable protective clothing should be decontaminated or laundered after use.

b. All visible mercury globules should be vacuumed or otherwise removed. A mercury vacuum is available for use from the Industrial Hygiene Branch, extension 1930 or 2767. Ordinary vacuums do not contain the proper filtering system and must not be used. It may not be practical to vacuum mercury intermingled with the gravel and debris (see d. below).

c. The pipe insulation should be removed and treated as mercury waste. Other than the ground and electric shock hazards, all contaminated surfaces should be coated with wetted decontaminant for, at least, 24 hours. Prior to coating the concrete blocks, they should be scrubbed with a stiff bristle brush and decontaminant solution. A type of mercury decontaminant which has been effective is Hgx, a water soluble metallic mercury sulfite converting powder. Hgx can be purchased from Acton Associates, Pittston, Pennsylvania. The Industrial Hygiene Branch has a limited amount of Hgx available for use on this spill.

d. The gravel, dirt and debris on the bottom of the pit should be excavated to a depth sufficient to remove visible mercury. The debris removed should be containerized and disposed of as hazardous waste in accordance with reference (b) (disposable clothing, rags, sponges, etc., used in connection with cleanup and decontamination should be handled in a similar manner). The pit bottom should be covered with clean fill.

e. After cleanup, monitoring services should be requested from the Industrial Hygiene Branch. Mercury vapor levels should be less than 0.05 mg/m^3. Depending upon monitoring results, decontamination procedures may have to be repeated.

Encl (1)

f. The persons involved in the original spill are unknown at this time. Reportedly, they are Base Maintenance workers. When identified, the individuals should be referred to Industrial Hygiene so that exposure histories may be obtained and necessary medical surveillance tests scheduled.

Note: Enclosure (2) is a post-cleanup monitoring report. As shown mercury vapor levels are below the threshold limit value (TLV) of 0.05 mg/m^3. Additional follow-up monitoring is planned under different weather conditions. Reports will be forwarded.

Technically, reviewed and approved:

B. J. Howell

Industrial Hygiene Officer

Direct Reading Report

MOD	Date	1. Reporting ID	2. Inspection Number	3. Sampling Number
				198

4. Establishment Name: MCB UTILITIES

5. Person Performing Sampling (Signature): HMC PENNINGTON

6. CSHO ID:

7. Survey Date: 16 MAY 85

8. Employee (Name, Address, Telephone Number): N/A

12. Exposure Information: a. Number; b. Duration; c. Frequency

9. Job Title: N/A

10. Occupation Code: N/A

13. Weather Conditions: CLEAR

14. Photo: Y NO

11. PPE (Type and effectiveness): N/A

15. Interferences: WIND TO 10 MPH

16. Job Description, Operation, Work Location(s), Ventilation and Controls

PIT SSB-25, COURT HOUSE BAY - POST MERCURY SPILL CLEANUP
WIND - GUSTY TO 10 MPH

Cont'd.

Direct Reading Data

17. Substance/Agent	18. Time	19. Reading	20 Location and Remarks
MERCURY	1430	.00	(1) TOP OF PIT
"	"	.03	(2) TOP OF BROKEN LINE
"	"	.03	(3) TOP OF BROKEN GAUGE
"	"	.01	(4) ELECTRICAL OUTLET
"	"	.02	(5) ROCK BED UNDER GAUGE/LINE
"	"	.01	(6) ROCK BED OPPOSITE SIDE OF GAUGE/LINE

Exposure Summary

21. Line No.	22. Substance Code	23. Smpl. Type	24. Exp. Type	25. Exposure Level	26. Units	27. PEL	28. Adj.	29. Severity	30. Citation Information: No Cit.	FTA	Over Exp.	Eng.	PPE	Trng.	Med.	Other
1.																
2.																
3.																

31. Additives (Enter Line Numbers for those agents contributing to additive effect.)

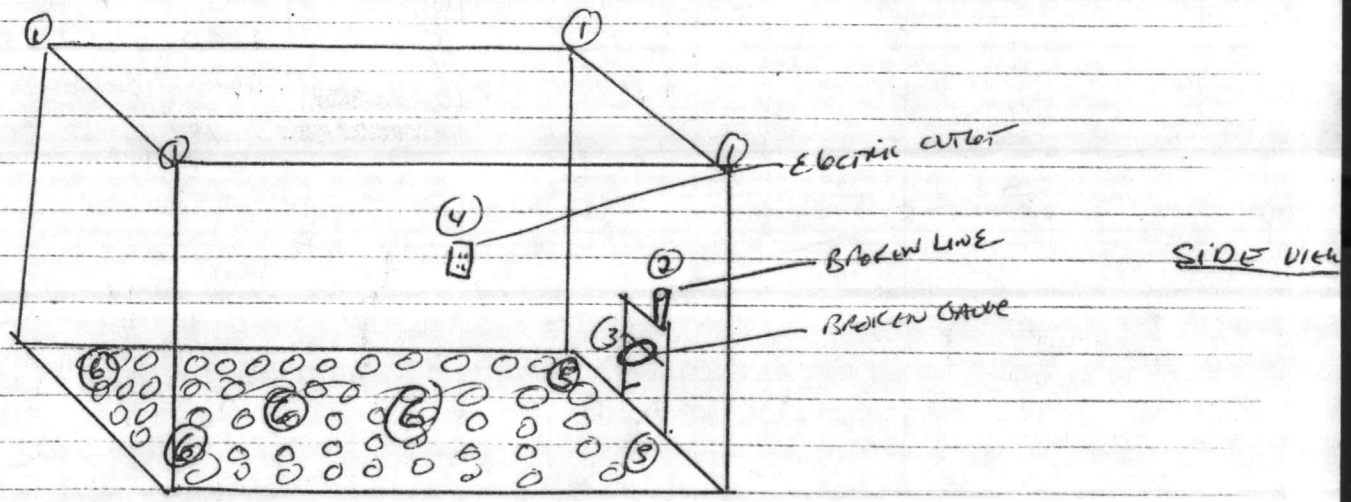
32. Total Number of Lines (21)

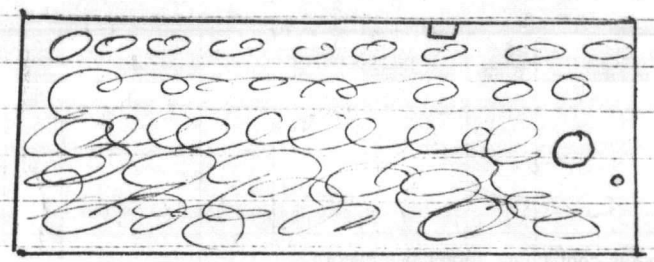
Case File Page 1 of 1

Encl (2)

	Pre-Sampling Calibration *			Post-Sampling Calibration *	
Instrument 1	33. Instrument (Type, Mfg, Model No., SN) MODEL 411 SER 411-671 JEROME MV ANALYZER		36. Results	39. Calibration Source	40. Location
	34. Location/T & BP CALIBRATED AT FACTORY 2-24-85 *	35. Calibration Source		41. Results	
	37. Initials	38. Date/Time		42. Initials	43. Date/Time
Instrument 2	33. Instrument (Type, Mfg, Model No., SN)		36. Results	39. Calibration Source	40. Location
	34. Location/T & BP	35. Calibration Source		41. Results	
	37. Initials	38. Date/Time		42. Initials	43. Date/Time
Instrument 3	33. Instrument (Type, Mfg, Model No., SN)		36. Results	39. Calibration Source	40. Location
	34. Location/T & BP	35. Calibration Source		41. Results	
	37. Initials	38. Date/Time		42. Initials	43. Date/Time

* GOLD FILM HEATED X15 Min PER INSTRUCTION BOOK BEFORE & AFTER SURVEY.





T-6240

INFORMATION BULLETIN

Naval Energy and Environmental Support Activity Port Hueneme, California 93043

IB 005-163 16 May 1985

Federal Register Environment-Related Items of Interest
(12 April-7 May 1985)

23 Apr 50FR16044 HAZARDOUS WASTE--Interim status rules are amended. The changes have little effect on naval activities. Read the changes if you operate a hazardous waste surface impoundment, land treatment unit, or landfill and you are still in interim status (operating under Part A permit conditions).

Surface impoundments must still have a two-foot minimum freeboard to prevent overfilling, but that requirement can be waived by variance if a qualified engineer certifies an alternate design for preventing overfilling.

29 Apr 50FR17784 EPA REGULATORY AGENDA--Semiannual agenda of planned actions includes summary, schedules, and contacts for following 1985 actions:

- codification rule for 1984 RCRA amendments (40 CFR 260-271)
- revise acute hazardous waste mixture rules (40 CFR 261.33)
- standards for managing waste oil (40 CFR 266)
- revise small quantity generator rule (40 CFR 261.5)
- rules for using hazardous waste as fuels (40 CFR 264)
- new toxicity standards for hazardous waste (40 CFR 261)
- new procedures for estimating mobility of organic toxicants (40 CFR 261)
- test protocol for determining presence of free liquids in waste (40 CFR 264, 265)
- class permit for storing on-site generated waste (40 CFR 260, 266)
- notification form for underground storage tanks (40 CFR 280)
- revise PSD and NSR requirements for air sources in nonattainment areas (40 CFR 51, 52)
- revise stack height regulations (40 CFR 51)
- new source performance standards for volatile organic liquids storage (40 CFR 60)
- particulate, NOx and SO_2 emissions from industrial boilers (40 CFR 60)
- opacity reporting (40 CFR 60)
- CERCLA reportable release standards (40 CFR 302)
- National Contingency Plan revisions (40 CFR 300)
- emissions trading/bubble principles (policy)

30 APR 50FR18378 HAZARDOUS WASTE--EPA proposes to tighten control over spent solvents (see attachment A). Comments due 30 May 85.

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 261

[SWH-FRL 2780-3]

Hazardous Waste Management System; Identification and Listing of Hazardous Waste

AGENCY: U.S. Environmental Protection Agency.

ACTION: Proposed Rule and Request for Comments.

SUMMARY: The U.S. Environmental Protection Agency (EPA) today is proposing to amend the list of hazardous wastes adopted pursuant to the Resource Conservation and Recovery Act (RCRA) by redefining the universe of solvents considered hazardous wastes. EPA is taking this action to close a major regulatory loophole created by the manner in which spent solvents were originally listed as hazardous wastes. The effect of today's proposal will be to bring certain spent solvent mixtures under RCRA Subtitle C control.

DATES: EPA will accept comments on this proposed rule until May 30, 1985.

Any person may request a public hearing on this proposed rule by filing a request with Eileen B. Claussen, Director, Characterization and Assessment Division, whose address appears below by May 15, 1985.

ADDRESSES: Comments on the proposed rule should be sent to Docket Clerk, Office of Solid Waste (WH-562B), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460. Comments should identify the regulatory docket number "Section 3001—Spent solvent listings." Request for a hearing should be addressed to Eileen B. Claussen, Director, Characterization and Assessment Division (WH-562B), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460.

The docket for this proposed rule is located in Room S-212A, U.S. Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460, (202) 382-4646, and is available for viewing from 9:00 a.m. to 4:00 p.m., Monday through Friday, excluding holidays.

FOR FURTHER INFORMATION CONTACT: RCRA Hotline, toll free at (800) 424-9346 or at (202) 382-3000. For technical information contact Jacqueline Sales, Office of Solid Waste (WH-562B), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460, (202) 382-4770.

SUPPLEMENTARY INFORMATION:

I. Background

On May 19, 1980, the Environmental Protection Agency (EPA) promulgated the first phase of the hazardous waste regulations under the Resource Conservation and Recovery Act (RCRA) of 1976, as amended. As part of these regulations, EPA listed 27 commonly used organic solvents as hazardous wastes, when spent or discarded. These solvents are identified as EPA Hazardous Waste Nos. F001, F002, F003, F004, and F005.[1]

Currently, the spent solvent listings apply only to the *individual* solvents that are technical grade or in pure form. These solvents are considered "spent" and are regulated under Subtitle C of RCRA when they no longer meet the specifications for which the solvent was originally used either because they have outlasted their shelf life, have become contaminated so as to requirement treatment, or are intended to be reused, recycled, or reclaimed. The listing does not cover manufacturing process wastes contaminated with solvents used as chemical intermediates or feedstocks. Such wastes are listed individually by industry category in § 261.32 of the regulations.

The Agency realized that limiting the universe of spent solvents considered hazardous waste to only single ingredient solvents of technical grade or in pure form would create a major regulatory loophole by allowing mixtures containing one or more of the listed solvents to remain unregulated. ("Solvent mixtures," as described in today's notice, include the following: (1) 100 percent listed solvents; (2) one or more listed solvents and other non-solvent constituents; (3) one or more listed solvents and other non-listed solvents; (4) one or more listed solvents, and other non-listed solvents and non-solvent constituents; or (5) any other mixture combination that includes a listed solvent.) Nonetheless, the Agency was unable to establish levels at which a solvent would be considered a "spent solvent" or at which a "spent solvent" would be considered hazardous; therefore, we were unable to establish levels at which mixtures of solvents would pose a hazard, when spent or discarded.

The Agency clearly indicated its interpretation regarding solvent mixtures in response to a petition submitted by Safety-Kleen Corporation (April 16, 1981). The petition requested clarification or modification of the regulations as they pertain to Safety-Kleen's closed-loop solvent recycling operation in which one of the solvents is a blend of four components—three of which are listed under 40 CFR § 261.31.[2] In response to Safety-Kleen's petition, the Agency stated that the spent solvent blend does not constitute a listed hazardous waste for reasons stated earlier. Safety-Kleen's spent solvent would be considered a hazardous waste only if it exhibited one or more of the characteristics of hazardous waste (*i.e.*, ignitability, corrosivity, EP toxicity, or reactivity). (See letter from John Lehman (EPA) to Theodore Mueller (Safety-Kleen Corporation), July 21, 1981, in the docket.)

II. Reason and Basis for Today's Proposed Rule

A. EPA's Concern With Solvent Mixtures

EPA is concerned that the present interpretation of the solvent listings allows many toxic spent solvent wastes to remain unregulated. The Agency has determined that a diverse group of industries (*e.g.*, printing, coatings, furniture, chemicals and shoe industries) use solvent mixtures. For example, the majority of solvents used in degreasing operations are blends. Although some generators may mix solvents on-site, the majority of solvent blends used in industry are commercial solvent mixtures. Solvents are typically and frequently blended to achieve increased solvent power, faster drying, and to decrease flammability. These virgin solvent mixtures typically contain from 15–50 percent or more of chlorinated solvents. In general, blends will contain 50 percent or more total solvents.[3]

[1] The list of solvents are as follows: F001—The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; and sludges from the recovery of these solvents in degreasing operations (T); F002—The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethylene, chlorobenzene, 1,1,2-trichloro-1,2,2,-trifluoroethane, ortho-dichlorobenzene, and trichlorofluoromethane, and the still bottoms from the recovery of these solvents (T); F003—The following spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol and the still bottoms from the recovery of those solvents (I); F004—The following spent non-halogenated solvents: cresols and cresylic acid, and nitrobenzene, and the still bottoms from the recovery of these solvents (T); F005—The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, and pyridine, and still bottoms from the recovery of these solvents (I)(T).

[2] The Safety-Kleen solvent blend contains cresylic acid 14%, methylene chloride 29%, ortho-dichlorobenzene 29%, and water 28%

[3] Safety Kleen's solvent mixture contains 58 percent chlorinated solvent and 72 percent total

Continued

When EPA promulgated the first phase of the hazardous waste regulations, solvents were listed based on toxicity and ignitability. The Agency also considered factors such as bioaccumulation, persistence, and mobility (see "Criteria for Listing Hazardous Waste" at 40 CFR 261.11). At that time, we listed the most commonly used solvents. (Solvent mixtures used in commerce often contain one or more of these toxic solvents.) Many are known carcinogens, teratogens, mutagens, or neurotoxins. Others are associated with acute and chronic adverse health effects (see the background documents to the solvent listings, available in the docket). In addition, these solvents are mobile and persist in the environment. Also, they may solubilize and mobilize other hazardous constitutents. Since solvents are known to degrade synthetic (Lyman et al., 1983; Schwope, 1983) and clay (Ely, R.L., 1983) landfill liners, these toxic constituents, once mobilized, may readily migrate to ground water. In addition, many solvents are highly volatile (*e.g.*, trichlorofluoromethane, carbon disulfied, methylene chloride, carbon tetrachloride, 1,1,1-trichloroethane); thus, exposure to toxic vapors may result during handling and land disposal when no provisions have been made to minimize volatilization.

As stated earlier, virgin solvent mixtures typically contain 50 percent or more of these toxic solvents, which is a concentration orders of magnitude above levels known to cause adverse health effects in laboratory animals and humans (see Appendix A to the listing background document for health effects data on the individually listed sovlents, October 30, 1980). The Agency, therefore, is concerned that these wastes, when improperly managed, may pose health or environmental hazards identical to or greater than those posed by the individual solvents. We recognize that the acute toxicity of mixtures, in general, is uncertain because of the large number of possible chemical interactions; nonetheless, in the majority of cases, such mixtures will not be less toxic than the individual solvent constituents.

B. Rationale for Extablishing a Cut-off Level for Solvent Mixtures

In order to close this serious regulatory loop-hole, we are proposing to expand the universe of wastes considered "solvents" to include "solvent mixtures" which typically contain toxic or ignitable solvents in concentrations that are known to cause damage to public health or the environment and to establish a quantity and volume cut-off for these mixtures. At this time, however, the Agency has not developed health-based standards for the 27 listed sovlents. Thus, the Agency is faced with establishing a regulatory threshold for solvents without the benefit of pre-established health-based levels. The Agency is working to develop health-based thresholds for several of the listed solvents; however, until these standards are promulgated, we are proposing to use of the approach outlined in today's notice.

In developing a threshold for these waste, the Agency considered the lowest concentration of total solvents typically used in solvent mixtures (*i.e.*, 15 percent); however, the Agency believes that establishing a 15 percent threshold would encourage solvent formulators to re-formulate solvent mixtures to 14 percent or lower (total solvents) to avoid managing such materials as hazardous waste, when spent or discarded. Therefore, the Agency is proposing to regulate spent solvent mixtures containing ten percent or more total listed solvent by volume. We believe that a ten percent threshold limit represents a level well below the minimum solvent concentration needed to impart the characteristics for which solvents are typically used.

The Agency realizes that ten percent may not be the appropriate threshold limit. Although, the ten percent threshold is well above levels known to cause adverse health effects in humans, the Agency is concerned that establishing a lower threshold limit will bring commercial cleaning products (such as office cleaning products) and solvent waste streams containing de minimis concentrations of listed solvent into the hazardous waste management system. Establishing a higher cut-off level would allow many toxic solvent mixtures used by industry to remain unregulated. The Agency, therefore, concludes that establishing a ten percent threshold limit will bring the majority of solvent mixtures used by industry into the hazardous waste management system, while excluding dilute mixtures.

As stated earlier, the Agency is working to develop health-based standards for several of the listed solvents; however, promulgation of such regulations will take several years. The Agency is also developing a new hazardous waste characteristic, the Toxicity Characteristic, which will establish regulatory thresholds for many organic compounds, including some solvents. We expect to promulgate thresholds for a significant number of compounds within the next few years. When promulgated, these threshold limits will override the approach proposed in today's notice. We are proposing in the interim, therefore, to institute the approach outlined in today's notice. We believe this approach will bring most mixed solvent wastes under Subtitle C control. In addition, pursuant to the new provisions of the Hazardous and Solid Waste Amendments of 1984 (HSWA) (Pub. L. 98–616) and as indicated in an Advanced Notice of Proposed Rulemaking published on February 15, 1984 (49 FR 5854–5859), we are evaluating land disposal of solvents. Under the HSWA, EPA is required to determine by November 8, 1986, whether the land disposal of spent solvents should be prohibited.

Today's proposal only partially fulfills EPA's obligation under the HSWA to list additional wastes as hazardous wastes. In addition; within the next few months the Agency will propose to add four additional solvents to the list of hazardous wastes. The provisions set forth in this amendment also will apply to these newly listed solvents when both proposals become final.

III. Re-Numbering of the Solvent Listings

As a result of today's proposal, persons who generate or manage certain solvent mixtures will be required to notify the Agency pursuant to the notification requirements under Section 3010 of RCRA.[4] The Agency is concerned that many of these persons will be uncertain as to the correct hazardous waste number for reporting solvent mixtures containing several listed solvents. Furthermore, at this time, we see no reason to continue to classify listed solvents according to use and chemical constituents (*e.g.*, F001—identifies spent halogenated solvents used in degreasing and F003—identifies spent halogenated solvents). We are

solvents. Another solvent mixture typically used in parts cleaning (trade name—"SS–25") contains approximately 32 percent chlorinated solvent and 100 percent total solvent. "Freon-TMC," a commonly used fluoro-carbon degreasing and cleaning mixture, contains 50 percent chlorinated hydrocarbons and 50 percent chlorofluorocarbon.

[4] In order to effectively "track" hazardous waste described in today's notice and implement enforcement action, the Agency is requiring that newly regulated generators notify the Agency according to the section 301 notification requirements. In addition, pursuant to the HSWA RCRA reauthorization bill, Congress amended section 3005(3) of RCRA by providing that facilities in existence on the effective date of regulatory changes under the Act qualify for interim status if they make an application for a permit and comply with the Section 3010 notification requirements.

proposing today to recode the list of solvents in § 261.31 by deleting F002, F003, F004, F005, and modifying F001 to include all solvents formerly listed in F001 through F005. As a practical matter, this means that all listed spent solvents (and solvent mixtures) will be designated as F001. We believe that such action also will ease recordkeeping and reporting for those who generate and manage these wastes.

IV. Effect of Today's Proposal

Under this proposed rule, newly regulated persons who generate, treat, store or dispose of solvent mixtures (as defined in today's notice) would be required to notify the Agency pursuant to the notification requirements of section 3010 of RCRA and comply with the hazardous waste regulations, as they pertain to listed hazardous wastes. If a generator does not either mix the solvents before use or purchase mixed solvents for use, but mixes spent solvent wastes after use, the mixed spent solvent wastes are already regulated under RCRA, pursuant to the "mixture rule" contained in 40 CFR 261.3.

Since today's action is taken pursuant to the provisions in HSWA, when finalized, the rule will take effect immediately in all States regardless of authorization status. (See "State Authority" section of this notice for further details.)

The Agency believes that today's action will not place substantial burdens on generators of solvent mixtures because many such generators are handling their waste as hazardous because they are not aware of the "loophole," the waste exhibits one or more of the characteristics of hazardous waste, or they believe the waste should be handled as hazardous waste. In addition, 28 States currently regulate solvent mixtures which account for approximately 70 percent of total solvents generated (see the report entitled "Potential Costs and Impacts of Proposed Changes in the Listing of Solvent Wastes", Industrial Economics, Inc., October 30, 1984, available in the docket). Since there is a strong likelihood that solvent generators also generate other RCRA hazardous wastes, we do not expect that substantial numbers of generators will be newly regulated.

V. Effective Date of Regulation

The Agency believes the regulatory loophole created by the manner in which solvents orginally were listed should be closed as soon as possible. This loophole permits very toxic mixtures to remain unregulated. Accordingly, EPA intends to make this rule effective immediately, pursuant to 42 U.S.C. 6930(b) and 5 U.S.C. 552(b)(B), if and when it is promulgated. The Agency specifically requests comments on this point.

VI. Request for Comments

The Agency invites comments on all aspects of this proposal. In particular, we request information on solvent formulations typically used in commerce; that is, the concentration of solvent needed to impart the desired characteristics for which solvents are blended. Such data will enable the Agency to further assess the feasibility of a ten percent cut-off level. EPA also invites comments on whether we should continue to list certain solvents as hazardous wastes based solely on their exhibiting the characteristic of ignitability. Finally, we invite comments on renumbering of the solvent listings, in particular, whether solvents should be listed under a single hazardous waste number, or whether halogenated solvents should be listed separately from non-halogenated solvents.

VII. Regulatory Impact

Under Executive Order 12291, EPA must judge whether a proposed or final rule is "major" and therefore subject to the requirement of a Regulatory Impact Analysis. This proposed rule is not a major rule because it is not expected to result in an effect on the economy of $100 million or more. Although some generators may be newly regulated, data from the RCRA notification data base indicate that many solvent generators also generate other RCRA hazardous wastes. The Agency believes, therefore, that the majority of solvent generators are already regulated under RCRA. Some of these generators may experience increased regulatory requirements when the proposal is promulgated as a final rule; however, as stated earlier in today's notice, many generators of solvent mixtures are currently regulated under State hazardous waste regulations.

The Agency has completed an initial analysis of the potential impacts of today's proposal. The analysis indicates that worst-case costs may be substantial, but they are expected to be experienced by only a few generators. There will be no adverse impact on the ability of U.S.-based enterprises to compete with the foreign-based enterprises in domestic or export markets. Since this amendment is not a major regulation, no Regulatory Impact Analysis is being conducted.

This proposed amendment was submitted to the Office of Management and Budget (OMB) for review as required by Executive Order 12291. Any comments from OMB to EPA and any EPA response to those comments are available for public inspection in Room S–212A at EPA.

VIII. Regulatory Flexibility Act

Pursuant to the Regulatory Flexibility Act, 5 U.S.C. §§ 601–612, whenever an Agency is required to publish a general notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis which describes the impact of the rule on small entities (*i.e.*, small businesses, small organizations and small governmental jurisdictions). The Administrator may certify, however, that the rule will not have a significant economic impact on a substantial number of small entities.

Although some generators will be newly regulated and some will experience an increased regulatory burden, this amendment is not expected to have a significant economic impact on a substantial number of small entities. Worst-case costs are more likely to be experienced by generators with a large volume of difficult to manage wastes (*i.e.*, wastes not suitable for landfilling or recycling). This regulation, therefore, does not require a regulatory flexibility analysis.

IX. Paperwork Reduction Act

This rule does not contain any information collection requirements subject to OMB review under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et. seq.*

X. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Impacts

The solvent mixtures designated as hazardous waste by today's proposed rule, if listed, become hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). (See CERCLA section 101 (14).) CERCLA requires that persons in charge of vessels or facilities from which hazardous substances have been released in quantities that are equal to or greater than the reportable quantities (RQs) immediately notify the National Response Center for release. (See CERCLA section 103 and 48 *FR* 23552, May 25, 1983.)

XI. State Authority

A. Applicability of Rules in Authorized States

Under section 3006 of RCRA, EPA may authorize qualified States to administer and enforce the RCRA

program within the State. (See 40 CFR Part 271 for the standards and requirements for authorization.) Following authorization EPA retains enforcement authority under sections 3008, 7003 and 3013 of RCRA, although authorized States have primary enforcement responsibility.

Prior to the enactment of HSWA, a State with final authorization administered its hazardous waste program entirely in lieu of the Federal Program. The Federal requirements no longer applied in the authorized State, and EPA could not issue permits for any facilities in the State which the State was authorized to permit. When new, more stringent Federal requirements were promulgated or enacted, the State was obligated to enact equivalent authority within specified time frames. New Federal requirements did not take effect in an authorized State until the State adopted the requirements as State law.

In contrast, under newly enacted Section 3006(g) of RCRA, 42 U.S.C. 6926(g), new requirements and prohibitions imposed by the HWSA take effect in authorized States at the same time that they take effect in nonauthorized States. EPA is directed to carry out those requirements and prohibitions in authorized States, including the issuance of permits, until the State is granted authorization to do so. While States must still adopt HSWA-related provisions as State law to retain final authorization, the HSWA applies in authorized States in the interim.

B. Effect on State Authorizations

Today's announcement proposes standards that will be effective in all States since the requirements are imposed pursuant to Section 3001(e)(2) of RCRA as amended by the Hazardous and Solid Waste Amendments of 1984. Thus, EPA will implement the standards in nonauthorized States, and in authorized States until they revise their programs to adopt these rules and the revision is approved by EPA.

A State may apply to receive either interim or final authorization under section 3006(g)(2) or 3006(b), respectively, on the basis of requirements that are substantially equivalent or equivalent to EPA's. The procedures and schedule for State adoption of these regulations is described in 40 CFR 271.21. See 49 FR at 21678 (May 22, 1984).

Applying § 271.21(e)(2), States that have final authorization must revise their programs within a year of promulgation of EPA's regulations if only regulatory changes are necessary, or within two years of promulgation if statutory changes are necessary. These deadlines can be extended in exceptional cases (40 CFR 217.21(e)(3)).

States that submit official applications for final authorization less than 12 months after promulgation of EPA's regulations may be approved without including standards equivalent to those promulgated. However, once authorized, a State must revise its program to include standards substantially equivalent to EPA's within the time period discussed above.

List of Subjects in 40 CFR Part 261

Hazardous materials, Waste treatment and disposal, Recycling.

Dated: April 22, 1985.

Lee M. Thomas,

Administrator.

References

Ely, R.L., Jr., et al. Performance of Clay Caps and Liners for Disposal Facilities. Final Report under EPA contract No. 68–03–3149, March 1983.

Lyman, W.J., et al. Expected Life of Synthetic Liners and Caps. Draft final report to EPA under EPA Contract No. 68–01–6160, March 1983.

Schwope, A.D., Arthur D. Little, Inc. Data on Swelling and Permeability of Barrier Materials, September 1983.

For reasons set out in the preamble, 40 CFR Part 261 is proposed to be amended as follows:

1. The authority citation for Part 261 reads as follows:

Authority: Secs. 1006, 2002(a), 3001, and 3002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended [42 U.S.C. 6905, 6912(a), 6921, and 6922].

2. 40 CFR 261.31 is amended by deleting EPA Hazardous Waste Nos. F002, F003, F004, and F005 and revising F001 to read as follows:

* * * * *

§ 261.31 Hazardous wastes from non-specific sources.

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Generic: F001	The following spent solvents and spent solvent mixtures/blends containing, in total, ten percent (or more) by volume of one or more of the following solvents, and still bottoms from the recovery of these solvents and solvent mixtures: tetrachloroethylene (T), trichloroethylene (T), methylene chloride (T), 1,1,1-trichloroethane (T), carbon tetrachlonde (T), chlorinated fluorocarbons (T), chlorobenzene (T), 1,1,2-trichloro-1,2,2-trifluoroethane (T), orthodichlorobenzene (T), trichlorofluoromethane (T), xylene (I), acetone (I) ethyl acetate (I), ethyl benzene (I), ethyl ether (I), methyl isobutyl ketone (I), n-butyl alcohol (I), cyclohexanone (I), methanol (I), cresols and cresylic acid (T), nitrobenzene (T), toluene (I,T), methyl ethyl ketone (I,T), carbon disulfide (I,T), isobutanol (I,T), and pyridine (I,T).	(T, I, OR T,I).

* * * * *

3. Appendix VII to Part 261 is amended by removing EPA Hazardous Waste Nos. F002, F003, F004 and F005 and revising F001 to read as follows:

* * * * *

Appendix VII—Basis for Listing Hazardous Waste

F001	Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chlorinated fluorocarbons, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, orthodichlorobenzene, trichlorofluoromethane, cresols and cresylic acid, nitrobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, and pyridine.

* * * * *

[FR Doc. 85–10277 Filed 4–29–85; 8:45 am]

BILLING CODE 6560–50–M

DEPARTMENT OF THE NAVY

NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY
PORT HUENEME, CALIFORNIA 93043

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300
11ND-NEESA-5110/2 (8-80)

POSTAGE AND FEES PAID

DEPARTMENT OF THE NAVY
DOD-316

COMMANDING GENERAL
ATTN: NREA OFFICER
MARINE CORPS BASE
CAMP LEJEUNE NC 28542-5001

Danny T-6240 T-6248

N. C. Department of Human Resources
Div. of Health Services
P. O. Box 2091 * Raleigh, North Carolina 27602-2091

James G. Martin, Governor
Philip J. Kirk,Jr.,Secretary

Ronald H. Levine, M.D.,M.P.H.
State Health Director

May 8, 1985

BOB ALEXANDER
US Marine Corps Base Camp LeJeune
Marine Corps Base
Camp LeJeune NC 28542
EPA NUMBER: NC6170022580

Dear BOB ALEXANDER:

The United States Environmental Protection Agency has granted the State of North Carolina Interim Authorization for Phase II Components A and B to operate the State's Hazardous Waste Management Program in lieu of the Federal Program under the RCRA.

Section 3007(a) authorizes access to facilities which handle hazardous waste. Access is granted to 'duly designated' officers or employees of the EPA (or State, if that State has a hazardous waste program authorized under section 3006 of the Act.)

Pursuant to section 3006 and N.C.G.S. 130-166.18, an inspection was conducted 04/03/85 by Mr. DOUG HOLYFIELD Solid and Hazardous Waste Management Branch. No violations were observed. The inspection did not include a review of the Financial or Ground Water monitoring requirements, if applicable. This office wishes to thank you for your cooperation. Please do not hesitate to contact us if we may be of future assistance.

Sincerely,

William Paige
Environmental Engineer
Solid and Hazardous Waste
Management Branch
Environmental Health Section

copy: DOUG HOLYFIELD

copy to: DPDO
Ac/s LOG (TMO)
NREAD

JDW

Scotch® 7664 "Post-it" Routing-Request Pad

ROUTING - REQUEST

Please
- ☐ READ
- ☐ HANDLE
- ☐ APPROVE

and
- ☐ FORWARD
- ☐ RETURN
- ☐ KEEP OR DISCARD
- ☐ REVIEW WITH ME

To NREA — for info

Date 17 May 85 From Facilities Br

T-6240

...ment of Human Resources
...Health Services
...North Carolina 27602-2091

Ronald H. Levine, M.D., M.P.H.
State Health Director
919/733-3446

6, 1985

...ors,
Treaters, Storers and Disposers

FROM: William L. Meyer, Head
Solid and Hazardous Waste Management Branch

SUBJECT: BRANCH PENALTY COMPUTATION PROCEDURE

On December 31, 1984, the Solid and Hazardous Waste Management Branch of the North Carolina Department of Human Resources was granted final authorization from the U.S. Environmental Protection Agency to administer the hazardous waste management program under the Resource Conservation and Recovery Act. The granting of that authorization signified that the North Carolina Hazardous Waste Management program is equivalent to the federal program.

As part of the authorization process, the Branch is required to adopt an enforcement strategy equivalent to the federal program. The purpose of this plan is to ensure compliance in a fair, uniform, timely, and appropriate manner. The major components of the enforcement program continue to be monitoring of performance and technical assistance by field personnel and Raleigh office staff.

Performance monitoring and technical assistance, combined with a high degree of cooperation demonstrated by the regulated community, have led to a high level of voluntary compliance with the hazardous waste rules. I would like to express my appreciation to you for the success we have had in implementing this very complex program. Our enforcement strategy calls for continued cooperation between our office and the regulated community, to protect public health and the environment.

However, no system of regulation, particularly one this complex, is perfect, and violations are occasionally found. When violations are found, the branch prefers to work with the facility to achieve swift, voluntary compliance. There are occasions, however, when we feel that assessment of administrative penalties can be an effective tool in insuring swift compliance. Therefore, as a part of our enforcement strategy, we have developed an administrative penalty computation procedure, to assure that administrative penalties are assessed in a fair and consistent manner.

Enclosed you will find the introduction and summary of the penalty computation procedure, as well as the base penalty matrix. If you would like a copy of the full procedure, please contact the Solid and Hazardous Waste Management Branch, P.O. Box 2091, Raleigh, North Carolina 27602-2091, telephone (919) 733-2178.

* copy to: SJA
NREAD

T-6240

North Carolina Department of Human Resources
Division of Health Services
P.O. Box 2091 • Raleigh, North Carolina 27602-2091

James G. Martin, Governor
Phillip J. Kirk, Jr., Secretary

Ronald H. Levine, M.D., M.P.H.
State Health Director
919/733-3446

May 6, 1985

MEMORANDUM

TO: All North Carolina Generators,
Treaters, Storers and Disposers

FROM: William L. Meyer, Head
Solid and Hazardous Waste Management Branch

SUBJECT: BRANCH PENALTY COMPUTATION PROCEDURE

On December 31, 1984, the Solid and Hazardous Waste Management Branch of the North Carolina Department of Human Resources was granted final authorization from the U.S. Environmental Protection Agency to administer the hazardous waste management program under the Resource Conservation and Recovery Act. The granting of that authorization signified that the North Carolina Hazardous Waste Management program is equivalent to the federal program.

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* copy to: SJA
NREAD

Also, be advised that when administrative penalties totaling more than $5,000 are assessed, we will notify local government officials, local news media, and the capitol press corps through issuance of a news release.

WLM:HLM

NC SOLID WASTE MANAGEMENT PENALTY COMPUTATION PROCEDURE

The procedures set out in this document are intended solely for the guidance of Department of Human Resources personnel. They are not intended and cannot be relied upon to create rights, substantive or procedural, enforceable by any party in litigation with the state of North Carolina. The Branch reserves the right to act at variance with this procedure and to change it, without public notice, as necessary to protect public health and the environment.

March 29, 1985

I. INTRODUCTION

In response to the problem of improper waste management, the North Carolina General Assembly amended the Solid Waste Management Act in 1979 and again in 1981 to allow the Department of Human Resources to adopt regulations which are equivalent to federal regulations developed under the Resource Conservation and Recovery Act of 1976. Although the Act has several objectives, the legislature's overriding purpose in amending the Act was to provide for a comprehensive system for the safe management of solid waste in North Carolina.

Section 22(a),(d) of Chapter 130A of the North Carolina General Statutes provides that if any person is in violation of waste management rules, the Secretary of Human Resources may impose an administrative penalty, taking into account:

- the degree and extent of harm caused by the violation, and

- the cost of rectifying the damage.

Section 22(a) further provides the Secretary with the authority to assess civil penalties of up to $500.00 per day in the case of a violation involving nonhazardous waste and up to $10,000 per day in the case of a violation involving hazardous waste. The authority to assess these penalties has been delegated to the head of the Solid and Hazardous Waste Management Branch.

This document sets forth the Branch's procedure for assessing administrative penalties under NC GS 130A-22(a),(d). The purpose of the procedure is to assure that civil penalties for violations of the Act and waste management rules are assessed in a fair and consistent manner; that penalties are appropriate for the gravity of the violation committed; that economic incentives for noncompliance with the rules are eliminated; that persons are deterred from committing rules violations; and that compliance is achieved in order to protect public health and the environment.

The procedure provides internal guidelines to aid the Solid and Hazardous Waste Management Branch in assessing appropriate penalties. It also provides a mechanism whereby the Branch may, within specified boundaries, exercise discretion in negotiating administrative consent agreements and orders, and otherwise modify the penalty when special circumstances warrant it. This procedure is consistent with the U.S. EPA final RCRA Civil Penalty Policy (May 8, 1984) and the standards in 10 NCAC 10G Section .0702.

This document does not discuss whether assessment of an administrative penalty is the correct enforcement response to a particular violation. Rather, this document focuses on determining what the proper civil penalty should be once a decision has been made that a civil penalty is warranted.

II. SUMMARY OF THE POLICY

The penalty calculation system consists of (1) determining a base penalty for a particular violation, (2) considering the costs of rectifying the violation or the economic benefit of non- compliance, and (3) adjusting the penalty for special circumstances. Two factors

are considered in determining the base penalty:

- degree and extent of harm, whether real or potential; and
- extent of deviation from a statutory or regulatory requirement.

These two factors constitute the seriousness of a violation of the state's Solid and Hazardous Waste Management rules, and have been incorporated into a penalty matrix from which the base penalty will be chosen.

When significant savings are derived by failure to comply with the rules, the amount of economic benefit, if readily determinable, can be added to the base penalty. For example, if a facility failed to install proper safety equipment, the cost of that equipment, at fair market value, would be added to the penalty chosen from the matrix.

After determining the appropriate penalty based on gravity and, where appropriate, economic benefit, the penalty may be adjusted to reflect the particular circumstances surrounding the violation. The factors that should be considered are:

- Good faith efforts to comply/lack of good faith;
- Degree of willfulness/negligence to comply;
- History of non-compliance/compliance;
- Ability/inability to pay; or
- Other unique factors.

Factors which would adjust the penalty upwards are always considered prior to assessing an administrative penalty. Factors which would adjust the penalty downwards are considered after the penalty has been assessed (during settlement).

The procedure also provides for appropriate assessment of multiple and multi-day penalties.

C. Penalty Assessment Matrix

Each of the above factors - degree or extent of harm and extent of deviation from a requirement - forms one of the axes of the penalty assessment matrices. A separate matrix is provided for hazardous and non-hazardous waste violations. Each matrix has nine cells containing a penalty range. The specific cell is chosen after determining which category (major, moderate, or minor) is appropriate for the harm factor and the deviation factor.

For violations involving hazardous waste, the lowest cell (minor degree or extent of harm/minor deviation) contains a penalty range from $50 to $500; the highest cell (major degree or extent of harm/major deviation) is limited by the maximum statutory penalty allowance of $10,000 per day of violation. Penalties for violations involving non-hazardous waste range from a low of $25 to a high of $500. Provisions for a low range of penalties has been made because assessment of low penalties has proven to be an effective compliance tool.

The selection of the exact penalty amount within each cell is left to the discretion of the Branch head in any given case. The Branch head (or his designee) should be careful to consider harm and deviation factors only in selecting the penalty amount range. The reasons the violation was committed, the intent of the violator, and other factors related to the violator are not considered at this point; they will be considered at the adjustment stage.

MATRIX - HAZARDOUS WASTE VIOLATIONS

Degree or extent of harm (real or potential)

Extent of Deviation from Rules	MAJOR	MODERATE	MINOR
MAJOR	10,000 to 7,500	7,000 to 4,500	4,000 to 1,500
MODERATE	8,000 to 5,500	5,000 to 2,500	2,000 to 500
MINOR	6,000 to 3,500	3,000 to 1,500	500 to 50

T-6240

6280
NREAD
3 May 1985

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Defense Property Disposal Officer

Subj: INSPECTION REPORT ON LONG TERM HAZARDOUS WASTE STORAGE FACILITIES AT BUILDINGS TP-451 AND TC-863

Ref: (a) CG MCB CLNC ltr FAC/REA/hf 6280 of 15 Jul 1983
(b) On-site Inspection on 30 Apr 1985 by Mr. D. Sharpe, NREAD; Mr. J. Metts, BaseFireProtDiv, and Mr. G. Eggers, DPDO

Encl: (1) Inspection Checklist for Long Term Hazardous Waste Storage Facilities at Buildings TP-451 and TC-863 dated 30 Apr 1985

1. Reference (a) obligated this command to ensure that the subject facilities are operated in accordance with the permit application contained therein. Routine inspections are conducted to monitor current status of compliance. The enclosure documents findings made during reference (b). On 2 May 1985, Mr. R. J. Andrews, Base Safety Officer, was requested by Natural Resources and Environmental Affairs Division to evaluate the problem of water in electrical conduits.

2. Follow-up on corrective action in progress for discrepancies identified on previous inspections should be actively pursued. Point of contact in this matter is Mr. D. Sharpe, extensions 5003/2083.

J. I. WOOTEN
By direction

Copy to:
BFireCh
AC/S FAC
SJA (Attn: Capt Beale)
BMO (Attn: Fred Cone
BaseSafetyO

Writer: D. SHARPE, NREAD 5003

PARTICIPANTS Mr. George Eggers, DPDO; Mr. D. Sharpe, NREAD, Mr. J. Metts, BaseFireDept

DATE: 30 April 1985

FACILITIES AND EQUIPMENT	SAT	UNSAT	COMMENTS
1. FACILITY GROUNDS	X		See Note #1 on next page
2. FACILITY SECURITY (LOCKS, DOORS, SIGNS, ETC.)	X		Mr. Eggers advised during inspection that four signs have been ordered per 26 March 1985 inspection report.
3. EMERGENCY TELEPHONE AND FIRE ALARMS			Mr. Eggers advised during inspection that requests to repair outside telephone pole have been initiated.
4. UNLOADING PAD DRAIN VALVE	X		
5. EXHAUST FANS	X		
6. INTERIOR LIGHTING AND ELECTRICAL OUTLETS		X	Water in conduit for electrical outlet has not been addressed. NREAD has requested Base Safety Officer to inspect the problem.
7. SAFETY SHOWERS/ EYE LAVAGES	X		
8. CURBS, GRATES, OTHER FIXTURES	X		Mr. Eggers advised that Base Maintenance has ordered grates. No imminent haxard noted caused by damaged grates.
9. NON-SPARKING SHOVELS (2)	X		
10. ABSORBENT (EQUIVALENT OF FOUR 55-GAL BARRELS)	X		Marked satisfactory with assumption that "safe step" type would be obtained as a substitute for part of "speed, dry" type.
11. HAZ MAT PUMPS OR EQUIVALENT	X		
12. FIRE EXTINGUISHERS	X		
13. PROTECTIVE GEAR AND EQUIPMENT	X		Mr. Eggers had one escape pack and advised that a second was on order.
14. EMPTY CONTAINERS AND OVERPACK DRUMS	X		

OPERATIONAL CONSIDERATIONS	SAT	UNSAT	COMMENTS
1. Required operator inspections and Inspection Log	X		
2. Emergency Contingency Plan Posting & Operator Familiarity	X		
3. Fire Department Phone number posting	X		
4. Condition of containers in use	X		
5. Presence of odors/vapors, residues in sumps, deck, etc.	X		
6. Unloading Pad Valve Operation	X		
7. Compatibility of Material Storage	X		
8. Implementation of previously recommended corrective action		X	Problem with water in conduit has not been resolved and no indication of corrective action in progress
9. Facility Operators since last Inspection	X		

ADDITIONAL COMMENTS, EXPLANATIONS, ETC:

NOTE #1: Please be advised that several items previously marked "Unsatisfactory" have been upgraded to " Satisfactory: even though corrective action has not been completed. This was done because the problems do not pose an imminent threat. However, previously recommended corrective action should be completed as soon as possible.

Dang DD

T-6240

File
Hz work

TELEPHONE CONVERSATION RECORD
MCBCL 2305/8

(This record is to be used for both incoming and outgoing calls)

DATE
~~11 April 1985~~

TIME *(Began - Completed)*
1145

TO: Chief of Staff,

ORIGINATOR
(Name, Title, Location & Telephone Number Charged)
Mr. Howard Barker, Administrative Aide, Congressman Whitley, D-NC

PERSON CALLED
(Name, Title, Location & Telephone Number Charged)
Mr. B. W. Elston, AC/S, Facilities

SUBJECT
CHEMICAL DUMP SITE, MCAS(H), NR

COST OF CALL *(MCB Units Only)*
☐ CHARGEABLE TO STATION ALLOTMENT ☐ NOT CHARGEABLE TO STATION ALLOTMENT

ROUTING

ACTIVITY OR NAME	ACTION	INFO	INITIAL

COMMENTS

SUMMARY OF CONVERSATION

1. Mr. Barker called and stated that he had several calls from military members' wives concerning the suspected chemical dump site recently discovered at MCAS(H), NR. One wife had alleged that a 5-gallon can of material was uncovered and that suspected chemicals had been buried at the site in the past. Mr. Barker further stated that he had read the response in the Jacksonville Daily News and that he relayed this information to the callers. He indicated they were not satisfied and contended there were more chemicals than what was noted in the past. I explained to Mr. Barker that our Natural Resources Director, Mr. Julian Wooten, along with our Staff Environmentalist, visited the site with the MCAS(H), NR Safety Director on Monday, 8 April 1985. I noted the only chemicals found were several vials of calcium hypochlorite which are routinely used in the water purification process. I further explained to Mr. Barker that concurrent with discovering the vials of chemicals, a housing occupant in the same vicinity had requested a hole in the ground near her yard be filled. Somehow the two incidents were rumored to be connected and that a chemical dump was being filled in. I told Mr. Barker that we had thoroughly investigated the incident and had talked with the operators of the equipment in filling the hole, and there were no 5-gallon containers, to our knowledge, that were uncovered or buried. I also explained that the area where the vials of chemicals were found was near the river bank and was eroded. Our planned actions included (after removing the vials of calcium hypochlorite) filling with soil and noting the location and later taking soil samples under our Navy Pollution Abatement Program (NACIP).

COPIES TO: CO, MCAS(H),NR; JPAO, BADJ
NRPA

SIGNATURE B W Elston

2. Mr. Barker stated that with the additional information, he thought he could answer the questions and quell the rumor. He further stated that if additional questions remained he would request names so that we could further investigate. I explained that we were aware of everything he had passed and had found an answer to all the questions with the exception of the 5-gallon container and that if he could get me a lead concerning that, I would be more than happy to do further investigation.

NATURAL RESOURCES AND ENVIRONMENTAL AFFAIRS
Marine Corps Base
Camp Lejeune, North Carolina 28542

4-15-85
Date

From: Director
To: Danny
Subj:

Plan on attending this meeting 18 April 85.

OK
JD

Jdw Danny DDS

T-6240

6280/2
FAC
11 APR 1985

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Commanding General, 2d Force Service Support Group (REIN), FMFLant, Camp Lejeune, North Carolina 28542-5701 (Attn: G-4)
Commander, Marine Corps Air Bases, Eastern Area, Cherry Point, North Carolina 28533-5000 (Attn: Director of Supply)
Commanding Officer, Marine Corps Air Station (H), New River, Jacksonville, North Carolina 28545-5000 (Attn: Ground Safety Manager)

Subj: SCOPE OF WORK FOR HAZARDOUS MATERIAL/WASTE (HM/W) AND USED OIL MANAGEMENT STUDY

Ref: (a) LantDiv Norfolk VA 281440Z JAN 85

Encl: (1) Scope of Work, LantDiv, received 28Feb85

1. The enclosure is provided for your review and future reference on this subject. Your comments are welcome. The reference provided a start and completion date of August 1985 and January 1986 respectively, for the study.

2. Development of an accurate HM/W inventory of compounds used at MCB and MCAS(H), New River will form the basis for development of a workable management plan. In order to expedite formulation of this inventory, request an appropriate representative of your command attend a discussion of the subject on Thursday, 18 April 1985 at 1000, Bldg 1116 Conference Room. The discussion will be centered on HM/W data sources and the best means of providing HM/W info to the contractor.

3. Point of contact for this matter is Mr. Bob Alexander, AV 484-3034.

B. W. ELSTON
By direction

BCopy to:
AC/S, Log
NREAD
EnvEngr

D. Sharpe attended 18 Apr 85.
Robert Alexander
Spencer Parker
Lt Col Barone
George Eggers
Barbara Hoffman
Mary Wright
Capt Cerveny
Staff Sgt. Lamm
were present

JdW

T-6240

File Hq Mat/Waste

Julian:

Recommend that Base strongly NONCONCUR with any attempt to shift responsibility for Disposal of HW from DLA/DPDS/DPDR/DPDO to activities.

It takes a/the large volume of Business to justify the staffing (legal/environmental/technical/etc.) to properly administer and monitor Contracts.

D Stange

AIL CONTROL FORM
BCL 5216/3 (REV. 5-84)

CONTROL NO (Assigned by Base Adjutant)
199

RETURN THIS FORM AND ATTACHED CORRESPONDENCE TO BASE CENTRAL FILES. NUMBERS INDICATE ORDER OF ROUTE.

OM: Commandant
TE OF CORRESP: 7 Mar 1985
RIGINATOR'S SYM: FL/2-73
UBJECT: PROPOSED PO... ATERIALS

1985

USED HAZARDOUS

Mr. Wooten, JLW

This is what the meeting @ Logistics on Monday was about. ~~Logis~~ I had not seen it before the meeting. Logistics told Bob to prepare the response requested. Bob stated he ~~kn~~ knew of alot of chemical companies that would ~~buy~~ used chemicals and felt DPDO was not making an effect to sale.

Logistics was going to look into DPDO's records to see if it would be feasible to take over the sale of Hazardous Materials,

Betsy.

				COMMENTS
OMMANDING GEN				
HIEF OF STAFF				
SPECTOR				
C/S MANPOWER				
S TRAININ				
C/S FACILITI				
C/S COMPTR				
C/S PERSONI				
C/S LOGISTI				
C/S SPECIAL				
ASC				
MO				
JA				
DJUTANT		1	9 April	

Danny,

Another meeting was held Thursday @ 0800 @ Logistics. Not much more was bought out except the C of S was not in favor. Alex has learned it was the Army + Air Force that asked for this. Another meeting may occur Friday.

Betsy.

NUMBERS INDICATE ORDER OF ROUTE

AIL CONTROL FORM
BCL 5216/3 (REV. 5-84)

CONTROL NO [redacted] ssigned by Base Adjutant)
199

RETURN THIS FORM AND ATTACHED CORRESPONDENCE TO BASE CENTRAL FILES. NUMBERS INDICATE ORDER OF ROUTE.

OM: mmandant of the Marine Corps

TE OF CORRESPONDENCE: Mar 1985

REPLY DUE: 16 APRIL 1985

DATE RECEIVED: 9 April

RIGINATOR'S SYMBOL: FL/2-73

UBJECT: ROPOSED POLICY CHANGES CONCERNING HAZARDOUS WASTE (HW) AND USED HAZARDOUS ATERIALS (HM) DISPOSAL

	ACTION	INFO	INITIAL	COMMENTS
OMMANDING GENERAL				
HIEF OF STAFF		2	J	Together take for action w/ coord reqd w/ comptr + Installa
SPECTOR				
/S MANPOWER				
S TRAINING				
/S FACILITIES	5	5		Original Furnished
/S COMPTROLLER	3	3	[illegible]	
/S PERSONNEL SERVICES				
/S LOGISTICS	4			
/S SPECIAL SERVICES				
ASC				
MO				
JA				
DJUTANT		1	9 April	

NUMBERS INDICATE ORDER OF ROUTE

DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
WASHINGTON, D.C. 20380

6280/6
LFL/2-73
27 MAR 1985

From: Commandant of the Marine Corps

Subj: PROPOSED POLICY CHANGES CONCERNING HAZARDOUS WASTE (HW) AND USED HAZARDOUS MATERIALS (HM) DISPOSAL

Encl: (1) Dir Env Policy DASD (I) memo of 11 Mar 85 with attachment

1. The Office of the Secretary of Defense (OSD) has proposed significant changes in HW and HM management within the Department of Defense (DoD). Beginning in FY87, the changes would allow DoD installations to dispose of their own HW by contract or other means, or use Defense Logistics Agency contracts on a reimbursable basis. Excess HM would continue to be disposed of through the servicing Defense Property Disposal Office (DPDO). It is important to note, OSD has advised us that, regardless of the proposed policy change, they intend to require the components to pay for HW disposal services beginning in FY87. Finally, OSD has established a long range goal to eliminate disposal of untreated HW by 1992.

2. In light of the important changes proposed, and potential impacts/benefits to Marine Corps HW management programs, we request you provide comments on the potential effects of the enclosure to your HW management program. Comments should be received no later than 16 April 1985. Negative replies are requested. Our point of contact is Mr. Paul Hubbell (LFL) A/V 227-1890/1.

R F Wemheuer

ROBERT F. WEMHEUER
By direction

Distribution:
CG MCDEC Quantico, VA
CG MCB Camp Pendleton, CA
CG MCLB Albany, GA
CG MCAS Cherry Point NC
CG MCRD San Diego, CA
CG MCAGCC Twentynine Palms, CA
[redacted]
CB MCLB Barstow, CA
CG MCAS El Toro, CA
CG MCRD Parris Island, SC
CO MCAS Kaneohe Bay, HI
CO MCAS Yuma, AZ
CO MCAS Beaufort, SC

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, DC 20301

MANPOWER
INSTALLATIONS
AND LOGISTICS

11 MAR 1985

MEMORANDUM FOR DEPUTY FOR ENVIRONMENT, SAFETY AND OCCUPATIONAL HEALTH, OASA (I&L)
DIRECTOR, INSTALLATIONS AND FACILITIES, OASN(S&L)
DEPUTY FOR ENVIRONMENT AND SAFETY (SAF/MIQ)
DIRECTOR, DEFENSE LOGISTICS AGENCY

SUBJECT: DoD Management of Hazardous Wastes and Excess Hazardous Materials

Effective management of hazardous waste and excess hazardous materials is our most challenging environmental problem. The responsibility to best achieve compliance with environmental, safety and conservation requirements belongs to the men and women who staff our installations and especially their commanders. No set of directives or regulations can adequately cover the diverse situations that confront installation commanders and their people as they carry out their mission.

The attached revised policy for hazardous waste and excess hazardous materials is designed to let commanders achieve compliance and run their bases their way instead of Washington's way. These policy revisions are needed to comply with the Resource Conservation and Recovery Act amendments of 1984, to improve our record in construction of storage facilities and to maximize the options available to decision makers in achieving the goals of compliance and waste minimization. My goal is the elimination of disposal of untreated hazardous waste by 1992.

Please review the attached draft policy revision and provide comments by April 15, 1985. This policy will later become part of the DoD Directive for Solid Waste Management. Please address any questions or comments to Mr. M. B. White, telephone 653-1273.

Carl J. Schafer, Jr.,
Director, Environmental Policy

Attachment

cc: DAEN-ZCE
NOP-45
HQMC(LFL)
AF/LEEV
DLA-W
DLA-S

Encl (1)

DoD Hazardous Waste and Excess Hazardous Material Management

Purpose:

This memorandum provides DoD policy guidance on the disposal of hazardous wastes and excess hazardous materials.

Background:

DoD installations conduct a number of operations and industrial processes that generate hazardous wastes and excess hazardous materials. To ensure compliance with applicable environmental, safety and conservation requirements, these wastes and materials must be managed effectively from generation to disposal.

In May 1980 Defense Environmental Quality Program Policy Memorandum (DEQPPM 80-5) assigned responsibilities to the services and DLA for different portions of the DoD hazardous waste and hazardous materials management program. Since this assignment, program enforcement has shifted from federal to state levels, the Resource Conservation and Recovery Act (RCRA) has been amended, disposal and cleanup costs have increased at least tenfold, and public sensitivity to hazardous materials management has increased significantly. These dynamic changes, along with the need to rapidly provide additional conforming storage facilities, has caused us to re-examine the 1980 policy guidance with a view toward developing the most effective management program to ensure compliance with new requirements.

Policy:

DoD policy is to comply with applicable laws regulating the handling, transport, treatment and disposal of excess hazardous materials and hazardous wastes. It is also DoD policy to maximize the options available to decision makers in achieving compliance. The DoD goal for improving program management and environmental protection is to eliminate the disposal of untreated hazardous waste by 1992. This goal shall be attained through a rigorous program of waste minimization and emphasizing treatment and recycling over disposal. Waste minimization includes materials substitution, process modification, reuse and recycling, volume reduction and treatment (including incineration). Such management is required in order to detoxify waste, ensure environmental protection, and minimize long term liability.

REPRODUCED AT GOVERNMENT EXPENSE

Responsibilities:

Military Services

Military services are responsible for assuring that installations achieve compliance in hazardous waste and excess hazardous materials management. Services shall provide technical support to installation commanders as needed.

DLA

DLA will provide the services with management of excess hazardous materials and marketable hazardous waste in compliance with the Federal Property and Administrative Services Act of 1949. DLA is responsible for providing the services with support in the management of hazardous waste as agreed upon with the services. DLA is responsible for off-site cleanup of DoD wastes with untraceable origins.

Installation Commanders:

Installation commanders are directly responsible for proper management of hazardous wastes and excess hazardous materials generated on their installations.

Hazardous Waste Management

The Installation Commander:

- Must be knowledgeable of local, state and federal laws affecting hazardous waste management including the applicable definition of a hazardous waste.
- Determines the most cost effective disposal/treatment procedure. This can be accomplished with installation resources, by commercial contract or through the local DPDO.
- Pays disposal costs. Where a DPDO manages the hazardous waste program, the installation commander pays only the disposal costs. Payment procedure is to be arranged between the appropriate levels of command.
- Provides support to DLA in development and construction of conforming storage facilities for hazardous materials or waste.

Hazardous Materials Management

- Installation commanders shall dispose of excess hazardous materials through the servicing DPDO. Income from sales of excess materials will be returned to generating activity if the activity has provided an account number. Any instances of safety or environmental violations will be resolved by the installation commander.

Defense Property Disposal Offices

DPDO's shall provide assistance to the installation commanders as requested. DPDO's will advise installation commanders of the services that are within their capability to provide and those that are not.

Implementation:

This policy does NOT mandate changes to existing successful programs.

Services and DLA shall determine responsibilities based on economics and environmental requirements. Services and DLA are advised that assignment of responsibilities will have a significant impact on operations. Initial assignments cannot be revised easily.

DLA shall continue with construction of conforming storage facilities. However in instances where these facilities handle only materials excluded or exempted from RCRA control, as when an installation stores hazardous waste, DLA facilities will not seek RCRA permits.

Changes that would affect existing contracts will not be implemented until expiration of those contracts.

Where changes in program responsibility are determined, transition procedures shall be developed at the lowest level of control.

This policy will not result in reallocation of resources. Defense Environmental Restoration Account (DERA) funding of hazardous waste disposal will cease in FY-86. Components must program disposal costs accordingly.

JdW - Discussed with Bob Alfarado on 4-12-85 at abt 1103. Recommended the base strongly object to proposal to change the program

1. preliminary review of the reference conducted in the short time frame available indicates an adverse effect on MCB operations would occur from the DOD policy. This adverse effect is due to the shifting of scarce resources , billets and funding, to accomplish the disposal contracting being performed at present by DPDS. In FY 84, $250,000 was obligated by DPDSin contract cost for HM/W generated at Camp Lejeune complex. In FY 85, thes costs are estimated at $300,000.

2. The manpower resources committed to the ongoing DPDS contract development, solicitation, award, and administration represent an estimated 3 to 5 man-years of effort solely for MCB operations. Additional manpower will be required to address the extensive legal and quality assurance issues of hazardous waste disposal contracts. In order to fully assess the impact of the proposed policy on MCB operations, additional information is needed on the availability of the resources to do the work.

3. MCB presently generates large quantities of HM/W which are unused, excess materials, some of which have exceeded the recommended shelf life for military use. A substantial portion of the pre-determined HW class of waste originates from MCAS(H) New river, i.e. unused items with expired shelf life. These materials can likely be recycled through resale to commercial users. The proposed policy states that MCB would fund for HW disposal after the resale/recycling efforts of DPDS have been exhausted. [illegible] We believe the policy should allow maximum flexibility to MCB to minimize HW via recycling if and when the responsibility for HW disposal contracts is placed upon the command.

4. Expanded efforts for waste minimization , reuse and recycling are needed at Camp Lejeune to attain the 1992 goal as stated in the new policy. To enhance these efforts, a "clearinghouse" for marketing HM/W is needed which would function similar to the DPDS-Memphis Region but more able to tap adjacent Carolina markets. An existing clearinghouse, the Piedmont Waste Exchange, can likely serve this function for Camp Lejeune and several military installations in the area. The

Take out

Piedmont Waste Exchange is a non-profit information clearinghouse sponsored by the Urban Institute of the University of North Carolina at Charlotte. The attached bulletin, "Waste Watcher", illustrates the marketing performed by the Exchange.

5. In FY 85, a Hazardous Material/Used Oil Management Plan will be completed which will determine the most feasible and economical system for HM/W handling at Camp Lejeune complex. This plan will examine existing marketing and disposal practices and study new means, including joint ventures with other federal or commercial organizations. Request that the final policy provide the maximum flexiblilty to implement the Plan.

Take out

6. In summary, the proposed policy will adversely affect ongoing HM/W operations at Camp Lejeune and appears to create duplication of effort among nearby military activities. We appreciate the opportunity to comment on the proposal and will provide additional detail as desired.

ASSISTANT CHIEF OF STAFF, FACILITIES
HEADQUARTERS, MARINE CORPS BASE

DATE 3 Apr. 85

TO:

BASE MAINT O	DIR, FAMILY HOUSING
PUBLIC WORKS O	DIR, UNACCOMPANIED PERS HSG
COMM-ELECT O	BASE FIRE CHIEF

ATTN: Mr. Wooten - NREA

1. Attached is forwarded for (info)/action.

2. Please initial, or comment, and return all papers to this office.

3. Your file copy

J. G. Fitzgerald
By direction
ss

"LET'S THINK OF A FEW REASONS
WHY IT CAN BE DONE"

T-6240

DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
WASHINGTON, D.C. 20380

6280/6
LFL/2-73
27 MAR 1985

From: Commandant of the Marine Corps

Subj: PROPOSED POLICY CHANGES CONCERNING HAZARDOUS WASTE (HW) AND USED HAZARDOUS MATERIALS (HM) DISPOSAL

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R F Wemheuer

ROBERT F. WEMHEUER
By direction

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CO MCAS Kaneohe Bay, HI
CO MCAS Yuma, AZ
CO MCAS Beaufort, SC

REPRODUCED AT GOVERNMENT EXPENSE

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, DC 20301

MANPOWER
INSTALLATIONS
AND LOGISTICS

11 MAR 1985

MEMORANDUM FOR DEPUTY FOR ENVIRONMENT, SAFETY AND OCCUPATIONAL HEALTH, OASA (I&L)
DIRECTOR, INSTALLATIONS AND FACILITIES, OASN(S&L)
DEPUTY FOR ENVIRONMENT AND SAFETY (SAF/MIQ)
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Carl J. Schafer, Jr.,
Director, Environmental Policy

Attachment

cc: DAEN-ZCE
NOP-45
HQMC(LFL)
AF/LEEV
DLA-W
DLA-S

REPRODUCED AT GOVERNMENT EXPENSE

Encl (1)

5100332

DoD Hazardous Waste and Excess Hazardous Material Management

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REPRODUCED AT GOVERNMENT EXPENSE

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REPRODUCED AT GOVERNMENT EXPENSE

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Implementation:

This policy does NOT mandate changes to existing successful programs.

Important!

Services and DLA shall determine responsibilities based on economics and environmental requirements. Services and DLA are advised that assignment of responsibilities will have a significant impact on operations. Initial assignments cannot be revised easily.

DLA shall continue with construction of conforming storage facilities. However in instances where these facilities handle only materials excluded or exempted from RCRA control, as when an installation stores hazardous waste, DLA facilities will not seek RCRA permits.

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This policy will not result in reallocation of resources. Defense Environmental Restoration Account (DERA) funding of hazardous waste disposal will cease in FY-86. Components must program disposal costs accordingly.

REPRODUCED AT GOVERNMENT EXPENSE

~~From: DPDS~~
~~To: AC/S FAC~~

Julian, These are proposed comments which I have given to LOG. BW 4-15-85

1. The policy revisions proposed by the reference will significantly change the successful hazardous material/waste (HM/W) handling and disposal operations which are jointly managed by DPDS and Camp Lejeune personnel. The minor problems encountered during this joint effort are being resolved as they occur. This progress is expected to further improve as more experience is gained.

2. The proposed policy will have an adverse effect on Camp Lejeune operations due to the shifting of scarce resources, billets and funds, to accomplish the disposal contracting being performed at present by the DPDS Memphis Region. In FY 1984, $250,000 was obligated by DPDS in contract costs for HM/W generated at the Camp Lejeune Complex. In FY 1985 these costs are estimated at $300,000. Additional manpower resources would be required by the new policy at a level of three to five man-years to address the contract administration with extensive legal and quality assurance responsibilities to be assumed by Camp Lejeune.

3. In light of the above comments, this command recommends the existing policies be continued in effect , and that the ongoing DPDS disposal contracting efforts be supported in order to meet the 1992 goal.

4-12-85

Julian -
Bob brought this by here today 1300.

T

~~From: DPDS~~
~~To: AC/S F&C~~

Julian, These are proposed comments which I have given to LOG. Phil W. 4-15-85

1. The policy revisions proposed by the reference will significantly change the successful hazardous material/waste (HM/W) handling and disposal operations which are jointly managed by DPDS and Camp Lejeune personnel. The minor problems encountered during this joint effort are being resolved as they occur. This progress is expected to further improve as more experience is gained.

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3. In light of the above comments, this command recommends the existing policies be continued in effect , and that the ongoing DPDS disposal contracting efforts be supported in order to meet the 1992 goal.

T-6240

6280
NREAD
2 Apr 1985

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Defense Property Disposal Officer

Subj: INSPECTION REPORT ON LONG TERM HAZARDOUS WASTE STORAGE FACILITIES AT BUILDINGS TP-451 AND TC-863

Ref: (a) CG MCB CLNC ltr FAC/REA/hf 6280 of 15 Jul 1983
(b) On-site Inspection on 26 Mar 1985 by Mr. D. Sharpe, NREAD; Mr. J. Metts, BaseFireProtDiv, and Mr. G. Eggers, DPDO

Encl: (1) Inspection Checklist for Long Term Hazardous Waste Storage Facilities at Buildings TP-451 and TC-863 dated 26 Mar 1985

1. Reference (a) obligated this command to ensure that the subject facility is operated in accordance with the permit application contained therein. Routine inspections are conducted to monitor current status of compliance. The enclosure documents findings made during reference (b). It should be noted that State regulatory officials recommended the signs discussed in Item 2 on the enclosure. Follow-up on corrective action in progress for discrepancies identified on previous inspections should be actively pursued. Point of contact in this matter is Mr. D. Sharpe, extensions 5003/2083.

J. I. WOOTEN
By direction

Copy to:
BFireCh
AC/S FAC
SJA (Attn: Capt Beale)
BMO (Attn: Fred Cone)

Writer: D. Sharpe, NREAD, 5003
Typist: J. Cross 2Apr85

INSPECTION CHECKLIST FOR LONG TERM HAZARDOUS WASTE/MATERIALS STORAGE FACILITIES AT TP-451/TC/863

PARTICIPANTS G. Eggers, DPDO; M. Metts, BaseFireDept; D. Sharpe, NREAD

DATE: 26 Mar 1985

FACILITIES AND EQUIPMENT	SAT	UNSAT	COMMENTS
1. FACILITY GROUNDS	X		
2. FACILITY SECURITY (LOCKS, DOORS, SIGNS, ETC.)	X		Recommend that signs be placed on exterior fence advising that Base Fire Department, telephone 3333, be notified of any emergencies.
3. EMERGENCY TELEPHONE AND FIRE ALARMS		X	DPDO should submit written request to Base Telephone f/replacement of pole and mounting of equipment.
4. UNLOADING PAD DRAIN VALVE	X		
5. EXHAUST FANS	X		
6. INTERIOR LIGHTING AND ELECTRICAL OUTLETS		X	Water (probably condensate) in conduit/electrical outlet.
7. SAFETY SHOWERS/ EYE LAVAGES	X		
8. CURBS, GRATES, OTHER FIXTURES		X	Grates need replacing. DPDO should request estimated installation date from Base Maintenance Office.
9. NON-SPARKING SHOVELS (2)	X		
10. ABSORBENT (EQUIVALENT OF FOUR 55-GAL BARRELS)		X	Recommend that 20 bags of safe step type absorbent be obtained in addition to existing stocks of other absorbents.
11. HAZ MAT PUMPS OR EQUIVALENT	X		
12. FIRE EXTINGUISHERS	X		
13. PROTECTIVE GEAR AND EQUIPMENT		X	Escape packs need replacement.

OPERATIONAL CONSIDERATIONS	SAT	UNSAT	COMMENTS
1. Required operator inspections and Inspection Log	X		
2. Emergency Contingency Plan Posting & Operator Familiarity	X		
3. Fire Department Phone number posting	X		
4. Condition of containers in use	X		One pallet needs replacing.
5. Presence of odors/vapors, residues in sumps, deck, etc.	X		
6. Unloading Pad Valve Operation	X		
7. Compatibility of Material Storage		X	STB stored with organic. Problem was corrected immediately.
8. Implementation of previously recommended corrective action		X	
9. Facility Operators since last Inspection	X		Mr. Lonnie Brinson was in charge two days during Mr. Eggers' absence. (See Note 1).

ADDITIONAL COMMENTS, EXPLANATIONS, ETC: Note #1: DPDO should ensure all persons working at facility have basic level of training in both routine and emergency procedures.

NREA
T-6240

UNITED STATES MARINE CORPS
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542

IN REPLY REFER TO
4200
LOG
28 MAR 1985

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Distribution List

Subj: CONTRACTING DIVISION INFORMATIONAL BULLETIN 2-85 - BASE LAUNDRY SERVICES

Ref: (a) Contract No. M67001-85-D-0031

1. The base laundry service is now being performed by a civilian contractor under the terms and conditions of the reference. The transition from government operated to contractor operated laundry service has been successful; however, the following problems require the attention of units requesting laundry services.

a. Hazardous Materials. Blank ammunition, igniters, gloves, cold weather gear, and other assorted items have been left in field jacket and sleeping bags. To ensure the safety of all personnel and reduce the liability of the government, the following actions are to be implemented upon receipt of this letter.

(1) Sleeping bags will be turned inside out prior to turn-in.

(2) All foreign material is to be removed from field jacket pockets prior to turn-in.

b. Timely Pick-up of Finished Laundry: The laundry pick-up point has been used as a storage depot by units not claiming their finished work within 3 working days. Absent compelling reasons, units must pick up their finished work within 3 working days of being notified by the contractor. Failure to do so may cause the unit to incur a liability for storage costs to the contractor.

2. Any requests for further information on the above topics or any questions pertaining to the contractor furnished laundry services should be addressed to this command's technical representative for laundry service, Mr. Robert L. Lowrey, X-5626.

S. C. PARKER
By direction

DISTRIBUTION: A

T-6240

6240
NREAD
22 Mar 1985

Mr. William L. Meyer, Head
Solid and Hazardous Waste Management Branch
Environmental Health Section
Division of Health Services
Post Office Box 2091
Raleigh, North Carolina 27602-2091

Dear Sir:

The enclosed information (Attachments A through E) is submitted as requested by Mr. O. W. Strickland's letter GDB:plg/1546A of December 3, 1984. As discussed with Mr. Gary Babb of your staff, please advise of additional information required by your office.

The monitoring wells were installed by STS Consultants, LTD., Raleigh, North Carolina under Navy Contract N62470-83-C-5827 (same as STS Job Number 3158-AA). Please feel free to contact STS consultants relative to records they may have.

Questions regarding this matter should be directed to Mr. Danny Sharpe of my staff at (919)-451-2083.

Sincerely,

J. I. WOOTEN
Director

Encl: (1) with
Attachments A-E

Writer: J. I. Wooten, NREAD 5003
Typist: J. Cross 22Mar85

Sanitary Landfill, Camp Lejeune, NC

1. The type of waste landfilled at the disposal site, in the past and at present.

Putrescible and non-putrescible wastes including house hold and industrial garbage and refuse, fly ash, demolition debris, asbetos and other solid waste. No hazardous waste permitted.

2. Chemical composition of waste, including reaction by-products.

Not applicable

3. Any anticipated change or variability in the waste stream.

None

4. Attach a map of the landfill site with the location of existing monitoring wells, water supply wells, streams (label whether intermittent or perennial), and springs within 1/4 mile of facility. The map should be at a scale of not greater than 1" = 200 ft.

5. Any water supply wells indicated should show an approximate pumping rate, unless the well is for residential use only.

See Attachment (A)

6. Approximate depth to groundwater at the landfill.

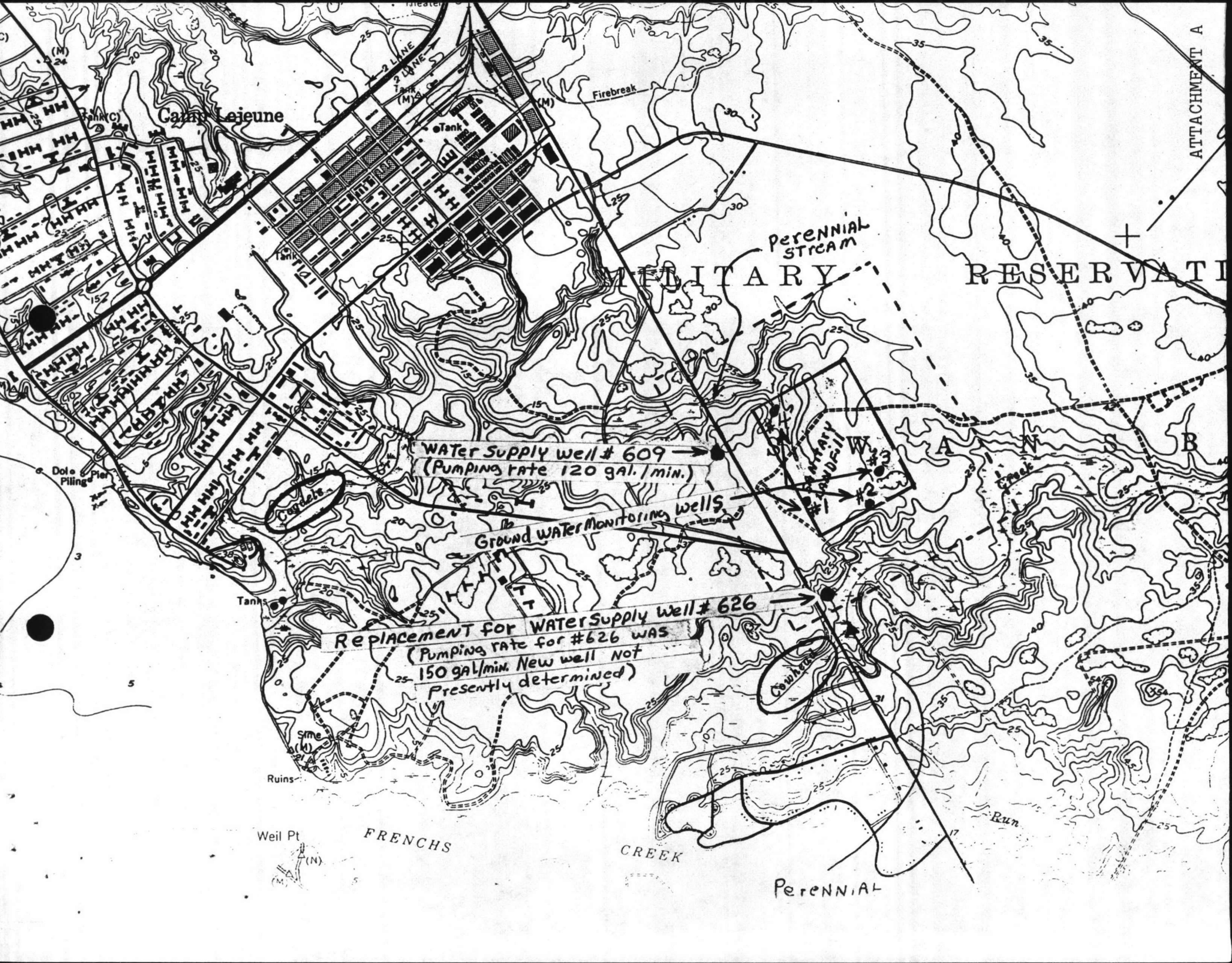
McDowell-Jones, P.A. determined watertable to be 22.0 ft. Attachment (B) shows findings when sampled.

7. Attach well completion reports, including lithologic data, elevation of top of casing, and height of casing above land surface, for all existing wells. See Attachment (C)

8. If monitoring wells are installed at the disposal site, propose a method to pull samples from wells, containerize samples, and ship to laboratory for analysis. (The attached form may be completed for this item if applicable).

Sample containers provided by contract lab with preservative, if required. An ISCO sampler is used to take sample. Volume of water in well is determined. Three volumes are pumped out and then samples pulled and placed into containers. Samples are iced down immediately and shipped iced down to contract lab.

9. If there are existing wells, are samples collected and analyzed? If so, by whom (i.e., collector and laboratory)? 1984 samples were handled as follows: Collector: Quality Control Laboratory, NREAD, Marine Corps Base Camp Lejeune - Laboratory: Guilford Laboratory, PO Box 9735 Plaza Station, Greensboro, NC (See results in Attachments (D) and (E).


ATTACHMENT A
Camp Lejeune
Firebreak
Perennial Stream
MILITARY RESERVATI
WATer Supply well # 609
(Pumping rate 120 gal./min.)
Ground WATer Monitoring wells
Replacement for WATer Supply well # 626
(Pumping rate for #626 was 150 gal/min. New well not Presently determined)
Dole Piling Pier
Tanks
Ruins
Weil Pt
FRENCHS CREEK
Perennial
Run
Creek

MONITORING WELL DATA

Sanitary Landfill, Camp Lejeune

Well #1

Casting Height to Ground 26.75" = 2.2 ft
From Casting to Water 15.5 ft (on 23 Aug 84)
Water Depth from ground 13.3 ft "

Well #2

Casting Height to Ground 26" = 2.2 ft
From Casting to Water 3 ft (on 23 Aug 84)
Water Depth from Ground 0.8 ft "

Well #3

Casting Height to Ground 27" = 2.3 ft
From Casting to Water 9.5 ft (on 23 Aug 84)
Water Depth from Ground 7.2 ft "

Well #4

Casting Height to Ground 31.5" = 2.6 ft
From Casting to Water 6 ft (on 30 Oct 84)
Water Depth from Ground 3.4 "

ATTACHMENT (B)

GUILFORD LABORATORIES, INC.
P.O. Box 9735/Plaza Station/Greensboro, N.C. 27408

10 SEPTEMBER 1984

REPORT OF ANALYSIS

JOB#: USMC40820

CUSTOMER: UNITED STATES MARINE CORPS.

SAMPLES: #3145 WELL #1
#3146 WELL #2
#3147 WELL #3

RESULTS

	#3145	#3146	#3147
ARSENIC(ppm)	<0.001	<0.001	<0.001
BARIUM(ppm)	0.147	0.147	0.147
CADMIUM(ppm)	0.010	0.003	0.006
CHROMIUM(ppm)	0.026	0.020	0.008
LEAD(ppm)	0.164	0.144	0.164
MERCURY(ppm)	<0.001	<0.001	<0.001
SELENIUM(ppm)	<0.001	<0.001	<0.001
SILVER(ppm)	0.022	<0.001	<0.001
NITRATE NITROGEN(ppm)	0.54	0.34	0.40
FLUORIDE(ppm)	0.60	0.11	<0.10
CHLORIDE(ppm)	2.2	10.4	3.8
COPPER(ppm)	0.027	<0.001	0.006
COLOR(PT/CO units)	10.00	35.00	50.00
IRON(ppm)	8.68	1.86	5.78
MANGANESE(ppm)	0.104	0.005	0.026
SULFATE(ppm)	66.6	4.61	10.09
pH	6.56	6.51	7.25
TOTAL ORGANIC HALOGEN(ppm)	<0.01	<0.01	<0.01
TOTAL ORGANIC CARBON(ppm)	43.5	13.0	10.5

GUILFORD LABORATORIES, INC

J.A.RAYBURN

ATTACHMENT D

GUILFORD LABORATORIES, INC.
P.O. Box 9735/Plaza Station/Greensboro, N.C. 27408

16 NOVEMBER 1984

REPORT OF ANALYSIS

JOB#: DN41105

CUSTOMER: DEPT. OF NAVY - MARINE CORP.

SAMPLES: #4107 SANITARY LANDFILL WELL #4

RESULTS

	#4107
ARSENIC(ppm)	0.0029
BARIUM(ppm)	0.5
CADMIUM(ppm)	0.039
CHROMIUM(ppm)	0.10
LEAD(ppm)	0.305
MERCURY(ppm)	<0.001
SELENIUM(ppm)	<0.001
SILVER(ppm)	0.023
IRON(ppm)	14.31
MANGANESE(ppm)	0.233
ZINC(ppm)	0.041
SULFATE(ppm)	11.37
TOTAL DISSOLVED SOLIDS(ppm)	329.8
CONDUCTIVITY(uhmos)	490.0
TOX(ppm)	<0.01
TOC(ppm)	22.0

GUILFORD LABORATORIES, INC.

J.A. RAYBURN

ATTACHMENT E

OWNER: U. S. Naval Facility

LOG OF BORING NUMBER: B-2

PROJECT NAME: Camp Lejeune

ARCHITECT-ENGINEER:

STS Consultants Ltd.

SITE LOCATION: Camp Lejeune, North Carolina

UNCONFINED COMPRESSIVE STRENGTH TONS/FT²: 1 2 3 4 5

PLASTIC LIMIT % | WATER CONTENT % | LIQUID LIMIT %: 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT: 10 20 30 40 50

ELEVATION / DEPTH	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³	STANDARD PENETRATION BLOWS/FT
					SURFACE ELEVATION		
	S-1	ss			FINE SAND, very loose, grey and tan. (SW)		3
	S-2	ss			CLAYEY SILTY FINE SAND, loose, light brown. (SC-SM)		6
5	S-3	ss					8
	S-4	ss					11
10	S-5	ss					24
	S-6	ss					21
15	S-7	ss			SILTY FINE SAND, loose to dense, tan and white. (SM)		23
	S-8	ss					36
20	S-9	ss					30
	S-10	ss					20
25					BORING TERMINATED 24.0'		
					Hollow stem auger used full depth		

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN SITU THE TRANSITION MAY BE GRADUAL

WL	WS OR WD	BORING STARTED 8-18-83	RALEIGH
WL	BCR ACR	BORING COMPLETED	
WL		RIG ATV FOREMAN SPT	APP'D BY WJS STS JOB NO 3158-AA

BL1

OWNER: U. S. Naval Facility

LOG OF BORING NUMBER: B-2

PROJECT NAME: Camp Lejeune

ARCHITECT-ENGINEER:

STS Consultants Ltd.

SITE LOCATION: Camp Lejeune, North Carolina

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² (1 2 3 4 5)

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % (10 20 30 40 50)

STANDARD PENETRATION BLOWS/FT (10 20 30 40 50)

ELEVATION / DEPTH	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³	STANDARD PENETRATION BLOWS/FT
SURFACE ELEVATION							
	S-1	ss			FINE SAND, very loose, grey and tan. (SW)		3
	S-2	ss			CLAYEY SILTY FINE SAND, loose, light brown. (SC-SM)		6
5	S-3	ss					8
	S-4	ss					11
10	S-5	ss					24
	S-6	ss					21
15	S-7	ss			SILTY FINE SAND, loose to dense, tan and white. (SM)		23
	S-8	ss					36
20	S-9	ss					30
	S-10	ss					20
25					BORING TERMINATED 24.0'		
					Hollow stem auger used full depth		

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN SITU THE TRANSITION MAY BE GRADUAL

WL	WS OR WD	BORING STARTED 8-18-83	STS RALEIGH
WL	BCR ACR	BORING COMPLETED	
WL		RIG ATV FOREMAN SPT	APP'D BY WJS STS JOB NO. 3158-AA

BLT

OWNER: U. S. Naval Facility

LOG OF BORING NUMBER: B-2

PROJECT NAME: Camp Lejeune

ARCHITECT-ENGINEER:

STS Consultants Ltd.

SITE LOCATION: Camp Lejeune, North Carolina

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² — 1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT %

10 20 30 40 50

STANDARD PENETRATION BLOWS/FT — 10 20 30 40 50

ELEVATION / DEPTH	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³	STANDARD PENETRATION BLOWS/FT
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5	S-3	ss					8
	S-4	ss					11
10	S-5	ss					24
	S-6	ss					21
15	S-7	ss			SILTY FINE SAND, loose to dense, tan and white. (SM)		23
	S-8	ss					36
20	S-9	ss					30
	S-10	ss					20
25					BORING TERMINATED 24.0' Hollow stem auger used full depth		

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN SITU THE TRANSITION MAY BE GRADUAL

WL	WS OR WD	BORING STARTED 8-18-83	RALEIGH
WL	BCR ACR	BORING COMPLETED	
WL		RIG ATV FOREMAN SPT	APP'D BY WJS STS JOB NO 3158-AA

OWNER: U. S. Naval Facility

LOG OF BORING NUMBER: B-2

PROJECT NAME: Camp Lejeune

ARCHITECT-ENGINEER:

STS Consultants Ltd.

SITE LOCATION: Camp Lejeune, North Carolina

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² (1 2 3 4 5)

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT %

(10 20 30 40 50)

STANDARD PENETRATION BLOWS/FT (10 20 30 40 50)

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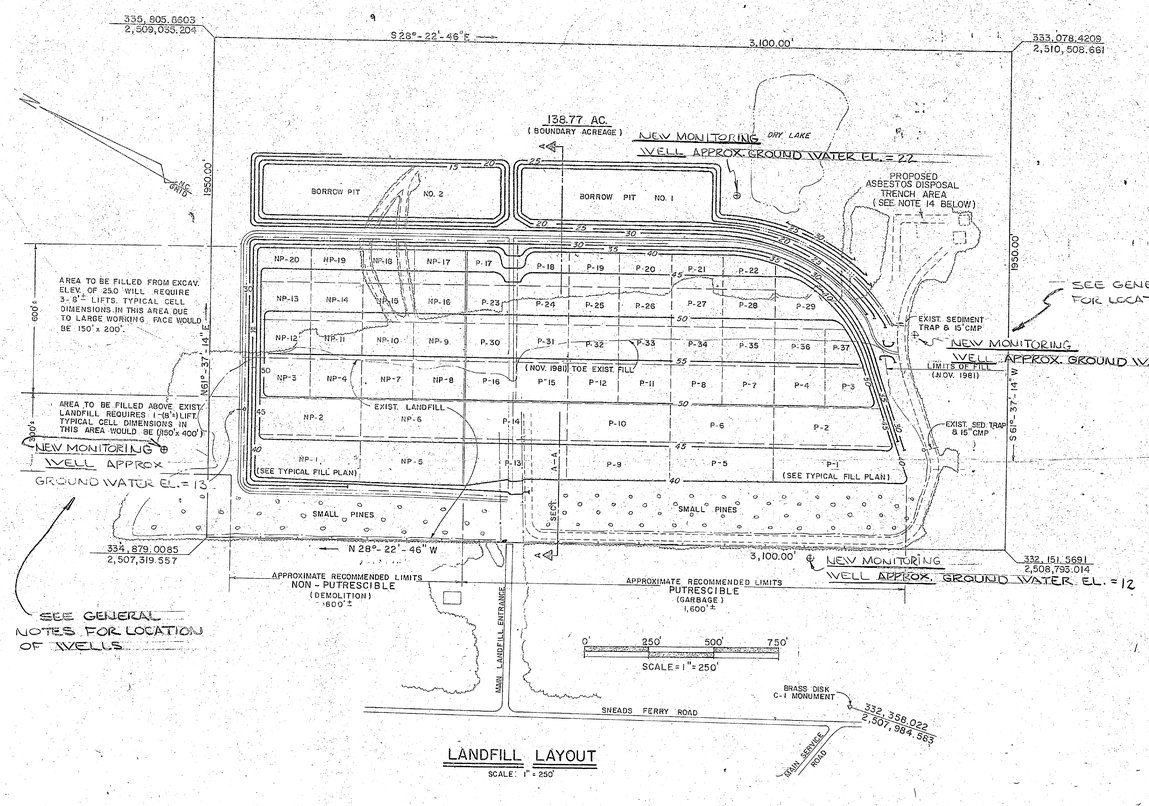
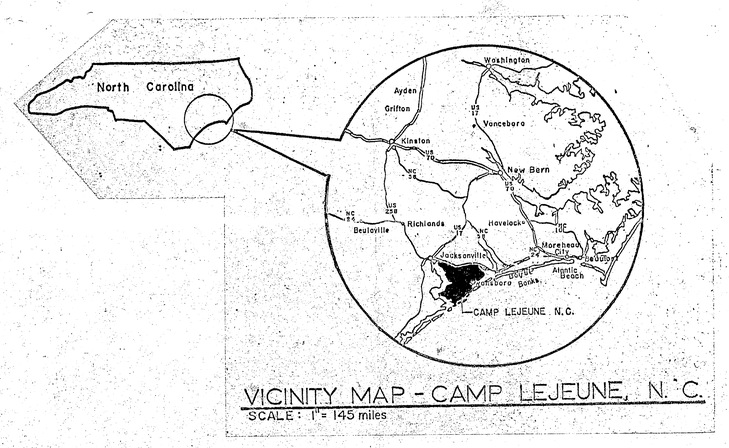
	S-2	ss			CLAYEY SILTY FINE SAND, loose, light brown. (SC-SM)		6
5	S-3	ss					8
	S-4	ss					11
10	S-5	ss					24
	S-6	ss					21
15	S-7	ss			SILTY FINE SAND, loose to dense, tan and white. (SM)		23
	S-8	ss					36
20	S-9	ss					30
	S-10	ss					20
25					BORING TERMINATED 24.0'		
					Hollow stem auger used full depth		

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN SITU THE TRANSITION MAY BE GRADUAL

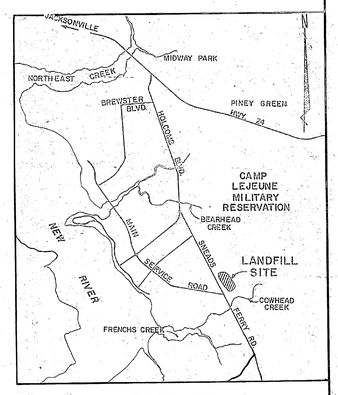
WL	WS OR WD	BORING STARTED 8-18-83	RALEIGH
WL	BCR ACR	BORING COMPLETED	
WL		RIG ATV FOREMAN SPT	APP'D BY WJS STS JOB NO 3158-AA



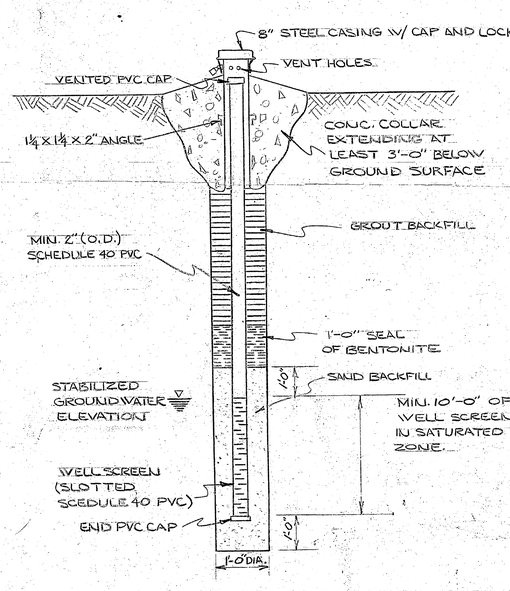
LANDFILL LAYOUT
SCALE: 1" = 250'



VICINITY MAP - CAMP LEJEUNE, N. C.
SCALE: 1" = 145 miles



SITE MAP
SCALE: 5/8" = 1.0 MILE



TYPICAL GROUND WATER MONITORING WELL
N.T.S.

GENERAL NOTES

1. ALL PVC CONNECTION SHALL BE CLAMPS OR THREADED FITTINGS. NO EPOXY CEMENT WILL BE PERMITTED
2. SAND SHALL BE WASHED TO REMOVE ALL FINES TO PREVENT CLOGGING OF THE WELL SCREEN.
3. LOCATION OF MONITORING WELLS TO BE STAKED OUT BY THE GOVERNMENT
4. PROVIDE SIGNS FOR EACH WELL LABLED "NOT POTABLE WATER FOR MONITORING ONLY."
5. MAINTAIN A LITHOLOGIC LOG OF FORMATIONS PENETRATED & TAKE SAMPLES (1 QUART) OF EACH FORMATION. LOG & SAMPLES WILL BE TURNED OVER TO GOVERNMENT.

1" = 250'-0"
5/8" 1.0 MILES

GRAPHIC SCALES
0' 250' 500' 750'
1 0 1 2 3 4 5

C-1

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

DES. R PONZETTO	NEW MONITORING WELLS FOR SANITARY LANDFILL
DR. W. J. THOMAS	
CHK. PONZETTO	
SUBMITTED BY:	
DESIGN DIR.	
APPROVED: PWO OR OICC / DATE: 3/4/83	SIZE: F; CODE IDENT. NO.: 80091; NAVFAC DRAWING NO.: 4080793
SATISFACTORY TO: / DATE	CONSTR. CONTR. NO. N62470-83-5827
SCALE: NOTED	SPEC. 05-83-5827; SHEET: OF

T-6240

6240
NREAD
20 Mar 85

From: Director, Natural Resources and Environmental Affairs Division, Marine Corps Base, Camp Lejeune
To: Assistant Chief of Staff, Facilities, Marine Corps Base, Camp Lejeune

Subj: HAZARDOUS MATERIAL/WASTE AND USED OIL MANAGEMENT STUDY; COMMENTS CONCERNING

1. The subject study scope of work has been reviewed and the following comments are provided.

a. It is recommended that under paragraph 1, enclosure (1), that "Marine Corps Air Station (H), New River" be added in the first sentence.

J. I. WOOTEN

NATURAL RESOURCES AND ENVIRONMENTAL AFFAIRS
Marine Corps Base
Camp Lejeune, North Carolina 28542

3-11-85
Date

From: Director
To: Dan
Subj: Attached please review and comment

Julian

UNITED STATES MARINE CORPS
Marine Corps Base
Camp Lejeune, North Carolina 28542-5001

6280/2
FAC
11 MAR 1985

From: Assistant Chief of Staff, Facilities, Marine Corps Base, Camp Lejeune

Subj: SCOPE OF WORK FOR HAZARDOUS MATERIAL/WASTE (HM/W) AND USED OIL MANAGEMENT STUDY

Ref: (a) Mtr btwn N.C. Solid and Hazardous Waste Management Branch, DPDS, LANDIV, and MCB Staff dtd 30 Jan 85

Encl: (1) LANTDIV Proposed Scope of Work, rec'd 28 Feb 85

1. The reference reaffirmed the need for a comprehensive study of this subject and agreed the HM/W and used oil issues were to be jointly studied.

2. Request your review of the enclosure and comments be provided no later than 20 March 1985. Negative replies are requested. If you have lengthy suggestions, please meet with us to develop a marked-up Scope of Work for return to LANTDIV in a timely manner.

3. Point of contact for this study is Mr. Bob Alexander at extension 3034/5.

B. W. ELSTON
Dep, AC/S, Facilities

DISTRIBUTION:
DPDO
PWO
BMO
Dir,NREAD
EnvEngr

Rec'd 28 Feb 85
A

SCOPE OF WORK
FOR HAZARDOUS WASTE/MATERIALS AND USED OIL
MANAGEMENT STUDY

I. INTRODUCTION

And MCAS(H), NR

Objective

The purpose of this contract is to provide for an engineering study of hazardous material/waste (HM/HW) and used oil management practices at Marine Corps Base Camp Lejeune. The study will recommend facilities and management procedures for ensuring compliance with oil pollution and HM/HW regulations and maximum beneficial utilization of recoverable used oils and HM/HW. As used in this scope, the term "used oil" is meant to include all lubricants, fuel oils and other petroleum-based wastes. HW as used in this scope is defined as in 40 CFR 261. HM are chemicals that pose a health hazard in their use, storage, or transportation or are HW which are being reused or recycled. The contractor shall be required to provide an evaluation of feasible alternatives for the collection, treatment, and disposal or utilization of HM/HW and used oils; develop separate HM/HW and used oil management plans; documentation for a military construction project to build recommended facilities; and an interim plan for managing HM/HW and used oils until required facilities can be built and/or management procedures implemented.

Background

Various local, state, and Federal regulations, most notably the Resource Conservation and Recovery Act and the Clean Water Act, have placed severe restrictions on the discharge of HM/HW and oils to the environment. In compliance with these requirements, the Marine Corps is modifying facilities to abate HM/HW and oil discharges and to provide source separation, processing and storage of these wastes prior to reuse or disposal. Facilities are required to receive, treat, and store or dispose of these wastes. It is intended that these facilities, together with modifications to existing management procedures, will provide a comprehensive program for cost-effective compliance with environmental regulations.

Contract Requirements and Scope of Work

The Contractor shall be required to:

a. Review previous studies on HM/HW and used oil handling at MCB, Camp Lejeune and outlying fields and evaluate the current applicability of study findings and recommendations. Copies of previous reports will be furnished by the Government. (e.g. ESR U5020)

b. Identify sources and points of generation of HM/HW and used oil, and document volumes, frequency of generation, and characteristics by updating existing inventories. Field visits must be made to all sources. Waste streams must be sampled, and generation rates measured where necessary to provide information on waste stream composition. The government will provide data on generation rates and characteristics of HM/HW sales records. Study results shall be presented in both graphical and narrative form for each major waste stream.

ENCLOSURE (1)

c. Document Federal, state, and local regulations and Department of Defense instructions governing the handling, disposal, and reuse of HM/HW and used oil. The government will furnish copies of applicable DOD/ Navy Department instructions and policy statements.

d. Review and document existing facilities and practices for the management of HM/HW and used oils. Facilities under construction or in the planning stage must be reviewed and documented. Reviews must include, but not be limited to, an evaluation of:

1. Waste reduction, segregation, and reuse practices.

2. Plans and process flow diagrams of all collection, treatment, and disposal systems.

3. Operations and maintenance procedures.

4. Personnel staffing and training.

5. System costs and revenue generated by the sales of recovered used oils and HM/HW.

6. Management responsibilities.

7. Minimization of the various types of HM (particulary solvents) used for the same operations.

e. Determine the most feasible and economical system for the collection, treatment, and disposal or reuse of HM/HW and used oil from activity operation considerations:

1. Compliance with applicable Federal, state, and local regulations.

2. Impact on present and future operations.

3. Capital, recurring operations and maintenance, and life cycle costs.

4. Beneficial utilization of recovered HM/HW and used oils, with emphasis on use of waste fuel oils as fuel supplements and the re-refining of used lube oils for reuse as lube oils, and the reuse of HW as HM.

5. Joint ventures with other Federal or commercial organizations.

f. All assumptions made in evaluating alternatives must be fully documented. A sensitivity analysis must be conducted to determine the continued attractiveness of the selected system with changes in factors influencing the decision. Examples of the factors to be included in the sensitivity analysis are future variations in the price of recoverable HM and oils and virgin petroleum products, and possible errors in the estimation of HM/HW, and used oil generation rates.

g. Prepare project documentation for facilities required by the selected system. The emphasis shall be on optimal utilization of existing facilities. New facilities will be funded by USMC O&M pollution abatement, MILCON, or minor local construction funds. Construction options shall be presented in various combinations of funding categories for budgeting flexibility. All local construction alternatives should provide the minimum of new facilities construction. Documentation shall be submitted on DD Form 1391. This shall be in accordance with: (1) MCO P11000.5E or OPNAVINST 11010.1C for minor construction projects, or (2) NAVFACINST 11010.32E, "Preparation of Supporting Document for Proposed Military Construction Program Projects." Economic analyses shall conform to NAVFAC P-422, "Economical Analysis Manual." Submittals must emphasize, but need not be limited to:

1. Project life cycle costs, including capital and recurring operations and maintenance costs.

2. Conceptual plans, design flows, effluent quality, schematic drawings, and related flow diagrams for all collection, treatment, and disposal or reuse systems, including existing facilities. These plans should be segregated into individual units by building and/or shop organization as well as master collection systems.

3. Required modifications to existing facilities.

4. Descriptions of major collection, treatment, and disposal or reuse components (i.e., pumps, separators, piping systems, etc.), to include useful life projections and efficiencies of existing facilities.

5. Operating and maintenance requirements, including number and qualifications of personnel required to operate and maintain the systems comparative to existing provisions.

6. Collaterial equipment required (i.e., trucks, portable tanks, etc.) and their functions.

7. Methods for disposing of treated wastewater, used oils, HM/HW, and treated residues.

h. Develop separate used oil and HM/HW managemnt plans. The plans shall establish procedures and responsibilities for ensuring compliance with oil pollution and HM/HW regulations and maximum beneficial utilization of recovered oils, fuels and HM. Plans must include, but not be limited to:

1. Regulatory compliance requirements.

2. Existing collection, treatment, and disposal or reuse practices, with a description of command responsibilities for each step.

3. Facilities, equipment, personnel, and procedures required for comprehensive HM/HW and used oil management programs, including command responsiblities and logistical support.

4. Implementation plans and schedules for instituting the recommended management programs, as well as interim practices to be utilized until the recommended program can be fully implemented and the required facilities can be constructed.

5. Revised oil spill prevention control and countermeasures (SPCC) and HM/HW/oil spill contingency plans.

Contract Scheduling

Prestudy meeting	30 days after contract award
Submittal of work plan and schedule	15 days after contract award
Preliminary Reports	180 days after contract award
Final report	30 days after approval of draft report

I. Submittals

7 Copies of the Preliminary Report
5 to Marine Corps Base, Camp Lejeune
2 to LANTNAVFACENGCOM Code 114

Same Distribution For Final Report

Atlantic Division, Naval Facilities Engineering Command Points of Contact

Project Manager - M. Bryant, P.E., Code 09A21B3
Waste Oils - Mr. Paul B. Parker, Code 114
HM/HW - Mr. Steve A. Brewer, Code 114

II. ACTIVITY POINTS OF CONTACT

A. Oily Waste Study

Mr. Thomas H. Hankins, P.E.
Manager, Mechanical Section, Design Branch
Public Works Division

Marine Corps Base
Camp Lejeune, NC 28542-5001
A/V 484-3238 or COMM (919) 451-3228

B. HM/HW Study

Mr. Robert Alexander, Envrionmental Engineer
Office of Assistant Chief of Staff, Facilities
Marine Corps Base
Camp Lejeune, NC 28542-5001
A/V 484-3034, COMM (919) 451-3034

Mr. Carl Baker, Manager
Civil Section, Public Works Division
Marine Corps Base
Camp Lejeune, NC 28542-5001
A/V 484-3238, COMM (919) 451-3238

NORFOLK, VIRGINIA 23511

OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE, $300

DEPARTMENT OF THE NAV

DoD-316

File Haz Waste

Danny Sharp
NREA
Marine Corps Base
Camp Lejeune, NC 28542

OPNAV 5216/144 (REV. 6-70)
S/N 0107-LF-778-8097

DEPARTMENT OF THE NAVY

Memorandum

DATE: 5 Mar 85

FROM: LANT OIV (Steve Brewer)

TO: Danny Sharp

SUBJ: Scope of Work

Attached scope is proposed For Camp Swampy! Bob Alexander has a copy for review.

Steve

B01986

T-6240

SCOPE OF WORK
FOR HAZARDOUS WASTE/MATERIALS AND USED OIL MANAGEMENT STUDY

I. INTRODUCTION

Objective

The purpose of this contract is to provide for an engineering study of hazardous material/waste (HM/HW) and used oil management practices at Marine Corps Base Camp Lejeune. The study will recommend facilities and management procedures for ensuring compliance with oil pollution and HM/HW regulations and maximum beneficial utilization of recoverable used oils and HM/HW. As used in this scope, the term "used oil" is meant to include all lubricants, fuel oils and other petroleum-based wastes. HW as used in this scope is defined as in 40 CFR 261. HM are chemicals that pose a health hazard in their use, storage, or transportation or are HW which are being reused or recycled. The contractor shall be required to provide an evaluation of feasible alternatives for the collection, treatment, and disposal or utilization of HM/HW and used oils; develop separate HM/HW and used oil management plans; documentation for a military construction project to build recommended facilities; and an interim plan for managing HM/HW and used oils until required facilities can be built and/or management procedures implemented.

Background

Various local, state, and Federal regulations, most notably the Resource Conservation and Recovery Act and the Clean Water Act, have placed severe restrictions on the discharge of HM/HW and oils to the environment. In compliance with these requirements, the Marine Corps is modifying facilities to abate HM/HW and oil discharges and to provide source separation, processing and storage of these wastes prior to reuse or disposal. Facilities are required to receive, treat, and store or dispose of these wastes. It is intended that these facilities, together with modifications to existing management procedures, will provide a comprehensive program for cost-effective compliance with environmental regulations.

Contract Requirements and Scope of Work

The Contractor shall be required to:

a. Review previous studies on HM/HW and used oil handling at MCB, Camp Lejeune and outlying fields and evaluate the current applicability of study findings and recommendations. Copies of previous reports will be furnished by the Government. (e.g. ESR U5020)

b. Identify sources and points of generation of HM/HW and used oil, and document volumes, frequency of generation, and characteristics by updating existing inventories. Field visits must be made to all sources. Waste streams must be sampled, and generation rates measured where necessary to provide information on waste stream composition. The government will provide data on generation rates and characteristics of HM/HW sales records. Study results shall be presented in both graphical and narrative form for each major waste stream.

c. Document Federal, state, and local regulations and Department of Defense instructions governing the handling, disposal, and reuse of HM/HW and used oil. The government will furnish copies of applicable DOD/ Navy Department instructions and policy statements.

d. Review and document existing facilities and practices for the management of HM/HW and used oils. Facilities under construction or in the planning stage must be reviewed and documented. Reviews must include, but not be limited to, an evaluation of:

1. Waste reduction, segregation, and reuse practices.

2. Plans and process flow diagrams of all collection, treatment, and disposal systems.

3. Operations and maintenance procedures.

4. Personnel staffing and training.

5. System costs and revenue generated by the sales of recovered used oils and HM/HW.

6. Management responsibilities.

7. Minimization of the various types of HM (particulary solvents) used for the same operations.

e. Determine the most feasible and economical system for the collection, treatment, and disposal or reuse of HM/HW and used oil from activity operation considerations:

1. Compliance with applicable Federal, state, and local regulations.

2. Impact on present and future operations.

3. Capital, recurring operations and maintenance, and life cycle costs.

4. Beneficial utilization of recovered HM/HW and used oils, with emphasis on use of waste fuel oils as fuel supplements and the re-refining of used lube oils for reuse as lube oils, and the reuse of HW as HM.

5. Joint ventures with other Federal or commercial organizations.

f. All assumptions made in evaluating alternatives must be fully documented. A sensitivity analysis must be conducted to determine the continued attractiveness of the selected system with changes in factors influencing the decision. Examples of the factors to be included in the sensitivity analysis are future variations in the price of recoverable HM and oils and virgin petroleum products, and possible errors in the estimation of HM/HW, and used oil generation rates.

g. Prepare project documentation for facilities required by the selected system. The emphasis shall be on optimal utilization of existing facilities. New facilities will be funded by USMC O&M pollution abatement, MILCON, or minor local construction funds. Construction options shall be presented in various combinations of funding categories for budgeting flexibility. All local construction alternatives should provide the minimum of new facilities construction. Documentation shall be submitted on DD Form 1391. This shall be in accordance with: (1) MCO P11000.5E or OPNAVINST 11010.1C for minor construction projects, or (2) NAVFACINST 11010.32E, "Preparation of Supporting Document for Proposed Military Construction Program Projects." Economic analyses shall conform to NAVFAC P-422, "Economical Analysis Manual." Submittals must emphasize, but need not be limited to:

1. Project life cycle costs, including capital and recurring operations and maintenance costs.

2. Conceptual plans, design flows, effluent quality, schematic drawings, and related flow diagrams for all collection, treatment, and disposal or reuse systems, including existing facilities. These plans should be segregated into individual units by building and/or shop organization as well as master collection systems.

3. Required modifications to existing facilities.

4. Descriptions of major collection, treatment, and disposal or reuse components (i.e., pumps, separators, piping systems, etc.), to include useful life projections and efficiencies of existing facilities.

5. Operating and maintenance requirements, including number and qualifications of personnel required to operate and maintain the systems comparative to existing provisions.

6. Collaterial equipment required (i.e., trucks, portable tanks, etc.) and their functions.

7. Methods for disposing of treated wastewater, used oils, HM/HW, and treated residues.

h. Develop separate used oil and HM/HW managemnt plans. The plans shall establish procedures and responsibilities for ensuring compliance with oil pollution and HM/HW regulations and maximum beneficial utilization of recovered oils, fuels and HM. Plans must include, but not be limited to:

1. Regulatory compliance requirements.

2. Existing collection, treatment, and disposal or reuse practices, with a description of command responsibilities for each step.

3. Facilities, equipment, personnel, and procedures required for comprehensive HM/HW and used oil management programs, including command responsiblities and logistical support.

4. Implementation plans and schedules for instituting the recommended management programs, as well as interim practices to be utilized until the recommended program can be fully implemented and the required facilities can be constructed.

5. Revised oil spill prevention control and countermeasures (SPCC) and HM/HW/oil spill contingency plans.

Contract Scheduling

Prestudy meeting	30 days after contract award
Submittal of work plan and schedule	15 days after contract award
Preliminary Reports	180 days after contract award
Final report	30 days after approval of draft report

I. Submittals

7 Copies of the Preliminary Report
5 to Marine Corps Base, Camp Lejeune
2 to LANTNAVFACENGCOM Code 114

Same Distribution For Final Report

Atlantic Division, Naval Facilities Engineering Command Points of Contact

Project Manager - M. Bryant, P.E., Code 09A21B3
Waste Oils - Mr. Paul B. Parker, Code 114
HM/HW - Mr. Steve A. Brewer, Code 114

II. ACTIVITY POINTS OF CONTACT

A. Oily Waste Study

Mr. Thomas H. Hankins, P.E.
Manager, Mechanical Section, Design Branch
Public Works Division

Marine Corps Base
Camp Lejeune, NC 28542-5001
A/V 484-3238 or COMM (919) 451-3228

B. HM/HW Study

Mr. Robert Alexander, Envrionmental Engineer
Office of Assistant Chief of Staff, Facilities
Marine Corps Base
Camp Lejeune, NC 28542-5001
A/V 484-3034, COMM (919) 451-3034

Mr. Carl Baker, Manager
Civil Section, Public Works Division
Marine Corps Base
Camp Lejeune, NC 28542-5001
A/V 484-3238, COMM (919) 451-3238

ASSISTANT CHIEF OF STAFF, FACILITIES
HEADQUARTERS, MARINE CORPS BASE

DATE 1 Mar 85

TO:

BASE MAINT O	DIR, FAMILY HOUSING
PUBLIC WORKS O	DIR, UNACCOMPANIED PERS HSG
COMM-ELECT O	BASE FIRE CHIEF
DIR., NAT. RESOURCES & ENV. AFFAIRS	

ATTN: _____

1. Attached is forwarded for info/action.

2. Please initial, or comment, and return all papers to this office.

3. Your file copy.

BWE
By dir

"LET'S THINK OF A FEW REASONS
WHY IT CAN BE DONE"

MCBCL 5216/21 (REV. 6-83)

T-6240

DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
WASHINGTON, D.C. 20380

6280/6
LFL/6-7
22 FEB 1985

From: Commandant of the Marine Corps

Subj: REPLACEMENT OF POLYCHLORINATED BIPHENYL (PCB) TRANSFORMERS AND ELECTROMAGNETS

Ref: (a) Title 40, Code of Federal Regulations, Part 761.3
(b) MCO P11000.8B

Encl: (1) Environmental Protection Agency (EPA) Statement of General Policy

1. This letter is to advise you of the reference (a) requirement for all transformers and electromagnetic equipment containing 500 ppm or greater of PCB dielectric fluid and posing an exposure risk to food or feed to be removed from service by 1 October 1985. A transformer or electromagnet is assumed to be PCB if one of the following conditions exist: (Note: It is not a requirement at this time to test transformers or electromagnets to determine PCB concentrations).

a. Manufacturer's trade name indicates PCB (Arochlor, Askarel, Inerteen, No-Flamol, Pyranol, etc.).

b. Laboratory analysis indicates concentration of PCB dielectric fluid is 500 ppm or greater.

c. Manufacturer's label is missing from transformer or electromagnet.

(It is doubtful your activity has any electromagnets in service as they are primarily used over conveyor belts in grain or coal operations).

2. An exposure risk to food or feed only exists where there is a potential pathway for PCBs discharged from the transformer or electromagnet to contaminate food or feed products. This would include food and feed stored in commissaries, mess halls and clubs, warehouses, barns, bins, feed lots, open fields, and animal grazing areas. Enclosure (1) contains information published by EPA for further clarification of what constitutes food/feed areas.

3. As required by reference (b) we have been systematically removing transformers from service which pose a hazard to food or feed areas. To assure compliance with this requirement, we recommend your personnel reexamine PCB inventory data and confirm corrective actions have been taken on these items. The information to be validated includes: manufacturer name; KVA rating; amount of PCB fluid; location of the PCB item; serial number; and the results of the laboratory analysis, if it was performed.

4. Should this review identify PCB equipment still posing a risk to food or feed products, corrective actions should commence as soon as possible so as to meet the 1 Oct 1985 deadline. Since time constraints are short, we suggest you consider local approval authority projects to correct any non-compliance conditions found. Corrective actions could include removal of the PCB equipment and replacement with a non-PCB equivalent or isolation of the PCB equipment to preclude any pathways to food or feed products (e.g. construction of a wall, plugging conduits between transformer vaults and food storage areas, etc.).

5. For further information, please contact Mr. Paul Hubbell or Lt. Daryl Remick (LFL), Autovon 227-1890.

ROBERT F. WEIMBEUER
By direction

Distribution:
CG MCDEC Quantico
CG MCRD Parris Island
CG MCB Camp Pendleton
CG MCB Camp Butler
CG MCLB Albany
CG MCRD San Diego
CG MCAGCC Twentynine Palms
CG MCLB Barstow
CG MCAS El Toro
CG MCAS Cherry Point
CG MCB Camp Lejeune
CO MCAS Kaneohe Bay
CO MCB Camp H.M. Smith
CO MCAS Beaufort
CO MCAS Iwakuni
CO MCAS Yuma

REPRODUCED AT GOVERNMENT EXPENSE

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 761

[OPTS—62015E; TSH–FRL 2292–3]

Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce and Use Prohibitions; Use in Electrical Equipment; Statement of Policy

AGENCY: Environmental Protection Agency (EPA).

ACTION: Rule-Related Notice; Statement of General Policy.

SUMMARY: The final rule on the use of polychlorinated biphenyls (PCBs) in electrical equipment was published in the Federal Register of August 25, 1982 (47 FR 37342). In that rule, special restrictions are placed on the use and storage for reuse of any transformer, electromagnet, or large capacitor (those containing three pounds or more of dielectric fluid) that contains 500 parts per million (ppm) or greater PCBs and poses an exposure risk to food or feed products. This notice constitutes EPA's statement of policy as to how the Agency will determine whether this electrical equipment poses an exposure risk to food or feed.

EFFECTIVE DATE: February 18, 1983.

FOR FURTHER INFORMATION CONTACT: Chris C. Tirpak, Acting Director, Industry Assistance Office (TS–799), Office of Toxic Substances, Environmental Protection Agency, Rm. E–509, 401 M St., SW., Washington, D.C. 20460, Toll free: (800–424–9065), In Washington, D.C.: (554–1404), Outside the USA: (Operator–202–554–1404).

SUPPLEMENTARY INFORMATION: EPA promulgated a final rule, published in the Federal Register of August 25, 1982 (47 FR 37342), regarding the use of PCBs in electrical equipment. This rule is listed in the Code of Federal Regulations under 40 CFR Part 761 and became effective on September 24, 1982.

The rule amends the PCB regulations by authorizing the use of PCBs in electrical equipment in accordance with certain use and servicing conditions. Special restrictions apply to transformers, electromagnets, and large capacitors (those containing three pounds or more of dielectric fluid) that contain 500 ppm or greater PCBs and pose an exposure risk to food or feed. See 40 CFR 761.30(a), (h), and (l). The use and storage for reuse of such electromagnets or transformers requires a weekly inspection for leaks of dielectric fluid and is prohibited after October 1, 1985. The use and storage for reuse of large capacitors that pose an exposure risk to food or feed is prohibited after October 1, 1988.

Section 761.3(ll) (47 FR 37356) of the PCB rule states that "posing an exposure risk to food or feed" means being in any location where human food or animal feed could be exposed to PCBs released from a PCB Item. A PCB Item poses an exposure risk to food or feed if PCBs released in any way from the PCB Item have a potential pathway to human food or animal feed. Only food and feed that is used or stored in private homes is excluded from this definition.

Since publication of this definition EPA has received requests from the American Frozen Food Institute (AFFI) and the American Feed Manufacturers Association (AFMA) for further clarification of this definition. These requests raised concerns about how EPA will interpret this definition and explained that a clarification would aid the food and feed industry in developing a strategy for compliance with the regulations. EPA is publishing this notice to express the Agency's policy for interpreting the definition of "posing an exposure risk to food or feed." EPA plans to interpret this definition in a reasonable manner, according to the guidance provided in this notice.

The exposure risk from a PCB Item to food and feed products is clearly dependent on the specific location of the applicable PCB Item (transformer, capacitor, or electromagnet) in relation to food and feed products. If, after considering the location of an individual PCB Item and all other available evidence, there is a reasonable possibility of contact between PCBs and food or feed, the PCB Item will be considered to pose an exposure risk to food or feed under 40 CFR 761.3(ll). In evaluating the exposure risk from a particular PCB Item, it is useful to consider a hypothetical situation in which PCBs are discharged in any way from the PCB Item, such as through an equipment leak or rupture. Assuming such a discharge occurred releasing all or a portion of the contained PCBs and considering the PCB Item's location and any relevant factors, the question to be asked is whether contact between the PCBs and food or feed is reasonably possible. If, contact between PCBs and food or feed is reasonably possible, the PCB Item poses an exposure risk to food or feed. It is not EPA's intention to consider remote events that are unrelated to the use or storage for reuse of PCB Items when determining if these items pose an exposure risk to food or feed.

A determination whether or not a PCB Item poses an exposure risk to food or feed requires an individual evaluation of the circumstances regarding a PCB Item's location. PCB Items that are located directly adjacent to or above food or feed products pose an exposure risk unless there is some type of secondary containment or other physical structure that prevents discharges of PCBs from contaminating food or feed. The PCB rule provides a number of options for eliminating restrictions on the use of transformers, electromagnets, and large capacitors that contain 500 ppm PCBs and pose an exposure risk to food or feed, including:

1. Relocating the PCB Item to an installation which does not pose an exposure risk to food or feed.
2. Reducing the PCB concentration in the PCB Item to less than 500 ppm (transformers and electromagnets only).
3. Adequately isolating or containing the PCB Item to prevent it from posing an exposure risk.
4. Relocating the food or feed to a location that is not in a potential exposure risk area.
5. Replacing the PCB Item with equipment containing less than 500 ppm PCBs.

This regulation was submitted to the Office of Management and Budget for review as required by Executive Order 12291.

Dated: January 17, 1983.

John A. Todhunter,

Assistant Administrator for Pesticides and Toxic Substances.

[FR Doc. 83–3826 Filed 2–17–83; 8:45 am]

BILLING CODE 6560–50–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Health Care Financing Administration

42 CFR Part 405

Medicare Program; Assistants at Surgery

AGENCY: Health Care Financing Administration (HCFA), HHS.

ACTION: Final rule.

SUMMARY: These regulations amend the interim final Medicare rules published on October 1, 1982, that implement section 113 of the Tax Equity and Fiscal Responsibility Act of 1982 (Pub. L. 97–248). Those regulations provide that Medicare will pay on a reasonable charge basis for the services of a physician who actively assists the physician in charge of a case in performing a surgical procedure (i.e., an assistant at surgery) in teaching

ENCLOSURE(1)

T-6240

UNITED STATES MARINE CORPS
Marine Corps Base
Camp Lejeune, North Carolina 28542-5001

6280/2
FAC
19 FEB 1985

From: Assistant Chief of Staff, Facilities, Marine Corps Base, Camp Lejeune
To: Assistant Chief of Staff, Logistics
Public Works Officer
Base Maintenance Officer

Subj: MAIN FUEL FARM; PENDING PROJECTS

Ref: (a) "Confirmation Study to Determine Existence and Possible Migration of Specific Chemicals In Situ", Environmental Science and Engineering, Gainesville, FL., January 1985 (NOTAL)

1. The reference provided the data from the first round of sample collection and analysis at the 22 N.A.C.I.P. sites. As you know, these 22 sites are being studied for hazardous material contamination problems aboard Camp Lejeune.

2. The Main Fuel Farm was selected as one of the 22 sites due to the large volume of fuel stored as well as the age and condition of the facilities. The reference states that contamination of the shallow groundwater from this facility has been detected in two monitoring wells near the fuel farm. The data is based on single sample and analysis and is too limited to make detailed conclusions at this point.

3. The status of the facility in terms of existing condition and proposed renovation projects will be reviewed at a meeting on 28 February 1985 at 10:00 a.m., Bldg 1005, Public Works Division Conference Room. Request that a representative of your office participate in this review.

4. POC is Mr. Alexander, extensions 3034/3035.

J. G. FITZGERALD
By direction

Copy to:
NREAD
SJA
EnvEngr

T- 6240

5200
NREAD
19 Feb 1985

From: Director, Natural Resources and Environmental Affairs Division, Marine Corps Base, Camp Lejeune
To: Assistant Chief of Staff, Facilities, Marine Corps Base, Camp Lejeune

Subj: REVIEW OF MCO P5100._

Ref: (a) BO 6240.5

Encl: (1) CG MCB CLNC ltr 5100 SAFD of 11 Feb 1985

1. This office concurs with the excerpts from the subject order contained in the enclosure. It should be noted that the subject order appears to greatly increase involvement of the Base Safety Manager in the management and disposal of hazardous materials. The enclosure and the reference appear to be very consistent. When fully implemented, the subject order should significantly assist in implementation of the program outlined in the reference.

D. D. SHARPE
Acting

Copy to:
EnvironEng

UNITED STATES MARINE CORPS
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542

IN REPLY REFER TO
5100
SAFD
11 Feb 85

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Assistant Chief of Staff, Facilities

Subj: REVIEW OF MCO P5100._

Ref: (a) CMC ltr 5100 MHS:3 dtd 30Jan85

Encl: (1) Excerpts from the proposed manual

1. The reference requests a review of the proposed Marine Corps Ground Occupational Safety and Health (GOSH) Program manual.

2. Enclosure (1), Chapters 6 and 11 from the proposed manual, are deferred for your comments/recommendations.

3. In order to provide a timely response, it is requested the required information be submitted to the Base Safety Manager by COB 20 February 1985.

4. Should any assistance be required, Mr. R. J. Andrews, Base Safety Manager, may be contacted at ext. 5725/3891.

J. B. AIROLA
By direction

ENCLOSURE (1)

CHAPTER 6

HAZARDOUS MATERIALS

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CHAPTER 6

HAZARDOUS MATERIALS

6000. PURPOSE. This chapter establishes responsibilities and procedures to provide guidance for the safe handling, transfer and disposal of hazardous materials/waste and to ensure the Hazardous Materials Information System (HMIS) is responsive to the user.

6001. GENERAL

1. Many different materials are used in workplaces throughout the Marine Corps, some of which are hazardous. A key element of the GOSH program is to inform workers of these hazards and the measures necessary to control them. Past efforts to accomplish this objective have been complicated by the fact that most of these materials are purchased under a trade name or simply a stock number and in many cases, container labels do not provide adequate information relative to their hazardous properties. Therefore, the Department of Defense has established the Hazardous Material Information System (HMIS) which is designed to acquire, store, and disseminate data on hazardous materials procured for use.

2. The HMIS provides a mechanism for the systematic compilation/ distribution of information on alI hazardous materials procured by DoD. This organized information is intended for use throughout the DoD in:

a. Developing procedures to prevent mishaps in handling, storage, use, transportation, and disposal of hazardous materials;

b. Advising DoD personnel of the hazards associated with specific materials encountered in their workplaces; and

c. Devising environmentally acceptable hazardous material disposal procedures. The manager of the DoD HMIS is the Defense Logistics Agency (DLA). The DLA is responsible for maintaining a computerized central repository of data on all hazardous material purchased for use by DOD. The basic vehicle for documenting this data is the Material Safety Data Sheet (MSDS) obtained from the supplier of the hazardous material.

3. The overall operation of the DOD HMIS is prescribed in DODINST 6050.5, "Hazards Material Information system," 25 Jan 78 (enclosed in SECNAVINST 6050.1) (NOTAL) and DOD Manual 6050.5M, "DOD Hazardous Materials Information System Procedures," July 78 (NOTAL).

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4. To ensure proper exchange of hazardous materials information within the Marine Corps, the Commandant (Code MHS) and the Marine Corps Logistics Bases, Albany and Barstow, have been designated subfocal points within the Marine Corps hazardous materials information system program. These subfocal points are prepared to respond to inquiries from Marine Corps activities regarding the handling, storage, transportation, disposal, and health problems attendant to hazardous materials.

6002. POLICY

1. Standards and criteria for use of hazardous material within the Marine Corps shall equal or exceed the Occupational Safety and Health Administration (OSHA) standards.

2. The quantity of hazardous material stocked by a user activity shall not exceed the minimum quantity to satisfy operational requirements. Supervisors shall ensure that only those hazardous materials, e.g., cleaning/degreasing chemicals, corrosion control sprays and primers, cans of spray paint, flammable paints, etc., necessary to complete a days assigned job are requisitioned and held within a work space. Any permanent flammable storage areas/containers shall not be closer than 50 feet to buldings or other structures. The use of these areas/containers is discouraged. The use of approved flammable storage lockers for work spaces is permitted but should be utilized to keep only those materials essential to the shift's work in a safe place. Strict adherence to policy regarding requisition will negate the requirement for makeshift storage areas/containers. Unused hazardous materials shall be disposed of, utilizing appropriate local disposal procedures. Where non-hazardous materials may be used to accomplish a task, they shall be used.

3. Hazardous material shall be clearly identified throughout its life-cycle, with particular emphasis on identification for the end user. Procurement instruments shall require that the OSHA Form 20, Material Safety Data Sheet (MSDS) accompanies all purchases of hazardous materials. Directions for safe use and a description of hazards be clearly marked on all containers of such material by the supplier or manufacturer.

4. New systems, equipment, or materials shall be designed to minimize requirements for the use of hazardous materials. Where the use of hazardous material is required, adequate engineering measures and protective equipment shall be specified and used to ensure the health and safety of exposed personnel and protection of the environment.

5. The following hazardous items are covered under separate instructions and are excluded from the provisions of this Manual:

a. Ammunition, weapons, explosives, explosive actuated devices, propellants, and pyrotechnics.

b. Biological warfare materials.

c. Medical and pharmaceutical supplies.

d. Bulk fuel.

6. Hazardous materials purchased by the military exchange systems for subsequent resale are not covered under HMIS; however, the sale of these materials may be regulated by the Consumer Product Safety Commission or other regulatory agencies.

6003. INFORMATION

1. Within the Department of the Navy, the Navy Environmental Health Center (NEHC) has been designated the main focal point for the HMIS, and the Naval Supply Systems Command (NAVSUP) has been designated the subfocal point or overall operations management for data control and for establishing transportation data. To complement the NEHC and NAVSUP, and to ensure the proper exchange of information within the Marine Corps, the Commandant of the Marine Corps (MHS) and the Marine Corps Logistics Bases, Albany and Barstow, are designated subfocal points within the HMIS.

2. Designated subfocal points are responsible for:

a. Forwarding any Material Safety Data Sheets to the NEHC via the Commandant of the Marine Corps (MHS). The NEHC's address is:

Navy Environmental Health Center
Naval Station
Norfolk, VA 23511

b. Maintaining the microfiche file on hazardous materials. Microfiche is provided by the DLA.

c. Responding to inquiries from Marine Corps activities safety officers in regards to handling, storing, transporting, disposing and health problems attendant to hazardous materials.

6004. HAZARDOUS MATERIAL

1. Commanders shall compile a listing of all hazardous materials stored and utilized within their command. Data compiled and main-

tained will include name, naval stock number, location, estimated annual usage, and use of material.

2. Copies of compiled listed will be filed with:

a. Unit safety officer/manager, and
b. Installation medical department, and
c. Installation fire department, and
d. Installation safety officer/manager, and
e. Installation industrial hygienist.

The installation officers/managers shall utilize these listings to become familiar with emergency response procedures for each hazardous material.

6005. LABELING OF HAZARDOUS MATERIALS

1. Warning labels will be affixed to each container of hazardous materials. As a minimum, the label will identify the substance, storage criteria, and any specific handling criteria.

2. Containers utilized to store hazardous materials after transfer from original shipping packages or containers must be properly marked and/or labeled utilizing NAVSUP publication 4500, Consolidated Hazardous Item List (CHIL) at the time of transfer. Multiple units received in a single shipping carton must be marked or labeled prior to distribution to user units. Markings and labels shall be maintained so as to be clearly legible at all times.

6006. STORAGE. Storage of hazardous materials shall be in a secure area, with adequate ventilation and appropriate fire-fighting equipment. Materials shall be neatly stored and labeled to provide easy identification and ready access. Specifc storage requirements are delineated in DOD Instruction 4145.19R-1, and MCO 10330.2.

6007. PERSONAL PROTECTIVE EQUIPMENT. Personal protective equipment required for each specific hazardous material handled will be made readily available in accordance with provisions of this Manual. Supervisors shall ensure the appropriate clothing and/or equipment is available and correctly utlized.

6008. RESPONSIBILITIES

1. The Commandant of the Marine Corps (MHS) and the Commanding Generals, Marine Corps Logistic Bases, Albany and Barstow will maintain the capability to respond to inquiries and provide information on hazardous materials.

2. The Commandant of the Marine Corps (MHS) wil maintain a record of all MSDS's forwarded to NEHC through Marine Corps channels.

3. The Commandant of the Marine Corps (LM and LFT) will be responsible for maintaining transportation for those items for which the Marine Corps is the designated item manager. Upon completion, transportation data will be forwarded to DLA.

4. Installation commanders will establish procedures to ensure all hazardous materials/waste are disposed of in a safe, proper manner in accordance with DOD Instruction 4160.21, federal and state environmental statistics and local procedures instituted by the Defense Property Disposal Office (DPDD). Installation commanders in foreign countries will comply with foreign disposal requirements as set forth in Status of Forces Agreements (SOFA).

5. Commanders and activities procuring any hazardous materials will require the manufacturer/retailer to provide the information shown on the MSDS. The MSDS will be forwarded to NEHC via the Commandant of the Marine Corps (MHS).

6. Commanders shall appoint in writing, a unit Hazardous Material Coordinator. This individual will serve as a command focal-point to monitor the labeling, storage, handling (to include employee training), transportation and disposal of all hazardous materials utilized within the command. Once designated, and within the next 120 days, the Coordinator shall attend NAVSEASYSCOM School Course OSH-340 "Hazardous Materials Control" and appropriate hazardous materials/waste disposal procedures training.

7. Commanders of units/activities involved in the procurement, storage, use, transportation and disposal of hazardous materials/ waste shall establish educational programs designed to inform personnel of the hazards involved, handling precautions, over-exposure sysmptoms, emergency first-aid, personal protective equipment and controls. Training completed shall be documented in individual service training records and maintained for a minimum of five years. In the case of civilian employees, a record of training shall be entered into the Official Personnel Record.

CHAPTER 11

FIRE PREVENTION

	PARAGRAPH	PAGE
PURPOSE	11000	11-3
RESPONSIBILITY	11001	11-3
FIRE PREVENTION OFFICER/NCO DUTIES	11002	11-3

CHAPTER 11

FIRE PREVENTION

11000. PURPOSE. This chapter provides for the implementation of a unit fire prevention program and associated training.

11001. RESPONSIBILITY. The Commanding Officer of each host installation or military unit will be responsible for assigning, in writing, a Fire Prevention Officer and/or NCO.

11002. FIRE PREVENTION OFFICER/NCO DUTIES

1. The Fire Prevention Officer/NCO will conduct monthly inspections of all areas under the cognizance of the command. High hazard areas shall be inspected more frequently based upon the fire hazard potential of the area. The Federal Fire Inspector or ranking fire department official of each installation will be responsible for designating high hazard areas. The results of these inspections will be forwarded to the unit commanding officer for comments, signature and promulgation.

2. The Fire Prevention Officer/NCO will coordinate with the Federal Fire Inspector or ranking fire department official to develop a fire prevention checklist which will cover all fire hazards associated with the unit. Appendix 11-A is provided as a sample fire prevention checklist. Discrepancies, with corrective action taken, will be kept on file for a period of one year.

3. The Fire Prevention Officer/NCO shall coordinate all training to ensure personnel are instructed in fire hazards and prevention (i.e., use of appropriate fire fighting equipment, types of fires, escape procedures, etc.).

4. Smoke detectors will be installed in all living and work spaces.

APPENDIX 11-A

FIRE PREVENTION CHECKLIST

This checklist is provided as a guide. Each individual unit will add to the checklist to meet their individual requirements.

	YES	NO
1. Are "No Smoking" signs posted in appropriate areas?	____	____
COMMENTS:		
2. Are ash and butt cans in designated smoking areas?	____	____
COMMENTS:		
3. Are rubbish, trash and debris removed daily?	____	____
COMMENTS:		
4. Are there adequate facilities to dispose of the unit's rubbish, trash and debris?	____	____
COMMENTS:		
5. Are combustibles stored properly?	____	____
COMMENTS:		
6. Are rags soaked with oil, paint and/or chemicals deposited in plainly marked self-closing metal containers?	____	____
COMMENTS:		
7. Are compressed chemicals and gases stored in a manner that will ensure that accidental breakage, leakage or rupture will not occur?	____	____
COMMENTS:		

	YES	NO
8. Are all illuminated emergency exit signs functioning properly?	____	____

COMMENTS:

9. Are all blocked exterior doors plainly marked on the outside with 6 inch high letters?	____	____

COMMENTS:

10. Is there an 18 inch clearance between sprinklers and stacked material?	____	____

COMMENTS:

11. Is there a 36 inch clearance below joints, rafters, beams, and roof trusses in buildings without sprinklers?	____	____

COMMENTS:

12. Are fire aisles accessible from doors or gates by firefighting personnel?	____	____

COMMENTS:

13. Are accessible shut-off switches and values provided for oil-fired heaters or similar equipment?	____	____

COMMENTS:

14. Are all fire extinguishers properly located and easily accessible?	____	____

COMMENTS:

15. Are all fire extinguishers properly mounted?	____	____

COMMENTS:

	YES	NO
16. Are all fire extinguishers fully charged with safety seals intact?	____	____

COMMENTS:

17. Are all smoke detectors functioning properly?	____	____

COMMENTS:

18. Is there <u>less</u> than a 24 hour supply of paint and flammables located in the work spaces?	____	____

COMMENTS:

APPENDIX 5A

COLOR CODES FOR HAZARD AND PRECAUTIONARY MARKING

1. Fire Red, Application

a. Fire protection devices shall be conspicously marked, as fire protection lines, piping, alarm boxes, fire post indicators, sprinkler control valves and fire blanket box.

b. Fire extinguishers shall have a surrounding area of fire red to aid in visual location from a distance.

(1) A one foot red strip behind the extinguisher on columns/walls, extending one foot past top of extinguishers.

(2) One foot red band or circle about 10 to twelve feet from the floor and directly above the extinguishers.

(3) A two foot red square or box on the floor below the fire extinguishers.

(4) Containers for flammable or combustible material with a flashpoint of 80 degrees or lower, shall be red with yellow band or lettering indicating contents.

2. Brilliant Yellow, Application. Black and yellow diagonal stripes shall be used to mark strike-against, stumbling and falling hazards, exposed or projecting parts of equipment, low beams, obstructions, curbing, columns/pillars, door frames in line of traffic, floor or aisle strips near hazards or hazardous machines and equipment.

a. A three inch wide yellow band on treads, nosing and risers on the stairways and on the base or roll up type doors.

b. Eye hazard-areas shall have black and yellow checker board design on equipment and floor aisle near area.

c. Flammable liquid containers and buildings shall be of brilliant yellow, special markings and signs where paint and hazardous materials are stored, (i.e., "FLAMMABLE," "PAINT LOCKER-NO SMOKING WITHIN 50 FEET," "GASOLINE," "CONTAMINATED FUEL/LUBRICANTS"). Containers shall be yellow with black lettering indicating the contents.

3. Vivid Orange, Application. Used to mark emergency electrical controls, acute hazards (i.e., unprotected edges or moveable edges of machinery or electrical equipment).

a. Exposed electrical wiring (if temporary, in work, use a safety sign).

Add File

ASSISTANT CHIEF OF STAFF, FACILITIES
HEADQUARTERS, MARINE CORPS BASE

Bob Lee for Victor Alcorn 6 Feb 85
to Miss Henderson

DATE 4 FEB 1985

TO:

BASE MAINT O	DIR, FAMILY HOUSING
PUBLIC WORKS O	DIR, UNACCOMPANIED PERS HSG
COMM-ELECT O	BASE FIRE CHIEF
DIR., NAT. RESOURCES & ENV. AFFAIRS	

ATTN: Julian

1. Attached is forwarded for info/~~action~~ 1

2. Please initial, or comment, and return all papers to this office.

3. Your file copy.

BWE
By dir

"LET'S THINK OF A FEW REASONS
WHY IT CAN BE DONE"

T-6240

Ronald H. Levine, M.D., M.P.H.
STATE HEALTH DIRECTOR

DIVISION OF HEALTH SERVICES
P.O. Box 2091
Raleigh, N.C. 27602-2091

January 2, 1985

MEMORANDUM

TO: North Carolina Generators and On-Site Treators, Storers, or Disposers (TSD'S) of Hazardous Waste (Excludes Generators, that do NOT treat, store, or dispose on-site. Owners or Operators That Treat, Store, or Dispose of Hazardous Waste From Off-Site Sources Should Complete DHS Form 3038)

FROM: William L. Meyer, Head WLM
Solid and Hazardous Waste Management Branch
Environmental Health Section

SUBJECT: Notice of Annual Report Under N. C. Hazardous Waste Management Program

On or before March 1, 1985 each facility that generates, stores, treats, or disposes of hazardous waste shall submit an annual report to the Solid and Hazardous Waste Management Branch as required by NC Rule 10 NCAF 10F .0037 (40 CFR 264.75 and CFR 262.43). We will need this information in our office by March 1, 1985. A copy of the report form is attached. This annual report shall cover the period January 1, 1984 to December 31, 1984.

Form instructions are found on page 3. Hazardous waste sent to a resource recovery facility should be reported on the form even if exempt under RCRA. Storage figures are as of December 31, 1984. Handling codes should be reported both for the on site and the off site handling of waste.

Data from the annual report will provide information required by the State and EPA. Annual report information will be used in planning for future facilities and to assist industry in the management of hazardous waste.

If there are questions call Emil Breckling or William Paige at (919) 733-2178 for assistance.

WLM/EB:cew 0352A

Attachment
DHS Form 3037

N. C. DEPARTMENT OF HUMAN RESOURCES
DIVISION OF HEALTH SERVICES

N. C. 1984 HAZARDOUS WASTE GENERATOR THAT DOES ON-SITE TREATMENT, STORAGE, OR DISPOSAL-TSD FACILITY ANNUAL (PART B) REPORT*

Four Digit Standard Industrial Classification (SIC) No. For Operations In Your Company That Generated The Waste [ ][ ][ ][ ]

I. Installation EPA ID Number: [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

II. Name of Installation: _____

III. Location of Installation: _____
(Street or Route Number)

_____
(City or Town) (County) (State) (Zip Code)

IV. Installation Contact: _____
(Name) (Area Code) (Phone Number)

V. Waste Identification:

Line Number	A. EPA Waste No.	B. Description of Waste/Chemical Name	C. Quantity Generated (LBS)	D. Amount of Waste by Handling Method			
				1. Handling Method Code	2. Quantity Stored**/Treated Disposed, or Recovered On-Site (LBS)	Shipped to Off-Site Treatment, Disposal, or Recovery Facility	
						3. Quantity (LBS)	4. Facility EPA ID No./Recovery Facility Name
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							

(If more space is needed check ____ and complete attachment 1)

VI. Comments: _____

VII. CERTIFICATION: I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

_____ _____ _____
(Signature) (Print or Type Name) (Date Signed)

*Read instructions before completing form **As of December 31, 1984

DHS 3037 (Revised 1-85) Do. No. 0352A
Solid & Hazardous Waste Mgt Branch (over)

N. C. DEPARTMENT OF HUMAN RESOURCES
DIVISION OF HEALTH SERVICES

N. C. 1984 HAZARDOUS WASTE GENERATOR THAT DOES ON-SITE TREATMENT, STORAGE, OR DISPOSAL-TSD FACILITY ANNUAL (PART B) REPORT*

Four Digit Standard Industrial Classification (SIC) No. For Operations In Your Company That Generated The Waste: 3423

I. Installation EPA ID Number: NCD083452876

II. Name of Installation: BIG CITY INDUSTRY

III. Location of Installation: 300 INDUSTRIAL DR. (Street or Route Number)

BIG CITY (City or Town) | BROWN (County) | N.C. (State) | 27532 (Zip Code)

IV. Installation Contact: J. R. BRIGGS (Name) | 919 (Area Code) | 828-9842 (Phone Number)

V. Waste Identification:

Line Number	A. EPA Waste No.	B. Description of Waste/Chemical Name	C. Quantity Generated (LBS)	D. Amount of Waste by Handling Method: 1. Handling Method Code	2. Quantity Stored**/Treated Disposed, or Recovered On-Site (LBS)	Shipped to Off-Site Treatment, Disposal, or Recovery Facility: 3. Quantity (LBS)	4. Facility EPA ID No./Recovery Facility Name
1	D001	WASTE METHANOL	9,000	S01	2,000		
2	F006	SLUDGE FROM					
3		ELECTRO PLATING	5,000	S03	4,000		
4	F006	ELEC. PLATING					
5		SLUDGE		D80		1000	SCD071037588
6	F003	ACETONE WASTE	500	S01	500		
7	D001	PAINT RESIDUES	2,000	T01	2,000		
8							
9							
10							
11					EXAMPLE		
12							

(If more space is needed check ___ and complete attachment 1)

VI. Comments: NONE

VII. CERTIFICATION: I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

J. R. Briggs (Signature) | J.R. BRIGGS (Print or Type Name) | 2/10/85 (Date Signed)

*Read instructions before completing form **As of December 31, 1984

Important: READ INSTRUCTIONS BEFORE COMPLETING THIS FORM.

Purpose: This form will provide N. C. with information needed for EPA reports and to manage hazardous wastes.

Mailing: One copy to - Solid and Hazardous Waste Management Branch
N. C. Department of Human Resources
P. O. Box 2091
Raleigh, NC 27602

Be sure to complete the proper form.

DHS FORM 3036
(Part A): GENERATOR ONLY ANNUAL REPORT - For generators who ship their waste off-site. (Excludes generators that treat, store or dispose of waste on site)

DHS FORM 3037
(Part B): GENERATOR AND ON-SITE TSD FACILITY ANNUAL REPORT - For generators and owners or operators of on-site facilities that treat, store, or dispose of hazardous waste. (Facility owners or operators that treat, store, or dispose of hazardous waste from off site sources should complete DHS for 3038.)

DHS FORM 3038
(Part C): OFF-SITE TSD FACILITY ANNUAL REPORT - For owners or operators of facilities that treat, store, or dispose of hazardous waste from off-site sources.

DHS FORM 3038
(Part D): UNMANIFESTED WASTE REPORT - For facility owners or operators who accept for treatment, storage, or disposal any hazardous waste from an off-site source without an accompanying manifest.

DHS FORM 3037
(Part B Form)

SECTION IV. Installation Contact:
Enter the name and telephone number of the person who may be contacted regarding information contained in this report.

SECTION V. Waste Identification:
All information in this section must be entered by line number. Each line entry will describe the total annual amount of each waste shipped.

SECTION V-A EPA Hazardous Waste Number:
For listed wastes, enter the EPA Hazardous Waste Number from 40 CFR Part 261, Subpart D, which identifies the waste.

For a mixture of more than one listed waste, enter each of the applicable EPA Hazardous Waste Numbers. If more space is needed, continue on the next line(s) and leave all other information on that line blank.

For unlisted hazardous wastes, enter the EPA Hazardous Waste Numbers from 40 CFR Part 261, Subpart C, applicable to the waste. If more space is required, follow the procedure described above.

SECTION V-B Description of Waste:
For hazardous wastes that are listed under 40 CFR Part 261, Subpart D, enter the EPA listed name, abbreviated if necessary. Where mixtures of listed wastes were shipped, enter the description which you believe best described the waste.

For unlisted hazardous waste identified under 40 CFR Part 261, Subpart C, enter the description which you believe best describes the waste. Include the specific manufacturing or other process generating the waste (e.g., green sludge from widget manufacturing) and, if known, the chemical or generic chemical name of waste.

SECTION V-C. Enter total amou[redacted]enerated in reporting year.

SECTION V-D.1. Handling Method:
Enter the handling code(s) listed below that most closely represent the technique(s) used to treat, store, dispose, or recover the hazardous waste.

Enter one EPA handling code for each waste line entry. Where several handling steps have occurred during the year, report only the handling code representing the waste's status at the end of the reporting year or its final disposition.

Storage (Indicate volume (in LB's) remaining at your site December 31, 1984.)
S01 Containers (barrel, drum, etc.)
S02 Tank
S03 Waste Piles
S04 Surface impoundment
S05 Other specify_____

Treatment

T01 Treatment in a tank

T02 Treatment in a surface impoundment

T03 Incineration

T04 Chemical Treatment
Examples
- Adsorption
- Chemical fixation
- Chemical oxidation
- Chemical precipitation
- Chemical reduction
- Chlorination
- Cyanide destruction
- Degradation
- Ion exchange
- Neutralization

T05 Physical Treatment
Examples
- Centrifugation
- Clarification
- Coagulation
- Decanting
- Encapsulation
- Filtration
- Flocculation
- Flotation
- Foaming
- Sedimentation
- Thickening
- Absorption-molecular sieve
- Activiated carbon
- Blending
- Crystallization
- Distillation
- Electrolysis
- Evaporation
- High gradient magnetic separation
- Leaching
- Liquid ion exchange
- Liquid-liquid extraction
- Stripping
- Sand filter

Treatment

T06 Biological Treatment
Examples
- Activated sludge
- Aerobic lagoon
- Aerobic tank
- Anaerobic lagoon
- Composting
- Thickening filter
- Trickling filter
- Waste stabilization pond

T07 Other specify _____

Disposal
D80 Landfill
D84 Other specify _____

Resource Recovery
R01 Resource recovery
(include also unmanifested waste exempt from RCRA)

SECTION V-D.2. Quantity Stored, Treated, Disposed, or Recovered:
Enter the amount of waste you treated, disposed, or recovered on-site as indicated by handling method.

SECTION V-D.3. Quantity Shipped:
Enter the amount in LBS of waste you shipped off-site to TSD or recovery facility.

SECTION V-D.4. TSD Facility EPA Identification Number/Resource Recovery Facility Name:
Enter the EPA identification number of the facility or Resource Recovery facility name to which you sent th waste described in V-A. (A separate line must be used for each facility to which you sent hazardous waste.) Add an (X) to end of ID Number if this is a company/corporation owned facility (EXAMPLE: NCD986854312 (X).

SECTION VI. Comments:
This space may be used to explain or clarify any entry. If used, enter a cross reference to the appropriat section number.

SECTION VII. Certification:
The generator or his authorized representative or the owner must sign the report.

ATTACHMENT I

V. Waste Identification:

Line Number	A. EPA Waste No.	B. Description of Waste/Chemical Name	C. Quantity Generated (LBS)	D. Amount of Waste by Handling Method			
				1. Handling Method Code	2. Quantity Stored**/Treated Disposed, or Recovered On-Site	Shipped to Off-Site Treatment, Disposal, or Recovery Facility	
						3. Quantity	4. Facility EPA ID No./Recovery Facility Name
1							
2							
3							
4							
5							
6							
7							
8							
9							
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24							
25							

ASSISTANT CHIEF OF STAFF, FACILITIES
HEADQUARTERS, MARINE CORPS BASE

DATE 19 Dec 84

TO: NREA

BASE MAINT O	DIR, FAMILY HOUSING
PUBLIC WORKS O	DIR, UNACCOMPANIED PERS HSG
COMM-ELECT O	BASE FIRE CHIEF

ATTN: Mr Wooten

1. Attached is forwarded for info/action.

2. Please initial, or comment, and return all papers to this office.

3. Your file copy

M. G. Lilley

"LET'S THINK OF A FEW REASONS
WHY IT CAN BE DONE"

MCBCL 5216/21 (REV. 2-81)

T-6240
IRM

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA 23511

TELEPHONE NO.
(804) 444-9565

IN REPLY REFER TO:
6280
1143SGO
12 DEC 1984

From: Commander, Atlantic Division, Naval Facilities Engineering Command

Subj: ENVIRONMENTAL PROTECTION AGENCY (EPA) HAZARDOUS MATERIALS INCIDENT RESPONSE TRAINING FY-85

Ref: (a) HW Management Regulations 40 CFR 260-265
(b) OPNAVINST 5090.1

Encl: (1) FY-85 Preliminary Course Schedule/Training Application

1. References (a) and (b) require that HW management/handler personnel receive training in HW operations relative to the jobs they perform. Enclosure (1) is forwarded to inform activities of HM/HW training courses which may be utilized for partial fulfillment of this requirement.

2. Requests for registration quotas or other information should be submitted directly to the EPA as indicated in enclosure (1). All courses are tuition free to Government employees, however, funding for pay, travel and per diem is an activity responsibility.

3. Point of contact at this Command is Mr. Steve Olson, telephone (804) 444-9565, AUTOVON 564-9565.

J. R. BAILEY
By direction

Distribution:
COMNAVBASE Norfolk
NAS Oceana
NAVPHIBASE Little Creek
PWC Norfolk
NAVSTA Norfolk
NAS Norfolk
FCTCLANT Dam Neck
AFXTRACTY Camp Peary
NSC Norfolk
NSC Cheatham Annex
NAVAIREWORKFAC Norfolk
NAVAIREWORKFAC Cherry Pt
MCAS Cherry Pt
MCB Camp Lejeune
MCAS H New River
NAVWPNSTA Yorktown
NAVORDSTA Louisville

(continued on next page)

Subj: ENVIRONMENTAL PROTECTION AGENCY (EPA) HAZARDOUS MATERIALS INCIDENT RESPONSE TRAINING FY-85

Distribution: (continued)
NORFOLKNAVSHIPYD Portsmouth
NAVHOSP Portsmouth
NAVSECGRUACT Northwest
NAVCAMSLANT Norfolk
NAVRADSTA Sugar Grove
NAVSTA Roosevelt Roads
NAVSECGRUACT Sabana Seca

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CNET Pensacola
COMNAVSUPSYSCOM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

CINCINNATI, OHIO 45268

OFFICE OF EMERGENCY AND REMEDIAL RESPONSE

HAZARDOUS RESPONSE SUPPORT DIVISION

ENVIRONMENTAL RESPONSE BRANCH

HAZARDOUS MATERIALS INCIDENT RESPONSE TRAINING PROGRAM

The Office of Emergency and Remedial Response is responsible for the U.S. Environmental Protection Agency's program for responding to the release or potential release of hazardous materials. To prevent or reduce the impact of the release on public health and the environment, emergency actions and longer-term remedial activities are often necessary.

As part of a comprehensive program for protecting the public and the environment from chemical incidents resulting from vehicle or train accidents, spills, discharges from industrial operations, and hazards associated with uncontrolled waste sites, the Hazardous Response Support Division, Environmental Response Branch, develops and presents training courses in safety and technical operations related to hazardous material responses. These courses are available to response personnel from federal, state, and local agencies at no charge. Private industry may also attend on a space available basis and payment of tuition.

The courses presented by the Environmental Response Branch last from 3 to 5 days. They provide participants with fundamental information about the subjects covered. Although each course is tailored to cover technical material relevant to the course title, no course will provide participants with exhaustive treatment of any subject. Complemented by work experience and individual effort, they do provide a foundation for developing expertise in a variety of response activities. All courses emphasize the practical application of lecture information through problem-solving, case studies, demonstrations, and outdoor exercises.

There are no prerequisites for attending any course with the exception of the Response Safety Decision-Making Workshop (165.8) which requires that attendees have experience in response safety. Persons wishing to attend both Personnel Protection and Safety (165.2) and Hazardous Materials Incident Response Operations (165.5) should discuss this with the Registrar as there is some redundancy.

Application to attend any course should be made as early as possible. Selection of students for the Hazardous Materials Incident Response (165.5) course is made five weeks before the starting date of the course.

Questions concerning the courses, applications to attend, or inquiries concerning the availability of space in courses scheduled in the states or Regional Offices should be directed to the listed Regional Contact.

October 31, 1984

Applications to attend and inquiries about courses scheduled in Region II, Edison, New Jersey, Cincinnati, Ohio, or requests for general information about the Hazardous Materials Incident Response Training Program should be directed to:

Registrar
OERR Training Program

Or

Thomas C. Sell,
Training Coordinator

Or

Ellery D. Savage,
Training Officer

U.S. Environmental Protection Agency
26 West St. Clair Street
Cincinnati, OH 45268
Commercial Telephone: 513/684-7537
FTS Telephone: 8-684-7537

SUPERFUND TRAINING REGIONAL CONTACTS

Susan Zoino-Quealy
U.S. EPA - Region I
JFK Federal Building
Boston, MA 02203
(617) 223-1950
(FTS) 223-1950

Joyce Feldman
U.S. EPA - Region II
26 Federal Plaza
New York, NY 10278
(212) 264-1573
(FTS) 264-1573

Sheila Dorr
U.S. EPA - Region III
6th & Walnut Streets
Philadelphia, PA 19106
(215) 597-0803
(FTS) 597-0803

Scott Staehle
U.S. EPA - Region IV
345 Courtland Street, NE
Atlanta, GA 30365
(404) 881-3931
(FTS) 257-3931

Steve Ostrodka
U.S. EPA - Region V
230 S. Dearborn Street
Chicago, IL 60604
(312) 886-7571
(FTS) 886-7571

Robert Contreras
U.S. EPA - Region VI
1201 Elm Street
Dallas, TX 75270
(214) 767-2947
(FTS) 729-2947

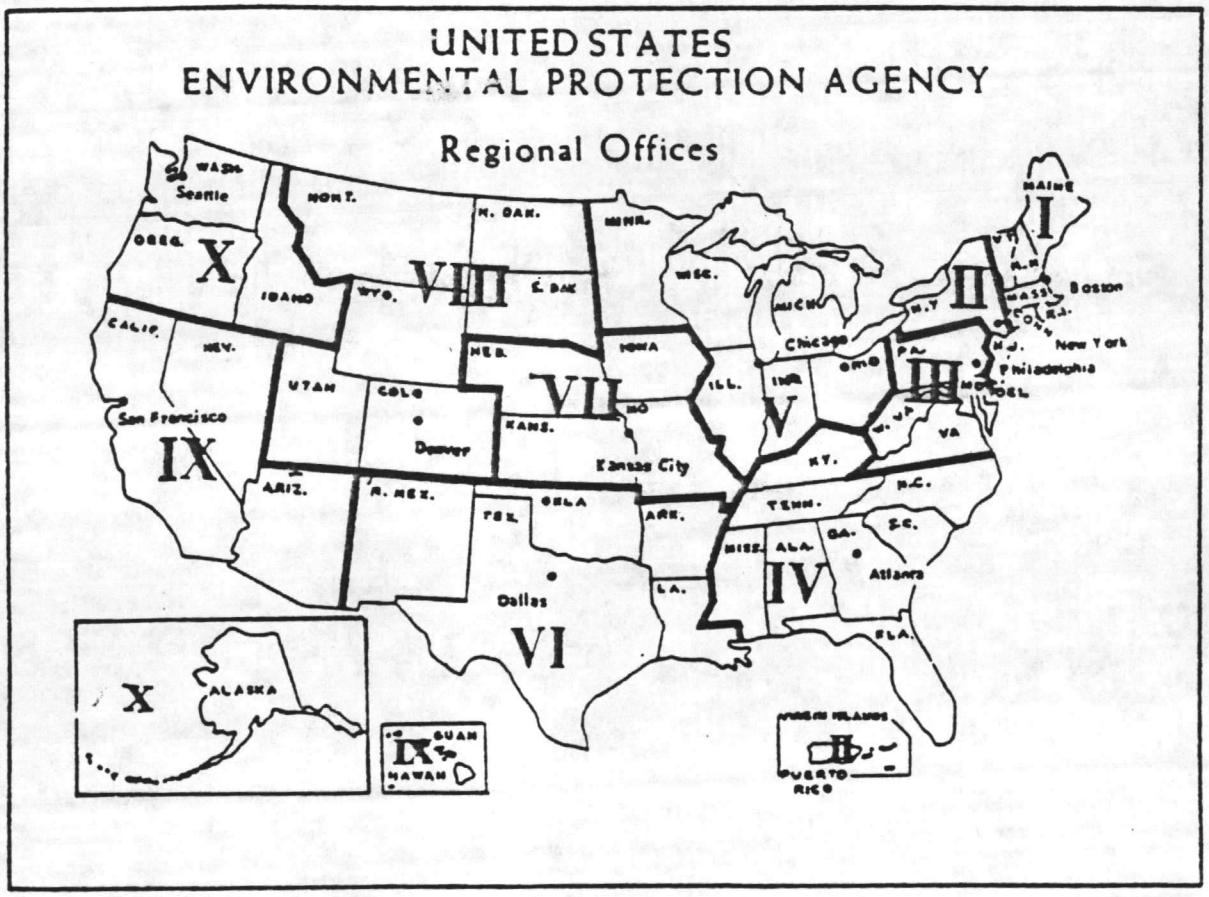
Gary Kepko
U.S. EPA - Region VII
25 Funston Road
Kansas City, KS 66115
(913) 236-3888
(FTS) 926-3888

Floyd Nichols
U.S. EPA - Region VIII
1860 Lincoln Street
Denver, CO 80295
(303) 236-5063
(FTS) 776-5063

Richard Taft
U.S. EPA - Region IX
215 Fremont Street
San Francisco, CA 94105
(415) 974-7422
(FTS) 454-7422

Ron Blair
U.S. EPA - Region X
P.O. Box 549
Manchester, WA 98353
(206) 442-0370
(FTS) 399-0370

Effective: October 3, 1984


UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
Regional Offices
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Boston
New York
Philadelphia
Chicago
Kansas City
Denver
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Dallas
Atlanta
ALASKA
GUAM
HAWAII
PUERTO RICO
I
II
III
IV
V
VI
VII
VIII
IX
X

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

CINCINNATI, OHIO 45268

HAZARDOUS MATERIALS INCIDENT RESPONSE TRAINING PROGRAM

PRELIMINARY COURSE SCHEDULE

October, 1984 thru September, 1985

(Issued August, 1984)

COURSE TITLE/NUMBER	DATE 1984	LOCATION
Air Surveillance for Hazardous Materials (165.4)	October 1-5	Lansing, MI
Hazardous Materials Incident Response Operations (165.5)*	October 15-19	Edison, NJ
Personnel Protection & Safety (165.2)	October 15-19	Tacoma, WA
Hazard Evaluation & Environmental Assessment (165.6)	Oct 29-Nov 1	Philadelphia, PA
Hazardous Materials Incident Response Operations (165.5)	Oct 29-Nov 2	Edison, NJ
Personnel Protection & Safety (165.2)	Oct 29-Nov 2	Murfreesboro, TN
Hazardous Materials Incident Response Operations (165.5)	November 5-9	Edison, NJ
Air Surveillance for Hazardous Materials (165.4)	November 5-9	Las Vegas, NV
Introduction to Personnel Protection & Safety (165.7)*	November 11-13	Cincinnati, OH
Hazardous Materials Incident Response Operations (165.5)	November 26-30	Edison, NJ
Personnel Protection & Safety (165.2)	November 26-30	Region VI
Sampling for Hazardous Materials (165.9)	November 27-29	Salt Lake City, UT
Incident Mitigation & Treatment Methods (165.3)	December 3-7	Edison, NJ
Air Surveillance for Hazardous Materials (165.4)	December 3-7	Frankfort, KY
Hazardous Materials Incident Response Operations (165.5)	December 10-14	Edison, NJ

*These are closed courses, applications are not being accepted.

COURSE TITLE/NUMBER	DATE 1985	LOCATION
Response Safety Decision-Making Workshop (165.8)	December 10-13	Philadelphia, PA
Personnel Protection & Safety (165.2)	December 10-14	Honolulu, HI
Hazardous Materials Incident Response Operations (165.5)	January 7-11	Edison, NJ
Air Surveillance for Hazardous Materials (165.4)	January 14-18	Region VI
Response Safety Decision-Making Workshop (165.8)	January 14-17	Denver, CO
Personnel Protection & Safety (165.2)	January 14-18	Indianapolis, IN
Hazardous Materials Incident Response Operations (165.5)	January 21-25	Edison, NJ
Hazard Evaluation & Environmental Assessment (165.6)	Jan 28-31	Region IX
Personnel Protection & Safety (165.2)	Jan 28-Feb 1	Omaha, NB
Air Surveillance for Hazardous Materials (165.4)	February 4-8	Seattle, WA
Hazardous Materials Incident Response Operations (165.5)	February 4-8	Edison, NJ
Personnel Protection & Safety (165.2)	February 11-15	New York, NY
Incident Mitigation & Treatment Methods (165.3)	February 11-15	Nashville, TN
Hazardous Materials Incident Response Operations (165.5)	Feb 25-Mar 1	Edison, NJ
Personnel Protection & Safety (165.2)	Feb 25-Mar 1	Pierre, SD
Sampling for Hazardous Materials (165.9)	February 26-28	Phoenix, AZ
Sampling for Hazardous Materials (165.9)	March 5-7	Portland, OR
Hazard Evaluation & Environmental Assessment (165.6)	March 4-7	Region VI
Personnel Protection & Safety (165.2)	March 11-15	Lexington, MA

COURSE TITLE/NUMBER	DATE 1985	LOCATION
Response Safety Decision-Making Workshop (165.8)	March 11-14	Edison, NJ
Hazardous Materials Incident Response Operations (165.5)	March 11-15	Edison, NJ
Incident Mitigation & Treatment Methods (165.3)	March 18-22	Kansas City, MO
Air Surveillance for Hazardous Materials (165.4)	March 18-22	Springfield, IL
Superfund Overview*	March 25-28	Edison, NJ
Personnel Protection & Safety (165.2)	March 25-29	Dover, DE
Personnel Protection & Safety (165.2)	April 8-12	Anchorage, AK
Air Surveillance for Hazardous Materials (165.4)	April 8-12	Salt Lake City, UT
Hazard Evaluation & Environmental Assessment (165.6)	April 15-18	Columbus, OH
Hazardous Materials Incident Response Operations (165.5)	April 15-19	Edison, NJ
Sampling for Hazardous Materials (165.9)	April 16-18	San Juan, Puerto R
Response Safety Decision-Making Workshop (165.8)	April 22-25	San Francisco, CA
Personnel Protection & Safety (165.2)	April 22-26	Midway, FL
Incident Mitigation & Treatment Methods (165.3)	April 22-26	Philadelphia, PA
Hazardous Materials Incident Response Operations (165.5)	April 29-May 3	Edison, NJ
Air Surveillance for Hazardous Materials (165.4)	May 6-10	Edison, NJ
Personnel Protection & Safety (165.2)	May 6-10	Region VI
Incident Mitigation & Treatment Methods (165.3)*	May 13-17	Yorktown, VA
Hazardous Materials Incident Response Operations (165.5)	May 13-17	Edison, NJ
Hazard Evaluation & Environmental Assessment (165.6)	May 20-23	Lexington, MA

COURSE TITLE/NUMBER	DATE 1985	LOCATION
Hazardous Materials Incident Response Operations (165.5)	May 20-24	Edison, NJ
Personnel Protection & Safety (165.2)	May 20-24	San Luis Obispo, CA
Sampling for Hazardous Materials (165.9)	May 21-23	Minneapolis, MN
Personnel Protection & Safety (165.2)	May 27-31	San Luis Obispo, CA
Air Surveillance for Hazardous Materials (165.4)	June 3-7	Annapolis, MD
Hazardous Materials Incident Response Operations (165.5)	June 3-7	Edison, NJ
Personnel Protection & Safety (165.2)	June 3-7	Phoenix, AZ
Sampling for Hazardous Materials (165.9)	June 11-13	Davenport, IA
Personnel Protection & Safety (165.2)	June 17-21	Denver, CO
Incident Mitigation & Treatment Methods (165.3)	June 17-21	Region VI
Hazardous Materials Incident Response Operations (165.5)	June 17-21	Edison, NJ
Sampling for Hazardous Materials (165.9)	June 25-27	South Carolina
Personnel Protection & Safety (165.2)	July 8-12	Columbus, OH
Sampling for Hazardous Materials (165.9)	July 16-18	Lexington, MA
Personnel Protection & Safety (165.2)	July 22-26	Des Moines, IA
Incident Mitigation & Treatment Methods (165.3)	July 22-26	San Luis Obispo, CA
Sampling for Hazardous Materials (165.9)	July 30-Aug 1	Edison, NJ
Response Safety Decision-Making Workshop (165.8)	August 5-8	Region VI
Personnel Protection & Safety (165.2)	August 5-9	Minneapolis, MN
Hazardous Materials Incident Response Operations (165.5)	August 12-16	Edison, NJ
Sampling for Hazardous Materials (165.9)	August 13-15	Annapolis, MD

COURSE TITLE/NUMBER	DATE 1985	LOCATION
Incident Mitigation & Treatment Methods (165.3)	August 19-23	Helena, MT
Air Surveillance for Hazardous Materials (165.4)	August 19-23	Topeka, KS
Personnel Protection & Safety (165.2)	August 26-30	Lexington, MA
Hazard Evaluation & Environmental Assessment (165.6)	August 26-29	Florida
Personnel Protection and Safety (165.2)	September 9-13	Region IV
Hazardous Materials Incident Response Operations (165.5)	September 16-20	Edison, NJ
Incident Mitigation & Treatment Methods (165.3)	September 23-27	Lansing, MI
Personnel Protection & Safety (165.2)	September 23-27	Annapolis, MD

PERSONNEL PROTECTION AND SAFETY (165.2)

5 Days

This course is for relatively inexperienced personnel who respond to accidents involving hazardous substances or investigate uncontrolled hazardous waste sites. It provides basic information on the protection and safety of personnel engaged in field operations dealing with hazardous substances.

After completing the course, attendees will be more familiar with general concepts, principles, and procedures for protecting themselves from the harmful effects of hazardous materials, and the acceptable practices for minimizing danger to response personnel.

The training consists of classroom instruction, problem-solving, and discussion. Approximately one-half of the course consists of the hands-on use of personnel protective equipment and monitoring instruments, and outdoor exercises.

Course topics include: the fundamentals of respiratory protection; types of respiratory protection apparatus, use and limitation of equipment; selection of respiratory protection equipment; protective clothing; air monitoring, and safety procedures for conducting response operations.

Segments of this course require the wearing of respiratory equipment which precludes the use of eyeglasses. Students who are severely restricted without eyeglasses should be aware that their participation may be limited unless they have their own eyeglass-equipped respirators.

Portions of this course and course 165.5 are redundant. Persons considering application to both courses should confer with the Registrar.

Continuing Education Units: 2.6
Tuition: $110.00

INCIDENT MITIGATION AND TREATMENT METHODS (165.3)

5 Days

This course deals with concepts and techniques for containing, controlling, and treating releases of hazardous substances. After completing the course students will have a better understanding of fundamental theories that govern chemical, physical, and biological behavior; phenomena that affect treatment processes; practical aspects of containment, on-site treatment, bulking, transport, and disposal; techniques for tracking and recovering contaminants in groundwater; and regulatory requirements.

Training is provided by means of classroom instruction, case-studies, problem solving, and group discussion.

Course topics include first response considerations, hazard evaluation, containment methods, physical, chemical, and biological treatment, disposal options, and safety during response operations.

Calculators are recommended.

Continuing Education Units: 3.7
Tuition: $110.00

AIR SURVEILLANCE FOR HAZARDOUS MATERIALS (165.4)

5 Days

This course instructs participants in the practices and procedures for air monitoring and sampling for hazardous materials. Upon completion of the course, students will be more knowledgeable about: the design of air surveillance programs; the types, availability, uses, and limitations of direct-reading air monitoring instruments and air sampling equipment; the use of air monitoring data for evaluating the safety of response personnel and the public; and air dispersion and meteorology. The course will include operating procedures for specific air monitoring instruments and sampling equipment, as well as strategies for surveillance of both abandoned hazardous waste sites and accidental releases of hazardous chemicals.

Instructional methods are a combination of classroom lectures, group discussions, problem-solving, and laboratory and field exercises with hands-on use of equipment and instruments. Several case studies are presented.

Topics to be discussed are air surveillance programs; air monitoring techniques and instruments; air sampling techniques and equipment; radiation detection instruments; calibration; quality control; exposure guidelines; health and safety considerations; legal implications; and air dispersion and meteorology.

Segments of this course require the wearing of respiratory equipment which precludes the use of eyeglasses. Students who are severely restricted without eyeglasses should be aware that their participation may be limited unless they have their own eyeglass-equipped respirators.

Calculators are recommended.

Continuing Education Units: 2.3.
Tuition: $110.00

HAZARDOUS MATERIALS INCIDENT RESPONSE OPERATIONS (165.5)

5 Days

This course provides attendees with practical knowledge concerning incident response operations. The course focuses on response team function, methods, procedures, and safety in responding to hazardous substances spills or abandoned waste sites.

After completing the course, attendees should be more familiar with selection, use, and limitation of respiratory protection apparatus and protective clothing; site entry, control, and decontamination procedures; the use of field monitoring instruments; and response organization and management.

Approximately 1/3 of the course is classroom instruction. The remaining time is hands-on use of monitoring equipment, personnel protective apparatus, and other applications of classroom topics. Decision-making in incident response operations is practiced by responding as teams to a full staged vehicular accident and an abandoned waste site.

Course topics include respiratory protection apparatus, protective clothing, field monitoring instruments, hazard analysis, toxicology, response organization, and standard operating safety guides.

Segments of this course require the wearing of respiratory equipment which precludes the use of eyeglasses. Students who are severely restricted without eyeglasses should be aware that their participation may be limited unless they have their own eyeglass-equipped respirators.

Portions of this course and 165.2 are redundant. Persons considering application to both courses should confer with the Registrar.

Continuing Education Units: 2.1
Tuition: $110.00

HAZARD EVALUATION AND ENVIRONMENTAL ASSESSMENT (165.6)

4 Days

This course provides participants with techniques to assess the potential environmental impact of released hazardous materials. The course emphasizes methods and procedures for estimating the dispersion of contaminants in air, surface water, and groundwater; pathways for contact with surrounding populations, and guidelines for the protection of public health.

Upon the completion of the course, participants will have knowledge of basic toxicology; use and interpretation of guidelines for the protection of response personnel as well as the public; the basic principle of dispersion and behavior of hazardous materials in air, surface water, groundwater, and soil; and techniques for the assessment of environmental impact.

Instruction methods includes lectures, group discussions, case studies, and group problem-solving sessions.

The following topics will be discussed: fundamentals of toxicology; principles of meteorology; basic information and mathematical models for dispersion of contaminants in air, water, and soil; guidance and standards for the protection of public health; and principles of bioassessment.

Calculators are required.

Continuing Education Units: 2.3
Tuition: $88.00

RESPONSE SAFETY DECISION-MAKING WORKSHOP (165.8)

4 Days

This workshop is for persons developing, implementing, or managing safety programs for chemical emergencies or cleanup at abandoned hazardous waste sites. The workshop complements other EPA basic safety courses and provides participants with more detailed guidance for making effective safety decisions. It is intended as a forum for workshop participants and the staff to exchange information and ideas on response-related safety topics.

Individuals applying for the course are expected to be knowledgeable in basic personnel protection, safety, and response operations. As a minimum, applicants must have attended Personnel Protection and Safety (165.2) or Hazardous Materials Incident Response Operations (165.5), similar courses, or demonstrate they are experienced in response safety.

After this workshop attendees will better understand the responsibilities and liabilites of a response safety officer; be more familiar with the requirements for an overall health and safety program; be more knowledgeable in risk assessment and its impact on safety planning; be better trained in technical areas of response safety; and be better able to develop and implement site-specific safety plans.

The workshop includes classroom instruction, group problem-solving, and class discussions. Workshop topics include safety guidance and regulations, risk assessment, air monitoring, respiratory and protective clothing selection, special problems, and site safety plan development.

Continuing Education Units: 2.1.
Tuition: $88.00

SAMPLING FOR HAZARDOUS MATERIALS (165.9)

3 Days

This course provides attendees with the practical knowledge required for an effective sampling program for hazardous materials. The course focuses on the types of equipment suitable for hazardous materials sampling and the practices and procedures for safely and effectively collecting samples. Air sampling procedures are specifically treated in the Air Surveillance for Hazardous Materials course (165.4), and are not covered in this course.

After completing the course, attendees should be more knowledgeable about the design of sampling programs; the equipment and procedures for sample collection; sampling safety; the regulations on transporting samples; and the use of statistics in sampling.

Instructional methods used are lectures, group discussions, demonstrations, and field exercises with an emphasis on hands-on use of multi-media sampling equipment.

Topics to be discussed include: sampling plan development; the statistical basis for sampling; equipment and procedures for sampling containerized materials, surface water/lagoons, sediments/sludges, soils and groundwater; compatibility testing; sample shipment; safety in sample collection; and quality control/quality assurance considerations.

Segments of this course require the wearing of respiratory equipment which precludes the use of eyeglasses. Students who are severely restricted without eyeglasses should be aware that their participation may be limited unless they have their own eyeglass-equipped respirators.

Continuing Education Units: 2.0
Tuition: $66.00

Form Approved
OMB No. 158-R0005

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

APPLICATION FOR TRAINING

1. NAME OF APPLICANT *(First, middle, last)*
MR.
MRS.
MISS.

2. TITLE OF COURSE DESIRED | 3. COURSE NUMBER

4. PLACE WHERE GIVEN | 5. DATES

6. SPONSOR OR EMPLOYER *(Name, address)*

City State Zipcode
Phone no.

7. MAILING ADDRESS OF APPLICANT *(If different from item 6)*

City State Zipcode
Phone no.

8. PROFESSION OR OCCUPATION | 9. TOTAL YEARS EXPERIENCE IN PROFESSION

10. POSITION TITLE

11. BRIEF DESCRIPTION OF YOUR PRESENT POSITION

12. PREVIOUS HAZARDOUS MATERIALS TRAINING COURSES ATTENDED

TITLES	DATES	LOCATION

13. HIGH SCHOOL GRADUATE ☐ YES ☐ NO | 14. NUMBER OF YEARS EDUCATION COMPLETED BEYOND HIGH SCHOOL

15. COLLEGE OR UNIVERSITY EDUCATION

NAME OF INSTITUTION	DATE ATTENDED	MAJOR	DEGREE

16. SIGNATURE OF APPLICANT | 17. DATE

18. SIGNATURE OF APPROVING OFFICER *(Where applicable)* | 19. TITLE | 20. DATE

21. AGENCY USE ONLY

AMT. REC'D. _____ DATE _____ BILLING INFO. _____

TUITION FEE SHOULD ACCOMPANY COMPLETED APPLICATION.
Checks should be made payable to: U.S. Environmental Protection Agency.

Form Approved
OMB No. 158-R0005

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TITLES	DATES	LOCATION

13. HIGH SCHOOL GRADUATE ☐ YES ☐ NO

14. NUMBER OF YEARS EDUCATION COMPLETED BEYOND HIGH SCHOOL

15. COLLEGE OR UNIVERSITY EDUCATION

NAME OF INSTITUTION	DATE ATTENDED	MAJOR	DEGREE

16. SIGNATURE OF APPLICANT

17. DATE

18. SIGNATURE OF APPROVING OFFICER *(Where applicable)*

19. TITLE

20. DATE

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MRS.
MISS.

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TITLES	DATES	LOCATION

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14. NUMBER OF YEARS EDUCATION COMPLETED BEYOND HIGH SCHOOL

15. COLLEGE OR UNIVERSITY EDUCATION

NAME OF INSTITUTION	DATE ATTENDED	MAJOR	DEGREE

16. SIGNATURE OF APPLICANT

17. DATE

18. SIGNATURE OF APPROVING OFFICER *(Where applicable)*

19. TITLE

20. DATE

21. AGENCY USE ONLY

AMT. REC'D. _____ DATE _____ BILLING INFO. _____

TUITION FEE SHOULD ACCOMPANY COMPLETED APPLICATION.
Checks should be made payable to: U.S. Environmental Protection Agency.

EPA-271 (Cin) (8-76)

T-6240

6280
NREAD
5 Feb 1985

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Defense Property Disposal Officer

Subj: INSPECTION REPORT ON LONG TERM HAZARDOUS WASTE STORAGE FACILITIES AT BUILDINGS TP-451 AND TC-863

Ref: (a) CG MCB CLNC ltr FAC/REA/hf 6280 of 15 July 1983
(b) On-site Inspection on 1 Feb 1985 by Mr. K. Jolly, NREAD; Mr. J. Metts, Base FireProtDiv, and Mr. G. Eggers, DPDO

Encl: (1) Inspection Checklist for Long Term Hazardous Waste Storage Facilities at Buildings TP-451 and TC-863 dated 1 Feb 1985

1. Reference (a) obligated this command to ensure that the subject facility is operated in accordance with the permit application contained therein. Routine inspections are conducted to monitor current status of compliance. The enclosure documents findings made during reference (b). It is requested that appropriate corrective action for new discrepancies be initiated. Also, follow-up on correction action in progress for discreancies identified on previous inspections should be actively pursued. Point of contact in this matter is Mr. D. Sharpe, extensions 5003/2083.

J. I. WOOTEN
By direction

Copy to:
BFireCh
AC/S FAC
SJA (Attn: Capt Beale)
BMO

Writer: K. Jolly, NREAD, 5003
Typist: J. Cross, 5Feb85

INSPECTION CHECKLIST FOR LONG TERM HAZARDOUS WASTE/MATERIALS STORAGE FACILITIES AT TP-451/TC-863

PARTICIPANTS Mr. G. Fggers, DPDO; Mr. J. Metts, BFD; Mr. K. Jolly, NREAD DATE: 1 Feb 1985

FACILITIES AND EQUIPMENT	SAT	UNSAT	COMMENTS
1. FACILITY GROUNDS	X		
2. FACILITY SECURITY (LOCKS, DOORS, SIGNS, ETC.)	X		
3. EMERGENCY TELEPHONE AND FIRE ALARMS	X		Broken post holding outside phone has been tied to fence, temporary connections made. Final repairs should be requested by DPDO in work request.
4. UNLOADING PAD DRAIN VALVE	X		
5. EXHAUST FANS	X		
6. INTERIOR LIGHTING AND ELECTRICAL OUTLETS		X	Outlet in TP-451 leaks condensate, possibly creating hazardous situation. DPDO should submit work request to Base Maintenance to correct/check problem.
7. SAFETY SHOWERS/ EYE LAVAGES	X		
8. CURBS, GRATES, OTHER FIXTURES		X	Bent/mangled grates have not been repaired. Materials have been ordered by Base Maintenance to repair same.
9. NON-SPARKING SHOVELS (2)	X		
10. ABSORBENT (EQUIVALENT OF FOUR 55-GAL BARRELS)		X	Absorbent stock on hand extremely low - no absorbent in TP-451. Required equivalent should be obtained and stocked in facility at all times.
11. HAZ MAT PUMPS OR EQUIVALENT	X		
12. FIRE EXTINGUISHERS	X		
13. PROTECTIVE GEAR AND EQUIPMENT		X	No respirator in TP-451. A respirator should be provided for TP-451 immediately.
14. EMPTY CONTAINERS AND OVERPACK DRUMS	X		

ENCLOSURE (1)

OPERATIONAL CONSIDERATIONS	SAT	UNSAT	COMMENTS
1. Required operator inspections and Inspection Log	X		
2. Emergency Contingency Plan Posting & Operator Familiarity	X		
3. Fire Department Phone number posting	X		
4. Condition of containers in use	X		Broken pallet under barrel of cleaning compound in TC-863 should be replaced.
5. Presence of odors/vapors, residues in sumps, deck, etc.	X		
6. Unloading Pad Valve Operation	X		
7. Compatibility of Material Storage	X		
8. Implementation of previously recommended corrective action		X	See Facilities and Equipment No's. 6, 8, 10, 13.
9. Facility Operators since last Inspection			Mr. George Eggers

ADDITIONAL COMMENTS, EXPLANATIONS, ETC: Required aisle space in TC-863 now present and should be maintained. Wood debris between TC-863 and TP-451 should be removed.

T-6240

UNITED STATES MARINE CORPS
Marine Corps Base
Camp Lejeune, North Carolina 28542-5001

6280/2
FAC
31 JAN 1985

MEMORANDUM FOR THE COMMANDING GENERAL
CHIEF OF STAFF

Subj: WASTE OIL HANDLING AND DISPOSAL; RESULTS OF MEETING WITH STATE OF NORTH CAROLINA

1. On 29 January 1985 a meeting was held between personnel from the N.C. Solid and Hazardous Waste Management Branch; the Defense Property Disposal Region - Memphis; Defense Property Disposal - Camp Lejeune; Atlantic Division, NAVFACENGCOM; and MCB Facilities Department. Topics discussed included:

a. Environmental Protection Agency (EPA) rules defining which materials are hazardous wastes when they are recycled; published 6 January 1985.

b. Characteristics of the mixture of waste oils, solvents, contaminated fuel, and oil/water separator skimmings.

c. Facilities and procedures for collection and storing wastes pending recycling through DPDS contracts.

d. Planned energy recovery project at boiler BB-9, Courthouse Bay.

e. DPDS service contracting and recycling contracting procedures.

f. Ongoing studies of hazardous materials and waste oil via Engineering Service Requests forwarded to LANTDIV.

2. A site visit was completed to view waste oil handling and storage at 2d Tank Battalion, 2d Ordnance Maintenance Battalion, and the storage tanks at Bldg 45 and at the Holcomb Boulevard LP gas storage site.

3. The DPDS service contract for removal of oils and sludges in the Bldg 45 tank should be completed by 15 February. The recycling (sales) contracts for the storage tanks at Holcomb Blvd and Camp Geiger should empty those tanks by mid-March.

4. Due to the mixing of lube oils with other "listed substances," per the EPA and State rules, requires the mixture to be defined as a hazardous waste. Examples of the "listed substances" are trichloroethylene (TCE) and PCBs. The nature of these substances and the waste oil analyses determines the ultimate method of disposal; i.e, for solvents such as TCE, burning

Drafter: B.Alexander/Typist: H Foster

Subj: WASTE OIL HANDLING AND DISPOSAL; RESULTS OF MEETING WITH STATE OF NORTH CAROLINA

for heat recovery is permissible if air quality permits are met. If PCBs are mixed with waste oil, disposal by incineration is required. The oils being handled by the DPDS contracts are correctly being managed as hazardous waste according to the State personnel.

5. A letter from the State will be forthcoming to address rquirements for permitting the storage facilities for future handling of waste oil. Compliance with the 6 January EPA rules and Resources Conservation Recovery Act permit requirements will be addressed.

Very respectfully,

B. W. ELSTON
Dep AC/S, Facilities

Copy to:
MAIN
NREA
EnvEngr

T-6240

UNITED STATES MARINE CORPS
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542

6280
MAIN
28 JAN 1985

N.C. Department of Natural Resources
and Community Development
Division of Environmental Management
Attn: Mr. Charles Wakild
Wilmington Regional Office
7225 Wrightsville Ave.
Wilmington, NC 28403-3696

Re: Notification of Asbestos
Removal, Building FT-4

Dear Mr. Wakild:

As indicated on the enclosure, removal of friable asbestos during renovation of Marine Corps facilities is proposed.

Per your request by letter of 18 October 1983, the Notice of Renovation Involving Asbestos Removal is forwarded. Protective measures to be followed are those prescribed in the Navy (OPNAV) Instruction 5100.23B, Navy Occupational Safety and Health (NAVOSH) Program Manual, dated 31 August 1983.

For further information on these notices, please contact Mr. Alexander at (919) 451-3034 or at the above address.

Sincerely,

M. G. LILLEY
Colonel, U. S. Marine Corps
Assistant Chief of Staff, Facilities
By direction of the Commanding General

Encl: Notice of Demolition/Renovation
Involving Asbestos Removal

Blind copy to:
AC/S, FAC
SAFD
NREA
CO, NavHosp (O&PMD)

UNITED STATES MARINE CORPS

MARINE CORPS BASE

CAMP LEJEUNE, NORTH CAROLINA 28542

NOTICE OF DEMOLITION AND/OR RENOVATION INVOLVING ASBESTOS REMOVAL

(Pursuant to Title 15 North Carolina Administrative Code, Chapter 2D .0525)

Marine Corps Base
Name of Facility

Attn: AC/S, Facilities
Camp Lejeune, NC 28542
Address of Facility

(919) 451-3034/3035
Phone

Brigadier General L. H. BUEHL
Name of Owner

Commanding General
Marine Corps Base, Camp Lejeune, NC 28542
Address of Owner

Demolition/Renovation Starting Date Jan-Feb 85

Completion Date To be determined

Approximate amount of friable asbestos material to be removed:

Linear feet of pipe 165 Square feet of duct, ceiling, walls, etc. 1046.9

Facility Description: PT-4

Size 2450 S.F. Age 1942 - Prior Use Unknown

Nature of demolition/renovation (including method to be used) Remove asbestos pipe insulation from the potable water piping exposed inside of the building and remove asbestos covering on partition walls

Does this operation involve a condemned building? Yes _____ No X

If yes, give name, title and authority of person ordering the demolition _____

Name/location of disposal site Asbestos disposal site adjacent to sanitary landfill

Was site approved by NC Dept. of Human Resources? Yes X No _____ Date Approved 1981

Other agencies notified none

Procedures to be followed to comply with Federal Register requirements Those prescribed in OPNAVINST 5100.23B.

I certify that the information submitted is accurate to the best of my knowledge.

Name/Title M. G. LILLEY, Colonel, USMC
AC/S, Facilities

Date _____

Signature _____

Encl (1)

T-6240

6280
NREAD
22 Jan 1985

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Defense Property Disposal Officer

Subj: INSPECTION REPORT ON LONG TERM HAZARDOUS WASTE STORAGE FACILITIES AT BUILDINGS TP-451 and TC-863

Ref: (a) CG MCB CLNC ltr FAC/REA/hf 6280 of 15 July 1983
(b) Onsite Inspection on 10 Jan 1985 by Mr. J. Metts, BaseFireProtectDiv and Mr. K. Jolly, NREAD

Encl: (1) Inspection Checklist for Long Term Hazardous Waste Storage Facilities at Buildings TP-451 and TC-863 dated 10 Jan 1985

1. Reference (a) obligated this command to ensure that the subject facility is operated in accordance with the permit application contained therein. Routine inspections are conducted to monitor current status of compliance. The enclosure documents findings made during reference (b). It is requested that appropriate corrective action for new discrepancies be initiated. Also, follow-up on corrective action in progress for discrepancies identified on previous inspections should be actively pursued. Point of contact in this matter is Mr. Ken Jolly, extensions 5003/2083.

J. I. WOOTEN
By direction

Copy to:
BFireCh
AC/S FAC
SJA (Attn: Capt Beale)
BMO

Writer: K. Jolly, NREAD, 5003
Typist: J. Cross, 22Jan85, 5003

(See Read file for Encl)