CHAPTER 19

POLYCHLORINATED BIPHENYLS MANAGEMENT

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SECTION 1: INTRODUCTION

19100. PURPOSE. This chapter establishes Marine Corps policy and responsibilities for compliance with requirements under the Toxic Substances Control Act (TSCA) for managing PCB's. Although this chapter deals primarily with the management of PCB's, it recognizes that occupational safety and health policies and regulations must be integrated into the management of PCB's to attain an effective program.

19101. APPLICABILITY. See paragraph 1101.

19102. BACKGROUND. Except as authorized in 40 CFR 761.30, the Environmental Protection Agency (EPA) regulations ban the use of PCB's in any manner not totally enclosed. Regulations also prohibit PCB manufacturing, processing, importation, and distribution in commerce except for disposal. Although the manufacturing of new equipment using PCB's is prohibited, the regulations allow for the continued use of some PCB-containing equipment already in service through the end of its useful life, unless otherwise prohibited. Useful life is generally interpreted to be until equipment failure.

1. PCB's are also recognized as hazardous substances (HS) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) for purposes of spill reporting.

2. The regulations at 40 CFR part 761, establish specific definitions for many terms (see paragraph 19105, Terms and Definitions.)

19103. FEDERAL STATUTES

1. TSCA of 1976 (15 U.S.C. 2601 et seq.). This Act requires the EPA to regulate and control harmful chemical and toxic substances in commercial use. Congress enacted TSCA to reduce unreasonable risks from chemicals to human health, safety, and the environment. Section 6 of TSCA provides the EPA with the

authority to regulate hazardous chemical substances and mixtures. Regulations on the manufacturing, processing, distribution in commerce, and use of PCB's are found in 40 CFR 761. The EPA promulgated additional regulations on the storage and disposal of PCB's on December 21, 1989.

2. Resource Conservation and Recovery Act (RCRA) of 1976 (42 U.S.C. 6901 et seq.). RCRA was enacted as an amendment to the Solid Waste Disposal Act. RCRA has been amended by several public laws, including the Hazardous and Solid Waste Amendments (HSWA). The HSWA requirements include the prohibition on land disposal of hazardous wastes (HW) containing PCB's (for liquids with concentrations greater than 50 parts per million (ppm) and for nonliquids with concentrations of PCB's greater than 1,000 ppm).

19104. REQUIREMENTS

1. Use/Reuse. PCB's at any concentration may be used in transformers (other than railroad) and for purposes of servicing, including rebuilding these transformers for the remainder of their useful lives (40 CFR 761.30). The following requirements are applicable to the use and reuse of PCB's:

a. Marine Corps installations must not use or store for reuse large PCB capacitors, PCB transformers, or electromagnets that pose an exposure risk to human food or animal feed. Exposure risk exists if PCB's released in any way have a potential pathway to human food or animal feed. For PCB capacitors, if there is no exposure risk, use these capacitors only within a restricted-access electrical substation or a restricted-access indoor installation. At least every 3 months, visually inspect for leaks all PCB transformers or electromagnets in use, or in storage for reuse. Initiate cleanup and repair of leaks within 48 hours of discovery. Daily inspect all leaking PCB transformers until the leak has been repaired. In situations where transformers have 100 percent secondary spill containment, or have been serviced for purposes of reducing the PCB concentration and contain less than 60,000 ppm PCB's, visual inspections may be reduced to once every 12 months (40 CFR 761.30).

b. As of October 1, 1990, installations may no longer use network PCB transformers with secondary voltages equal to or greater than 480 volts, including 480/277 volt systems in, or near, commercial buildings. Such PCB transformers must be

converted to either PCB-contaminated or non-PCB status by retrofilling or by removal and replacement.

c. As of October 1, 1990, all radial PCB transformers and lower secondary voltage network PCB transformers (i.e., 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 (i.e., 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. Radial transformers that are not provided with electrical protection must have been removed from service by October 1, 1990. Lower secondary voltage network transformers (described above) that are not provided with electrical protection must have been removed from service by October 1, 1993.

d. It is prohibited to install PCB transformers which have been placed into storage for reuse or which have been removed from another location in or near commercial buildings.

e. Installations must register all PCB transformers (including pole-mounted PCB transformers and those stored for reuse) with any fire department on-base or off-base able to respond to a fire.

2. Markings

a. Per 40 CFR 761. 40, mark as illustrated in figure 19-1, the following PCB items in existence on or after July 1, 1978:

(1) All PCB transformers and PCB Large High Voltage Capacitors (LHVC) in use or removed from use;

(2) Electric motors using PCB coolants, hydraulic systems, and heat transfer systems containing PCB's of 50 ppm or greater;

(3) PCB Large Low Voltage Capacitors (LLVC) when they are removed from service;

(4) PCB article containers;

(5) Each storage area used to store PCB's and PCB items; and

(6) PCB transformer locations.

b. Mark PCB storage areas and transport vehicles with special labels in accordance with 40 CFR 761.40, and the Department of Transportation's hazardous material transportation regulations.

c. Mark the date when PCB liquids, PCB containers, nonliquid PCB's, and PCB items are removed from service and placed in the storage facility.

d. If one or more PCB LHVC's are installed in a protection location such as on a power pole, structure, or behind a fence, the pole, structure, or fence, mark as illustrated in figure 19-1.

3. Storage

a. Per the requirements in 40 CFR 761.65, the following storage requirements apply to PCB's at concentrations of 50 ppm or greater and PCB items with PCB concentrations of 50 ppm or greater:

(1) The storage facility must have adequate roof and walls to prevent rainwater from reaching the stored PCB's and PCB items.

(2) The facility must have an adequate floor with a continuous 6-inch high curb.

(3) The facility cannot have drain valves, floor drains, expansion joints, sewer lines, or other openings that would permit liquids to flow from the curbed area.

(4) The facility cannot be located at a site that is below the 100-year flood water elevation.

b. Nonleaking PCB items or leaking PCB items placed in nonleaking containers with absorbent may be put into temporary storage facilities (those not meeting the requirements of a permanent facility) for up to 30 days (consult with state and local laws and regulations applicable to PCB item storage, as some allow longer storage times for certain PCB items). Containers with nonliquid PCB-contaminated soil, rags, or debris from spills and PCB containers with 50 to 500 ppm liquid PCB (as determined by a laboratory) may also be stored in temporary facilities. However, the EPA requires that the date of removal

from service be attached to all items in temporary storage. A Spill Prevention Control and Countermeasures plan must be prepared for the temporary storage area if it is used to store containers holding between 50 and 500 ppm PCB-contaminated liquids. Any container used for the storage of PCB's and PCB items must meet the requirements of 40 CFR 761.65(c).

c. In a permanent storage facility, store PCB transformers, PCB liquids, PCB containers, nonliquid PCB's, and PCB items (if they are to be stored for more than 30 days while awaiting disposal). PCB items may be stored for up to 1 year (or less if required by HW regulations) in a permanent PCB storage facility, provided it meets the applicable, minimum criteria as specified in 40 CFR 761.65.

d. Installations must not store combustible materials within 5 meters of any PCB transformer or its enclosure.

4. Transportation. PCB's must be transported as specified in 49 CFR 171-177.

5. Disposal

a. Dispose of PCB's and PCB items with concentrations of 50 ppm or greater within 1 year of the date that storage began.

b. For PCB fluids containing more than 500 ppm of PCB's, disposal is generally via high-temperature incinerators permitted by the EPA. PCB-contaminated mineral oil (less than 500 ppm PCB) may be burned in high-efficiency boilers, provided that specific EPA requirements are met, and EPA and appropriate state and local approval is obtained. HW landfills, approved by the EPA for PCB disposal, may be used for disposal of specific PCB items such as transformers, large capacitors, and debris from PCB spills (40 CFR 761.60). PCB transformers must be emptied of fluid and rinsed with appropriate solvent before they can be landfilled.

6. Emergency Response and Reporting

a. Immediately report by telephone to the National Response Center (NRC) fire-related incidents involving PCB transformers ((800) 424-8802). The owner of the PCB transformer also must take measures to contain and control any potential releases of PCB's and incomplete combustion products into water. Fires involving PCB's can generate extremely toxic reaction products (e.g., dioxins). Immediately evacuate a building in which a PCB fire occurs.

b. PCB's are an HS under TSCA and CERCLA, requiring spills to be reported as follows: A spill of a reportable quantity (RQ) of PCB (RQ = 1 lb) or greater must be reported to the appropriate response organizations and regulatory agencies within the required deadlines (see chapter 7 and appendix E of this Manual). Releases of a mixture containing PCB's must be reported only when the amount of the PCB component released exceeds the RQ. If the concentration of PCB's in the mixture is unknown, the release must be reported if the total amount of the mixture spilled is 1 pound (lb) or more (see 40 CFR 761.125).

7. Notification of PCB Waste Activity. Installations that generate PCB wastes must notify the EPA and obtain an EPA identification number for PCB waste generators. It is illegal for a PCB waste generator to process, store, dispose of, transport, or offer transportation for PCB wastes without having obtained an EPA identification number. PCB generators must notify the EPA of such activities by filing EPA Form 7710-53 (40 CFR 761.202). Generators that do not store PCB's or PCB items for over 30 days and that do not operate a PCB storage facility subject to the requirements of 40 CFR 761.65(b), or 40 CFR 761.65(c)(7), are exempted from notifying the EPA. Exempt generators must use the generic identification number "40 CFR 761" or a number assigned to the activity by the EPA or a state under RCRA.

8. PCB Recordkeeping. The EPPA requires that the following records be kept as applicable:

a. Records of inspections, maintenance, and repairs of PCB transformers and electromagnets in use, or stored for reuse, must be maintained at the installation at least 3 years after disposal of the PCB transformer or electromagnet.

b. Each owner or operator of a facility using or storing at any one time at least 45 kg (99.4 lb) of PCB's in PCB containers, 1 or more PCB transformers, or 50 or more large PCB capacitors must maintain annual records and a written annual document log of PCB waste disposal activities. These records and the log must be retained for 3 years after the facility ceases using or storing PCB's and PCB items in quantities described above. The document log must be completed by July 1 for the previous calendar year. Annual records must include all signed manifests for the calendar year and all certificates of disposal.

c. The written document log must contain the following specific inventory information for each type of PCB item:

(1) Name, address, and EPA identification number of the facility and the calendar year covered by the annual document log;

(2) Manifest number of every manifest generated by the facility during the calendar year;

(3) Total number by specific type of PCB articles, PCB article containers, PCB containers, PCB transformers, and any PCB's and PCB items in PCB containers; and

(4) Total weight in kilograms of PCB's in PCB article containers and PCB transformers, total weight in kilograms of contents of PCB containers, PCB article containers, and total weight of LHVC or LLVC PCB capacitors remaining in service at the facility at the end of the calendar year.

d. A record of each telephone call or some form of verification must be kept to confirm receipt of PCB's transported by an independent transporter.

e. Manifesting PCB Wastes. A generator who relinquishes control over PCB wastes for commercial off-site disposal must prepare a manifest using EPA Form 8700-22, or the appropriate state manifest. If the generator uses an independent transporter to ship the waste and the generator does not receive a signed copy of the manifest from the disposer or commercial storer within 35 days of shipment, then the generator will contact the transporter and/or disposer to determine the disposition of the waste. If the generator does not receive a manifest from the disposal facility within 45 days of shipment, then the generator must file an exception report with the EPA regional office. Copies of the manifests must be retained by the generator for at least 3 years after the facility ceases using or storing PCB's or PCB items (40 CFR 761.207).

f. Certificates of Disposal and One-Year Exception Reports. For each shipment of manifested PCB waste, the disposer is obligated to prepare a certificate of disposal that must be sent to the generator within 30 days of the date of disposal (40 CFR 761.218). A generator who manifests PCB's or PCB items to a disposer of PCB waste must submit a One-Year Exception Report to the EPA regional administrator whenever the following criteria are met (40 CFR 761.215):

(1) The generator has not received a certificate of disposal within 13 months from the date of removal from service; and

(2) The generator receives a certificate of disposal for a disposal date more than 1 year after the date of removal from service.

9. Environmental Compliance. See chapter 4 of this Manual for information on policy, responsibility, and procedures for achieving compliance with applicable Executive Orders, and Federal, state, interstate, and regional statutory and regulatory environmental requirements.

19105. TERMS AND DEFINITIONS

1. Capacitor. A device for accumulating and holding a charge of electricity and consisting of conducting surfaces separated by a dielectric. Types of capacitors are as follows:

a. LHVC. A capacitor that contains 1.36 kg (3 lbs) or more of dielectric fluid and that operates at 2,000 volts (AC or DC) or above.

b. LLVC. A capacitor that contains 1.36 kg (3 lbs) or more of dielectric fluid and that operates below 2,000 volts (AC or DC).

c. Small Capacitor. A capacitor that contains less than 1.36 kg (3 lbs) of dielectric fluid.

2. EPA Identification Number. The number assigned by the EPA to each generator, transporter, and treatment storage or disposal facility.

3. In or Near Commercial Buildings. Within the interior of, on the roof of, attached to the exterior wall of, in an adjacent parking area serving, or within 30 meters of a nonindustrial, nonsubstation building.

4. Non-PCB Transformer. Any transformer that contains less than 50 ppm PCB, except that any transformer that has been converted from a PCB transformer or a PCB-contaminated transformer, cannot be classified as a non-PCB transformer until reclassification has occurred per the requirements of 40 CFR 761.30.

5. PCB. Any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees, or any combination of substances that contains such substance. Prior to stringent regulation of PCB's, they were used in a variety of applications as a fire retardant. PCB's were also used for other purposes, such as a component of sound insulating felt in submarines and electrical cables. Often, PCB's were added in these applications without being specified in material or equipment procurement specifications. Thus, the presence of PCB's cannot always be determined through review of applicable procurement documents. In the disposal of materials and components, care should be taken to identify all potentially HS's and carry out the disposal accordingly.

6. PCB Article. Any manufactured article, other than a PCB container, that contains PCB's and whose surface(s) have been in direct contact with PCB's. This includes capacitors, transformers, electric motors, pumps, pipes, and any other manufactured items.

7. PCB Article Container. Any package, can, bottle, bag, barrel, drum, tank, or other device used to contain PCB articles or PCB equipment, and whose surface(s) has not been in direct contact with PCB's.

8. PCB Container. Any package, can, bottle, bag, barrel, drum, tank, or other device that contains PCB's or PCB articles and whose surface(s) have been in direct contact with PCB's.

9. PCB-Contaminated Electrical Equipment. Any electrical equipment (e.g., transformers, capacitors, circuit breakers, reclosers, voltage regulators, switches, electromagnets, and cable), containers, materials, soils, or other items that contain 50 ppm or greater PCB, but less than 500 ppm PCB.

10. PCB-Contaminated Transformer. Any transformer that contains 50 ppm or greater PCB, but less than 500 ppm PCB.

11. PCB Equipment. Any manufactured item, other than a PCB container, or a PCB article container which contains a PCB article or other PCB equipment. This includes microwave ovens, electronic equipment, and fluorescent light ballasts and fixtures.

12. PCB Item. Any PCB article, PCB article container, PCB container, or PCB equipment that deliberately or unintentionally contains any PCB or PCB's.

13. PCB Leak. Any instance in which a PCB article, PCB container, or PCB equipment has any PCB's on any portion of its external surface.

14. PCB Transformer. Any transformer that contains 500 ppm or greater of PCB.

15. PCB Waste Generator. Any person whose act or process produces PCB's that are regulated for disposal or whose act first causes PCB's or PCB items to become subject to disposal requirements, or who has physical control over the PCB's when a decision is made that the use of the PCB's has been terminated.

16. Retrofill. To remove PCB or PCB-contaminated dielectric fluid and to replace it with either PCB, PCB-contaminated, or non-PCB dielectric fluid.

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POLYCHLORINATED BIPHENYL MANAGEMENT

SECTION 2: MARINE CORPS POLICY

19200. GENERAL. Marine Corps installations must comply with all applicable Federal, state, and local regulatory requirements relating to PCB management.

19201. MARINE CORPS POLYCHLORINATED BIPHENYL (PCB) ANNUAL INVENTORY REPORT. All Marine Corps installations that have PCB items still in use, or generate, store, treat, or dispose of PCB's must prepare an annual report of all PCB's and PCB items on the installation and those sent off-site for disposal during the past year. This report will be submitted to Naval Facilities Engineering Service Center (NFESC) per their guidance, with a copy to the cognizant Naval Facilities Engineering Command Engineering Field Division/Activity and the CMC (LF).

19202. MARINE CORPS AND DEFENSE LOGISTICS AGENCY (DLA) INTERFACE ON POLYCHLORINATED BIPHENYLS (PCB). The DLA must accept accountability for storage and disposal of PCB's and PCB items. The DLA must also accept custody where the Defense Reutilization and Marketing Office (DRMO) has conforming storage.

19203. POLYCHLORINATED BIPHENYL (PCB) TRANSFORMERS IN COMMERCIAL BUILDINGS. PCB transformers in commercial buildings must be registered with building host owners. Host installations will inform tenants as to the location and type of any PCB transformers in or near all buildings they occupy. Marine Corps policy is to treat Marine Corps, military, or civilian personnel assembly buildings, educational properties, institutional properties (including museums, hospitals, clinics), residential properties (living quarters), stores, office buildings (including administrative buildings), and transportation centers (including airport terminal buildings, bus stations, or train stations) as commercial buildings.

19204. POLYCHLORINATED BIPHENYL (PCB) EQUIPMENT REMOVAL POLICY. The Marine Corps policy is to eliminate PCB's from all Marine Corps-owned electrical distribution systems and equipment hydraulic fluids and cooling and lubricating oils using the following procedures.

1. Transformers

a. Determine by gas chromatography or another appropriate method the PCB concentration for all pad-mounted and pole-mounted transformers. Mark transformers in accordance with Federal, state, and/or local requirements. Note PCB test results (in ppm) for each transformer in the installation records.

b. By October 1998, eliminate all transformers containing 500 ppm or more PCB's. By October 2003, eliminate all transformers containing 50 ppm or more PCB's. To reduce future potential liabilities, accomplish transformer elimination by replacement, or by removal with load transfer to other non-PCB transformers.

2. Capacitors

a. Establish an accurate inventory of PCB capacitors based on manufacturing information. Label large PCB capacitors and large non-PCB capacitors in accordance with Federal, state, and/or local requirements. Note the PCB classification of each large capacitor in installation records.

b. By October 1998, eliminate all large PCB capacitors.

3. Elimination Plan. Complete annual updates of the installation PCB elimination plan until all PCB's and PCB items have been removed from the installation. The plan must include the proposed date of removal and the requested source of funding for each PCB item. Transformer and capacitor owners must prioritize corrective projects based on: 1) the severity of mission impact if a fire, explosion, or major PCB spill occurred and 2) the likelihood of such an incident occurring. Transformer and capacitor owners must coordinate priorities with impacted customers, paying special attention to the redesign of the power grid that accommodates PCB removal. PCB elimination plans must be updated every October.

4. Procurement. All future procurement of transformers or any other equipment containing dielectric or hydraulic fluid must be accompanied by a manufacturer's certification that the equipment

contains no detectable PCB's or that the equipment contains less than 2 ppm PCB's at time of shipment. Affix labels to such newly procured transformers and equipment stating that they are "Non-PCB" (i.e., no detectable levels of PCB present).

CHAPTER 19

POLYCHLORINATED BIPHENYL MANAGEMENT

SECTION 3: RESPONSIBILITIES

19300. CMC (LF)

1. Provide information and advice to installation commanders regarding proposed and final rules and regulations pertaining to PCB's and uniformly apply Marine Corps policy as set forth in this Manual.

2. Monitor the status of installation inventories and PCB management programs.

3. Assist installations in resolving disputes with Federal, state, local, and foreign regulatory agencies as required.

4. Conduct special environmental compliance and protection studies with regard to PCB's to assist in establishing policy or initiating actions.

5. Ensure, through field visits and the Environmental Compliance Evaluation Program, Marine Corps cooperation and compliance with Federal, state, and local regulatory agencies with regard to PCB regulations.

6. Track Marine Corps progress toward meeting established PCB elimination goals.

19301. CG/CO OF MARINE CORPS INSTALLATIONS AND COMMANDER MARINE FORCES RESERVE (COMMARFORRES)

1. Identify and submit to the CMC (LFL) and the CMC (LFF) project documentation and funding requests for PCB management facilities that are required to maintain compliance with applicable existing and emerging regulations and permits. Program and budget for personnel, equipment, materials, training, and monitoring required to comply with PCB management requirements. Pay appropriate Federal, state, and local fees. Ensure that the environmental management hierarchy is employed, pollution prevention alternatives evaluated, and life-cycle cost

impacts assessed, in evaluating and selecting projects that address compliance requirements (see chapter 15 of this Manual).

2. Ensure that all required Federal, state, and local permits are applied for and obtained. Sign certifications and permit applications, as required, for construction of all PCB management projects.

3. Designate an activity focal point to coordinate installation PCB management programs.

4. Determine, evaluate, and comply with applicable Federal, state, and local laws and regulations governing PCB management.

5. Submit and sign, as appropriate, PCB reports and other required data to the EPA, and state, and local agencies.

6. Budget and fund the operation and maintenance of facilities and equipment necessary to handle, store, transport, treat, and dispose of Marine Corps PCB's and PCB items in compliance with applicable Federal, state, and local requirements.

7. To the extent possible, transfer to the DRMO accountability and physical custody of PCB's and PCB items stored for disposal.

8. Complete the NFESC annual PCB inventory and forward to NFESC with a copy to the CMC (LF).

9. Report PCB spills or incidents involving combustion as prescribed in chapter 7 of this Manual when the spill exceeds the reportable quantities established in Federal regulations. Immediately report fire-related incidents involving PCB transformers to the NRC regardless of quantity.

10. Register all PCB transformers and equipment with cognizant fire departments.

11. Prepare and update the installation PCB elimination plan.

12. Ensure that coordination occurs as appropriate with the safety office in matters relating to PCB management.

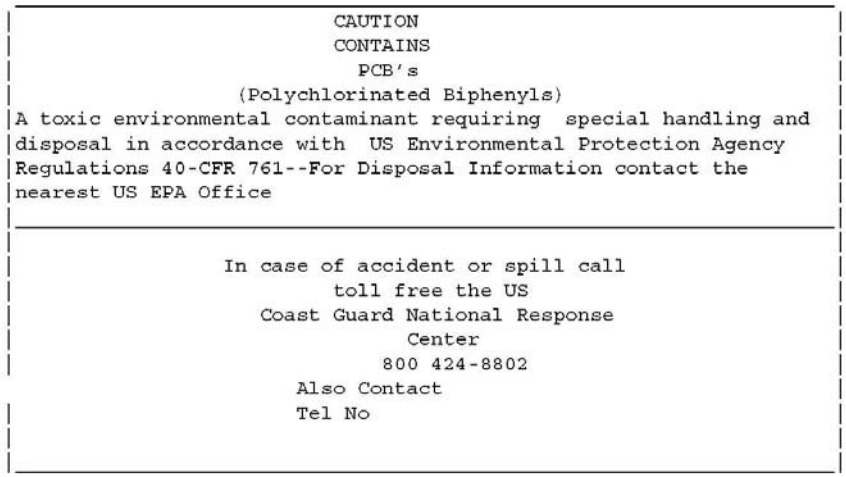

Figure 19-1.--PCB Item Marking.