

Final  
Marine Corps Air Station  
El Toro  
PCB Management Plan

April 1994



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Contract No. N68711-92-D-4658  
Delivery Order No. 0004

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**PCB Management Plan  
Marine Corps Air Station El Toro  
Santa Ana, California**

**1.0 INTRODUCTION**

**1.1 Background**

Polychlorinated biphenyls, better known as PCBs, are a group of toxic chemicals belonging to the chlorinated hydrocarbon family. The physical and chemical properties of PCBs include high capacity for heat, low flammability, high stability, low vapor pressure, and low electrical conductivity. PCBs are fire resistant liquids that remain stable under almost any operating conditions. Because of these qualities, PCBs have been used extensively as insulating fluids and coolants in electrical equipment. Their thermal stability and high heat capacity also make PCBs excellent heat transfer fluids. PCBs have been used primarily in electrical transformers, especially in and around buildings, where the danger of fire exists. However, PCBs have also been used in capacitors, fluorescent light ballasts, electrical appliances and motors. Some past uses of PCBs (which have all been banned) include surface coating, textile coating, wire and cable coating, printing inks, plastics, glues and adhesives, and caulking compounds. Various manufacturers have used PCBs under various trade names, the most common of which were Askarel and Arochlor.

In 1976, Congress passed the Toxic Substances Control Act (TSCA) and specifically directed the Environmental Protection Agency to develop regulations regarding the manufacture, processing, distribution in commerce, use, and disposal of polychlorinated biphenyls. Congress took this action because it believed that the chemical and toxicological properties of PCBs were such that their continued manufacture and use would pose significant risk to public health and the environment.

Many studies have been performed on the toxicity of PCBs. It is generally accepted that PCBs may cause chloracne, eye irritation, respiratory irritation, and liver disease. Other studies suggest that PCBs may affect developing fetuses. PCBs are also considered a suspected carcinogen. The U.S. Department of Health and Human Services 1985 report on carcinogens states that there is sufficient evidence to support the cancer-causing effects of PCBs in experimental animals. At this time, however, there is not adequate evidence to conclude that PCBs exert a cancer-causing effect on humans. However, because PCBs are very stable and are very slow to degrade, PCBs

accumulate in the environment and in human fat tissue. The State of California has identified PCBs as causing cancer and a reproductive toxicity as a result of Proposition 65 [CCR 12000(b) and (c)]. Based on the possible health effects and the knowledge that PCBs were already accumulating in humans, USEPA developed the TSCA PCB regulations, 40 CFR 761, (Reference 1, Appendix B) regulating the use of PCBs in, among other things, electrical equipment such as transformers and capacitors.

## **1.2 Purpose**

The PCB Management Plan (the "Plan") for the Marine Corps Air Station (MCAS) El Toro is intended to provide the framework for base compliance with applicable federal and state PCB management regulations and requirements. The development of this plan also fulfills Marine Corps Policy that a Management Plan be developed for each installation (Environmental Compliance and Protection Manual, Chapter 16, Section 4, Article 16402). The Plan identifies PCB articles handled by MCAS El Toro, presents applicable federal, state and local requirements, and describes the system for handling and disposing of PCBs in compliance with applicable regulations and Marine Corps policy. It is designed to be updated on a regular basis to reflect regulatory changes or changes in handling of PCB items. The Plan reflects the requirements of the federal government, and where the state regulations are more stringent, it identifies those PCB regulations as well.

## **1.3 Scope**

This Plan covers the proper procedures for MCAS El Toro to manage their PCB items in accordance with federal PCB regulations. The Plan also addresses, where applicable, State of California regulations applicable to PCB disposal and health and safety. This Plan is specific to MCAS El Toro and the document, PCB Program Management Guide, (NEESA20.2-028C) distributed by the Naval Energy and Environmental Support Activity, was used extensively in developing the plan. It would not be improper to view this plan as a site-specific version of the guide published by NEESA.

## **1.4 PCB Status at MCAS El Toro**

Currently MCAS El Toro is carrying approximately 23 items on their PCB inventory (see Appendix G). SAIC conducted a PCB sampling survey of de-energized electrical equipment in May 1993 (SAIC, 1993). However, at this time all of the pieces of electrical equipment that

were surveyed have been turned over to the Defense Reutilization and Marketing Office (DRMO) and disposed. Kennedy/Jenks Consultants conducted a survey of active electrical equipment (exclusive of transformers) at MCAS El Toro. They then classified each item in accord with the USEPA criteria (see page five of their report):

- 0-49 ppm PCB : Non-PCB item
- 50-499 ppm PCB : PCB-contaminated item
- 500 ppm and greater PCB : PCB item

The findings showed the PCB status of some of the equipment as uncertain (Kennedy/Jenks Consultants, 1993) since some items could not be accessed for sampling. Additionally, the survey revealed no components to contain more than 50 ppm PCBs, therefore they were designated as non-PCB items. However, the survey did reveal five items that are currently in service and containing between 5 and 49 ppm PCBs. Although these items (and others in use at the Station containing 5 to 50 ppm PCBs) are not regulated under TSCA and are currently in use, they will need to be managed as a hazardous waste in accordance with California Title 22 when removed from service and/or disposed of.

Regarding the inventory list, it is possible that it only reflects items known to contain more than 50 ppm. In terms of compliance with TSCA, this is sufficient until an item is removed from service and disposed. At that time, as stated above, it will be necessary to manage as hazardous waste anything greater than 5 ppm PCB. It is recommended that the inventory list be modified to show all items known or suspected to contain more than 5 ppm PCBs. In this way, the Station will not inadvertently dispose of PCB-containing items illegally.

## **2.0 OVERVIEW OF REGULATIONS**

### **2.1 Introduction**

Some of the laws and regulations that apply to oil filled equipment (PCB and non-PCB) handling activities at MCAS El Toro include the following regulatory agencies and laws:

#### U.S. Environmental Protection Agency (USEPA)

- Toxic Substances Control Act (TSCA) 40 CFR 761
- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) 40 CFR 302
- Resource Conservation and Recovery Act (RCRA) 40 CFR 260-265
- Clean Water Act (CWA) 40 CFR 112

#### State of California Department of Health Services (DHS)

- California Code of Regulations (CCR) Title 22

#### U.S. Department of Transportation (DOT) 49 CFR 173.510

#### U.S. Occupational Safety and Health Administration (OSHA)

- Occupational Safety and Health Act 29CFR1910

#### California Occupational Safety and Health Administration

- California Code Regulations Title 8

This chapter of the Plan will primarily address the regulations under TSCA, although a brief description of the above mentioned laws will also be given.

## **2.2 Federal Regulations**

### **2.2.1 Toxic Substances Control Act**

As discussed earlier, PCBs are regulated by the TSCA and associated implementation regulations written by the USEPA. The complete TSCA PCB regulations (40 CFR 761) are provided as Appendix B in this Plan. The regulations cover the manufacture, processing, distribution in commerce, use, marking, storage, disposal, spill cleanup, and recordkeeping for PCB items. Each of the regulated areas is explained in later chapters of this Plan. Table 2-1 indexes the topics covered in the TSCA PCB regulations. Specific requirements which may apply to MCAS El Toro activities include:

- Labeling of PCB items
- Storage time limits for PCB items to be disposed
- Storage containers for PCB items to be disposed
- Construction and operation of areas used to store PCBs prior to disposal
- Inspection of PCB storage areas
- Inspection of electrical equipment containing PCBs
- Spill response to PCB spills
- Decontamination of personal equipment
- Transformer servicing restrictions
- Restriction on unit locations
- Phase outs of PCB capacitors
- Phase outs of PCB transformers
- Recordkeeping and reporting.

Generally, it is prohibited to use PCBs other than in an enclosed manner (a manner that results in no exposure to humans and the environment). It is prohibited to manufacture PCBs for use within the United States or for export, and it is also prohibited to use waste oil with any detectable concentration of PCBs as a sealant, a coating, or a dust control measure. The regulations also define specific PCB terms; Appendix A contains a list of definitions based on TSCA PCB regulations and the interpretation of application to naval activities provided by the Chief of Naval Operations.

The regulations address specific uses of and restrictions on certain types of PCB articles and equipment. The PCB equipment and/or articles of importance to MCAS El Toro include PCB

**TABLE 2-1**  
**INDEX OF TOPICS COVERED IN TSCA PCB REGULATIONS**  
**TOXIC SUBSTANCE CONTROL ACT (TSCA) 40 CFR 761**

TOPIC	40 CFR SECTION
Applicability	761.1
Definitions	761.3
SUBPART B - Manufacturing, Processing, Distribution and use of PCBs and PCB Items	
Prohibitions	761.20
Authorization	761.30
Transformers	761.30(a)
Use Conditions	(a) (1)
Risk to Food/Feed Prohibition	(1)(i)
Fire Risk (commercial bldgs.)	(ii - v)
Registration with Fire Dept.	(vi)
Registration with Bldg. Owner	(vii)
Combustible Items (stored with)	(viii)
Inspections	(ix), (x), (xiii) and (xiv)
Leak/Spill Response	(x)
Fire Response	(xi)
Recordkeeping	(xii)
Discovery of PCB Transformers	(xv)
Servicing Conditions	761.30(a) (2)
Retrofill of Dielectric Fluid	(2)(i)
Coil Removal Prohibition	(ii)
Removal and Reuse of Dielectric Fluids	(iii)
Dilution Prohibition	(iv)
Reclassification of Transformer PCB Status	(v)
Dielectric Fluid Storage	(vi)
Commercial Distribution of PCBs	(vii)
Railroad Transformers (use and servicing)	761.30 (b)
Mining Equipment (use and servicing)	761.30 (c)
Heat Transfer Equipment (use in)	761.30 (d)
Hydraulic Systems (use in)	761.30 (e)
Carbonless Paper (use in)	761.30 (f)
Pigments (use in)	761.30 (g)

**TABLE 2-1**  
**INDEX OF TOPICS COVERED IN TSCA PCB REGULATIONS**  
**TOXIC SUBSTANCE CONTROL ACT (TSCA) 40 CFR 761**

TOPIC	40 CFR SECTION
SUBPART B - Manufacturing, Processing, Distribution and use of PCBs and TCB Items	
Authorization (continued)	761.30
Electromagnets, Switches & Volt. Regults.	761.30 (h)
Use Conditions	(h) (1)
Risk to Food/Feed Prohibition	(1) (i)
Inspections	(ii)
Servicing Conditions	761.30 (h) (2)
Removal of Internal Parts Prohibition	(2) (i)
Retrofill of Dielectric Fluid	(ii)
Removal and Reuse of Dielectric Fluids	(iii)
Dilution Prohibition	(iv)
Reclassification of PCB Status	(v)
Dielectric Fluid Storage	(vi)
Commercial Distribution of PCBs	(vii)
Compressors and Natural Gas Pipeline (use in)	761.30 (i)
Small Quantity for Research and Development	761.30 (j)
Microscopy Mounting Medium	761.30 (k)
Capacitors	761.31 (l)
Use Conditions	(l) (1)
Risk to Food/Feed Prohibition	(1) (i)
Large Capacitor Restriction	(ii)
Circuit Breakers, Reclosers and Cable (use and servicing)	761.30 (m)
Microscopy Immersion Oil	761.30 (n)
Optical Liquids	761.30 (o)
SUBPART C - Marking of PCBs and PCB Items	
Marking Requirements	761.40
Marking Formats	761.45
SUBPART D - Storage and Disposal	
Disposal Requirements	761.60
Storage for Disposal	761.65
Incineration	761.70
Chemical Waste Landfills	761.75

**TABLE 2-1  
INDEX OF TOPICS COVERED IN TSCA PCB REGULATIONS  
TOXIC SUBSTANCE CONTROL ACT (TSCA) 40 CFR 761**

TOPIC	40 CFR SECTION
SUBPART E - Exemptions	761.80
SUBPART G - Spill Cleanup	
Scope	761.120
Definitions	761.123
Spill Cleanup Requirements	761.125
Cleanup Sampling Requirements	761.130
Effect of Compl. w/ Policy & Enforcement	761.135
SUBPART J - Records and Monitoring	761.180
Certification Program and Retention of Records by Importers and Persons Generating PCBs in Excluded Manufacturing Processes	761.185
Reporting Importers and by Persons Generating PCBs in Excluded Manufacturing Processes	761.187
Maintenance of Monitoring Records by Persons who Input Manufacture, Process, Distribute in Commerce, or are Chemicals Containing Inadvertently Generated PCBs	761.193
SUBPART K - PCB Waste Disposal Records and Reports	
EPA Identification Number	761.202
Notification of PCB Waste Activities	761.205
The Manifest-General Requirements	761.207
Use of the Manifest	761.208
Retention of Manifest Records	761.209
Manifest Discrepancies	761.210
Unmanifested Waste Report	761.211
Exception Reporting	761.215
Certificate of Disposal	761.218

transformers, PCB-contaminated electrical equipment (including capacitors), and other PCB items (switches, etc). Highlights of the requirements and restrictions for use of PCB transformers (both in-service and stored for reuse) include:

- Quarterly visual inspections of each PCB transformer in use or in storage, allowing at least 30 days to pass between inspections, unless the concentration of PCBs is less than 60,000 ppm, or secondary containment is provided. (Secondary containment is defined as impervious and undrained containment that can hold 100 percent of the total dielectric fluid volume). If secondary containment is provided or the PCB concentration is less than 60,000 ppm, inspections may be performed annually. [761.30(a)(1)(ix)]
- Risk of exposure to food or feed is prohibited. [761.30(a)(1)(i)]
- PCB transformers in or near commercial buildings must be registered with the building owner. [761.30(a)(1)(vii)]
- Inspect daily if a leak is discovered in order to verify containment of the leak until the clean-up and repair is complete. [761.30(a)(1)(x)]
- Initiate cleanup and correction of leaks as soon as possible (within 48 hours of discovery at the most). [761.30(a)(1)(x)]
- Location of PCB transformers (including those stored for reuse) must be registered with base fire response personnel. [761.30(a)(1)(vi)]
- Combustible and flammable materials must not be stored within 5 meters of a PCB transformer. [761.30(a)(1)(viii)]
- Keep inspection/maintenance/cleanup records for a minimum of 3 years after disposing of the transformers. [761.30(a)(1)(xii)]
- Never mix transformer fluid with any other type of PCB equipment or article (i.e., PCB capacitor). [761.30(a)(2)(iii)]
- Never remove the transformer coil from its casing during PCB servicing. [761.30(a)(2)(ii)]

- A PCB transformer may be reclassified as PCB-contaminated electrical equipment or non-PCB equipment by replacing the transformer oil with oil that contains PCB concentrations of 50-499 ppm or less than 50 ppm, respectively. [761.30(a)(2)(v)] See Chapter 9 of this Plan for more details.
- Dielectric fluid removed from a transformer being serviced must be captured and either reused as dielectric fluid or disposed properly. [761.30(a)(2)(iii)]
- Never mix transformer fluid with a PCB concentration greater than 500 ppm with fluid having a PCB concentration less than 500 ppm. [761.30(a)(2)(iv)]
- PCB transformers involved in a fire-related incident must be reported to the National Response Center (NRC). [761.30(a)(1)(xi)]
- EPA Form 7710-53 (Notification of PCB Waste Activity) must be filed with the USEPA if generators store PCB waste for disposal in facilities described in 761.65(b) or store containers of liquid PCB waste. [761.205]

Highlights of the restrictions and uses of switches, electromagnets, and voltage regulators include:

- Any concentration of PCB is acceptable during the service of the items useful life [(761.30 (h)(1) and (2)] if:
  - a. No item over 500 ppm poses an exposure risk to feed or food processes,
  - b. The items are inspected weekly,
  - c. An internal component with greater than 500 ppm is never removed or reworked, and
  - d. PCBs removed during servicing are captured and either reused or disposed of properly.
- Never mix fluid concentrations greater than 500 ppm with fluid having concentrations less than 500 ppm. [761.30(h)(2)(iii)and(iv)]

- PCB items may be reclassified as PCB-contaminated electrical equipment or a non-PCB classification by replacing the dielectrical fluid with PCB concentration of 50-499 ppm or less than 50 ppm, respectively. [761.30(h)(2)(v)] See Chapter 9 of this Plan for more details.

Highlights of the restrictions and uses of large capacitors include:

- Any concentration of PCB may be used in capacitors except those that pose an exposure risk to food or feed. [761.30(l)(1)(i)]
- Large PCB capacitors that are of both high and low voltage can only be used within a restricted-access substation or in a contained and restricted-access indoor installation. [761.30(l)(1)(ii)]

In addition to the restriction for users of PCB items, the USEPA also has promulgated a timetable for the phase out of certain transformers and capacitors. The following summarizes these important requirements.

#### Installation of PCB Transformers in or near Commercial Buildings

As of October 1, 1985, PCB transformers (which have been placed into storage for reuse or removed from another location) are prohibited from being installed in or near commercial buildings. In or near commercial buildings refers to a situation in which a building is typically accessible to employees and the public or within 30 meters of a non-industrial, non-substation building. Examples are office buildings, transportation centers, education and residential properties, etc.

#### Removal of PCB Transformers from Food and Feed Facilities

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. This includes the possibility of carrying PCB waste on clothing or other articles (i.e., in case of a spill or leak) into an area where food is consumed or manufactured or where feed for animals is kept.

## Removal of PCB Large High and Low Voltage Capacitors from Non-Restricted Access Locations

After October 1, 1988, the use of large high and low PCB voltage capacitors is prohibited, unless the capacitor is used within a restricted-access electrical substation or in a contained and restricted-access indoor installation. The two installations allowed are defined as follows.

**Restricted-Access Electrical Substation:** An outdoor, fenced or walled off facility restricting public access and used in the transmission or distribution of electrical power.

**Contained and Restricted-Access Indoor Installation:** An installation without public access that has an adequate roof, walls and floor to contain any release of PCBs within the indoor location.

## Removal of PCB Transformers in or Near Commercial Buildings

As of October 1, 1990, all higher secondary voltage radial PCB transformers in use in or near (within 30 meters) commercial buildings that have not been removed from service must be equipped with electrical protection to avoid transformer ruptures caused by high current faults and sustained low current faults. [761.30(a)(1)(iv) and (a)(1)(v)]

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 480/227 volt systems) in or near commercial buildings is prohibited. They must either be reclassified or disposed of properly.

As of October 1, 1990, all lower secondary voltage network PCB transformers not located in sidewalk vaults in or near commercial buildings (network transformers with secondary voltages below 480 volts) that have not been removed from service must be equipped with electrical protection to avoid transformer rupture caused by high current faults. If this was not done, then they should have been removed by October 1, 1993. [761.30(a)(1)(iv)]

As of February 25, 1991, all lower secondary voltage radial PCB transformers in use or near commercial buildings, must be equipped with electrical protection to avoid transformer ruptures caused by high current faults. [761.30(a)(1)(iv)]

As of October 1, 1993, all lower secondary voltage network PCB transformers located in sidewalk vaults (network transformers with secondary voltages below 480 volts) in use near

commercial buildings must be removed from service. [761.30(a)(1)(iv)]

The regulations also discuss marking PCB waste disposal and decontamination procedures. These are addressed in other sections of the Plan.

### **2.2.2 Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Superfund Amendment and Reauthorization Act (SARA)**

The Community Right-to-Know regulations established as a result of the Superfund Amendment and Reauthorization Act (SARA) require notification to both state and local agencies of the storage and release of reportable quantities (1 pound) of PCBs. [40 CFR 302]

### **2.2.3 Resource Conservation and Recovery Act (RCRA)**

RCRA provides regulations which apply to the management and disposal of hazardous wastes. At this time, RCRA does not regulate PCBs. However, non-PCB oils (those containing less than 50 ppm of PCBs) that are recycled or burned for energy recovery are subject to certain RCRA regulations. (See 40 CFR 261.8 and 40 CFR 279).

### **2.2.4 U.S. Department of Transportation (DOT)**

The Department of Transportation regulates transportation of PCBs on public highways if the weight of PCBs in a single container equals or exceeds the reportable quantity of one pound. In several instances, DOT regulations overlap with TSCA and RCRA. The DOT regulations which may be applicable to MCAS El Toro activities include:

- Packaging
- Labeling and marking
- Shipping papers
- Placarding
- Vehicle condition
- Emergency actions.

### 2.2.5 U.S. Occupational Safety and Health Administration

Under the Occupational Safety and Health Act, OSHA provides regulations dealing with the exposure of employees to chemicals in the workplace. There are specific OSHA regulations which apply to PCBs. In addition, OSHA provides specific regulations dealing with the use and maintenance of personnel protective equipment. The OSHA Hazard Communication Standard requires that employees be informed of the potential health and physical hazards associated with PCBs in the workplace.

### 2.3 California Regulations

The California Department of Toxic Substances Control (DTSC) has classified PCBs as a hazardous waste when the concentrations are equal to or greater than 5 mg/l (5 ppm) in liquids or when the total concentrations are equal to or greater than 50 mg/kg (50 ppm) in non-liquids (Title 22, CCR 66261.24). When the total concentrations of PCBs are equal to or greater than 5,000 ppm in a waste, DTSC then regulates this waste as an Extremely Hazardous Waste (Title 22, CCR 66261.113). **All future references in this Plan to regulated concentrations of PCBs are based on the California standards.** There are, however, situations in which waste with PCB concentrations below 5 ppm are further restricted or regulated by DTSC, or other state regulations. In California, burning of used oil that contains PCBs above their detection limit ( $\geq 2$  ppm) can only be done at DTSC-authorized facilities that have also met the federal requirements for this type of activity as outlined in 40 CFR Part 761. Materials which contain any detectable concentrations of PCBs are prohibited from being released into sources of drinking water under Proposition 65 guidelines (Health and Safety Code 25249.5 et. seq.). Oil that contains no PCBs is also regulated as a hazardous waste in California.

Since DTSC and the USEPA both regulate PCBs, there can be confusion on which set of regulations take precedence. Under Section 18 of TSCA, the states are allowed to promulgate more stringent PCB regulations. California has elected not to regulate the use of PCBs. Therefore, there are no DTSC regulations that would require removal of an item that contained PCBs such as a transformer or fluorescent light ballast. Generators of PCBs, however, would still have to comply with appropriate federal removal requirements, if applicable. DTSC hazardous waste regulations apply only when and if material which contains PCBs becomes a waste. Listed below are the main differences between California and USEPA PCB regulations:

- With few exceptions, the USEPA does not regulate liquids with PCB concentrations below 50 ppm. In California, however, liquid wastes with PCB concentrations equal to or greater than 5 ppm are classified as hazardous waste.
- Under USEPA regulations, drained PCB-contaminated transformer carcasses are allowed to be disposed in municipal landfills. California has classified drained waste transformer carcasses as hazardous waste if the oil drained from the carcass had PCB concentrations equal to or greater than 5 ppm.
- There is no exemption under California DTSC regulations due to PCB quantity or size of the waste material that contains PCBs. Items such as fluorescent light ballasts with PCB capacitors are covered under California DTSC regulations, whereas, federal regulations would exempt them under the TSCA small capacitor definition.

In addition to California hazardous waste regulations, there are also health and safety regulations associated with the use of PCBs. The potential applicable sections include:

- Hazard communication (8 CCR 5194)
- Labeling of injurious substances (8 CCR 5225-5230)
- Airborne contaminants (8 CCR 5155)
- Hazardous waste operations (8 CCR 5192)

## **2.4 Marine Corps Policy**

The United States Marine Corps has issued a policy with regard to use of PCBs and PCB items on Marine Corps installations. The general policy is that every Marine Corps installation shall comply with all federal, state, and local regulatory requirements relating to use, storage, and disposal of PCBs. The Marine Corps policy requires each installation to develop a PCB management plan and prepare, on an annual basis, an inventory of PCB items. The policy further requires that PCB transformers in or near commercial buildings must be registered with building owners. For Marine Corps tenants, registration is to be made with the organization that prepares fire evacuation plans. The PCB policy also addresses equipment removal. After the PCB status transformer has been classified using gas chromatography or another appropriate analytical method, any transformer (with PCBs of 500 ppm or greater) should be eliminated by October 1998. Further, by October 2003, all transformers containing 50 ppm or more PCBs must be eliminated. For those items that are difficult to remove, retrofilling with oil containing a lesser

concentration of PCBs is an acceptable alternative to replacement. With regard to large PCB capacitors, the Marine Corps policy states that they must be removed by October 1998. Finally, the Marine Corps policy stipulates that each installation must prepare an installation PCB elimination plan. This plan should include the proposed date of removal and the requested source of funding for each PCB item.

### **3.0 PERSONNEL RESPONSIBILITIES**

The Marine Corps Environmental Compliance and Protection Manual designates that the Commanding General or Commanding Officer of each Marine Corps installation has the following responsibilities.

1. Ensures that a base or station order is written implementing the Plan.
2. Designates an activity focal point to coordinate installation PCB Management Programs. This includes the appointment of a PCB Coordinator.
3. Determines, evaluates, and complies with those federal, state, and local laws and regulations that are applicable to PCBs at the Marine Corps installation.
4. Surveys the installation PCB storage and handling procedures and develops a PCB management plan. The Plan should incorporate existing installation PCB programs and any areawide responsibilities assigned by installation environmental coordinators.
5. Submits and signs, as appropriate, PCB reports and other required data to USEPA, state, and local agencies.
6. Budgets and funds the operation and maintenance of facilities and equipment necessary to handle, store, transport, treat, and dispose of Marine Corps PCBs and PCB items in compliance with applicable federal, state, and local requirements.
7. Transfers accountability as well as physical custody to the extent possible of PCBs and PCB items stored for disposal to the Defense Reutilization and Marketing Office (DRMO).
8. Handles, stores, marks, and inspects PCBs and PCB items in compliance with federal or state regulations. With regard to PCB transformers and PCB-contaminated transformers:
  - a. Inspects for PCB leaks.
  - b. Repairs all leaks.
  - c. Maintains records.
  - d. Provides notification to USEPA.

9. Annually inventories or validates all PCBs and PCB items as required by regulatory agencies. This inventory shall be used to maintain required annual records and document logs. Reports shall be maintained at the installation for at least 3 years after disposal of equipment. Copies of the completed annual report shall be forwarded to the CMC (LFL) and NEESA (now NFESC, Naval Facilities Engineering Services Center). Maintains records for the life of the equipment (through disposal) for testing of PCB concentrations in hydraulic systems, heat transfer systems, and converted or reclassified transformers.
10. Reports PCB spills or incidents involving combustion as prescribed in Chapter 11 of this Plan when the spill exceeds the reportable quantities established in federal regulations. Fire-related incidents involving PCB transformers shall be immediately reported to the NRC regardless of quantity.
11. Registers all PCB transformers and equipment with cognizant fire departments.
12. Prepares and updates the MCAS El Toro PCB elimination plan.

Selection of the PCB Coordinator is critical to the success of Marine Corps PCB program. The Coordinator, as the PCB Program Manager, must be in a position to accomplish the requirements of the PCB program. The Coordinator requires not only the authority, but, also the capability to implement all aspects of the activity PCB program. Responsibilities of the Coordinators will include much of the duties already mentioned as they will be delegated by the Commanding Officer. Additionally, the responsibilities of the PCB Coordinator include requisitioning supplies, contracting for engineering services and coordinating with electricians working on PCB electrical equipment. To ensure that the work of the PCB Coordinator is effective requires the support of the Facilities Maintenance Department Office and the Commanding Officer.

After the PCB Management Program has been developed under the supervision of the PCB Coordinator, the Coordinator must implement the program. In actuality this is the most difficult part since it requires the cooperation of many people at the Station. The PCB Coordinator is responsible for ensuring that all participants understand and execute their respective jobs. For example, the Coordinator must ensure that inspectors complete and document their regular inspections; that electricians service the PCB items in a safe and legal manner; that PCB items sent out for disposal go to a permitted facility and that all participants are aware of the requirements of the PCB program.

The specific duties required to manage PCBs can be executed by many of the personnel available at the Station. The PCB Coordinator is responsible for ensuring that the people who are assigned PCB-related tasks are properly trained and capable of performing these duties. The following is a list of PCB-related responsibilities and the recommended personnel for each duty, although assignment of these tasks is left to the discretion of the PCB Coordinator.

<u>DUTIES</u>	<u>RECOMMENDED STATION PERSONNEL</u>
Inventory of Items	PCB Coordinator with assistance from the Electrical Shop personnel.
Recordkeeping/PCB	Each person assigned a PCB task is responsible for proper documentation and recordkeeping.
Annual Report	The Annual Report is prepared by the PCB Coordinator.
Program Planning and Document Preparation	PCB Coordinator and superiors.
Marking and Labeling	Electrical Shop personnel.
Inspections	Routine inspections by Electrical Shop Personnel and spot check inspections by the PCB Coordinator.
Servicing	Electrical Shop personnel.
Storage	Facilities Maintenance Department.
Transportation	Defense Reutilization and Marketing Office.
Disposal	Defense Reutilization and Marketing Office.
Safety	Safety Department and/or Industrial Hygienist.
Personnel Training	PCB Coordinator and Safety Department.
Spill Response/Cleanup	Fire Department, PCB Coordinator, Facilities Maintenance Department

## **4.0 INVENTORY PROCEDURES**

### **4.1 Introduction**

The preparation of a complete PCB item inventory is a crucial step in the implementation of the PCB Management Program because the entire PCB program will be based on the PCB inventory. Potential PCB items for which a determination as to whether they are regulated under TSCA or Title 22 include:

- Transformers with oil type dielectric fluid
- Small and Large Capacitors (including fluorescent light ballasts)
- Oil filled voltage regulators
- Oil filled switches
- Oil filled electromagnets
- Oil filled circuit breakers
- Oil filled reclosers
- Oil filled electric cables
- Oil cooled heat transfer components
- Hydraulic components

The inventory process consists of four steps: 1) Preliminary PCB inventory including all potential PCB items, 2) Elimination of non-regulated items, 3) Classification of all PCB items, and 4) Distribution of inventory listing as required. Each of these steps are discussed in the following sections.

### **4.2 Preliminary Data Collection**

At the MCAS El Toro facility this step has already been implemented. Since this step is complete and not considered to be re-occurring, it is not addressed in this Plan. If information regarding this step is required, the PCB Program Management Guide by NEESA (October 1989) should be consulted.

### **4.3 Elimination of Non-Regulated Items**

After the preliminary list of potential PCB items has been compiled, all non-regulated items should be removed from this list. Information on the non-regulated items should be kept on file

to respond to questions concerning them. Also, the rationale for why they are non-regulated may be requested by an inspector or at the time of disposal. The specific California regulations for determining that potential PCB items are actually non-PCB items are as follows:

- Transformers: Tested at less than 50 ppm PCB (5 ppm for disposal purposes).
- Capacitors: Manufactured after July 1, 1978 and marked non-PCB.
- All Others: Items tested at less than 50 ppm PCB (5 ppm for disposal purposes).
- Solids: Tested at less than 50 ppm total concentration in non-liquids.

This step has already been performed by the Station and is not considered to be re-occurring. However, it is important to understand that California does not regulate the use of PCBs, therefore, it is appropriate to look at the 50 ppm threshold to determine regulatory status. But, for disposal purposes, California regulates at the 5 ppm threshold. Consequently, to ensure that PCBs will not be disposed of illegally by accident it is recommended that the Station carry all items with more than 5 ppm PCB on their inventory.

#### **4.4 Item Classification**

After potential PCB items are listed and the non-regulated items removed, each remaining item must be evaluated and classified as:

- Extremely hazardous waste PCB (5,000 ppm or greater),
- PCB (500 - 4,999 ppm), or
- PCB-contaminated (50 - 499 ppm)
- California regulated hazardous waste when disposed (5 ppm or greater).

This step has already been performed by the Station (although it may need to be updated to capture California regulated items) and is not considered to be re-occurring. Therefore, this step is not discussed any further in this Plan. For more information, the PCB Program Management Guide by Naval Energy and Environmental Support Activity (October 1989) should be consulted. The NEESA document also provides a discussion relevant to testing potential items for PCB content. Generally speaking, laboratory analysis of transformer fluids is the recommended method. Appendix E contains a description of procedures for sampling electrical equipment.

#### **4.5 Distribution of Inventory Data**

Information from this PCB inventory must be compiled into various reports and listings. The inventory list must be updated and distributed on an annual basis. The 1992 inventory as reported by the Naval Facilities Engineering Services Center (NFESC, formerly NEESA) is found in Appendix G. This inventory report is generated from the data provided by the Station each year. Table 4-1 provides the distribution requirements of the PCB inventory list.

To help MCAS El Toro comply with this inventory requirement, NFESC sends out computerized PCB inventories at the end of each calendar year. The instructions for completing this inventory are found in Appendix D of this Plan. The PCB Coordinator has to update the previous years printout and submit it to NFESC with any changes noted. NFESC has the Navy PCB data base on an IBM-compatible computer using d-Base III+. This system provides the flexibility to customize station inventories to meet specific local and state requirements. Table 4-2 presents all of the information that is needed to satisfy both naval and USEPA inventory requirements and shows how the Station can fulfill the requirement. The inventory generated by NFESC (as input is provided by the PCB Coordinator) meets all naval and USEPA inventory requirements. However, a comparison between the most recent inventory (found in Appendix G) reveals a few discrepancies when compared to Table 4-2 and the NFESC inventory form as shown in the PCB Program Management Guide by NEESA (See Appendix D). The recent version of the inventory forms fail to show whether DRMO is accountable for the PCB item and if DRMO has physical custody of the PCB item. This information can be easily appended to the current inventory forms.

Table 4-2 shows that some of the information has to be calculated and summarized using certain items of information reported on the inventory sheets provided by NFESC. A recommended way of presenting this information is shown in Table 4-3. The Station must keep copies of these inventory sheets for at least 3 years after the Station ceases using or storing PCBs or PCB items.

#### **4.6 Discovery of PCB Transformers**

Although the Station currently has an updated inventory list of PCB items, it is a good idea as part of the annual updating procedure, to carefully check for any PCB items that may have been missed in the past. A careful search of plant machinery in conjunction with each updating of the annual inventory should be performed as well as a thorough inspection in and around electrical substations. If a PCB item is discovered for the first time, this item will have to be brought into

**TABLE 4-1  
DISTRIBUTION OF PCB INVENTORY DATA**

Distribution	Data Required	Reference
Fire Departments (Base and mutual support community Fire Departments, if any)	List of all PCB transformers, include: specific location, constituents of the dielectric fluid, PCB concentration, and name and phone number of person to contact in an emergency.	40 CFR 761.30(a)(1)(vi)
Building Owners and Tenants*	Information on all PCB transformers within 30 meters of the building they occupy, including: specific location, constituents of dielectric fluid, type of transformer installation.	40 CFR 761.30(a)(1)(vii)
NFESC	Annual Inventory (see Appendix G)	OPINAVINST 5090.1 and <u>PCB Program Management Guide</u>
Activity Personnel	Information applicable to their specific responsibilities	El Toro MCAS instruction

\*Chief of Naval Operations has directed activities to notify the personnel responsible for developing the fire evacuation plans for each building in question.

**TABLE 4-2  
PCB INVENTORY REQUIREMENTS**

I. FOR ALL PCB ITEMS ON-SITE (50 ppm and over):	EPA	NAVY	HOW FULFILLED
A. UIC Number		X	Inventory
B. Item Identification Number/Bldg. Location	X	X	Inventory
C. Type of Item (Transformer, Capacitor, Drum, Other)	X	X	Inventory
D. Status of Item (in service, stored for reuse, stored for disposal, disposed)	X	X	Inventory
E. Date of Each Status Change	X	X	Inventory
F. Tested or Assumed PCB Concentration (ppm)		X	Inventory
G. Quantity of PCBs in Item (kgs., gals., cu. ft.)	X	X	Inventory
H. KVA (kilovolt ampere) for Transformers		X	Inventory
I. Physical State of PCBs (solid or liquid)		X	Inventory
II. ITEMS IN SERVICE OR STORED FOR REUSE:			
A. Total Weight (kgs.) of any PCBs in PCB Transformers (550 ppm or more)	X	X	Calculates; see Table 4-3
B. Total Number of PCB Transformers (500 ppm or more)	X	X	Calculates; see Table 4-3
C. Total Number of Large PCB Capacitors	X	X	Calculates; see Table 4-3
D. Total Weight (kgs.) of PCBs in Capacitors	X	X	Calculates; see Table 4-3
E. Total Number of Other* PCB Items	X	X	Calculates; see Table 4-3
F. Total Weight (kgs.) of PCBs in Other* Items	X	X	Calculates; see Table 4-3
G. Inspection Dates	X		Inspection Logs, see Chapter 6

\* "Other PCB Items": Voltage regulators, circuit breakers reclosers, switches, etc. that contain PCBs.

<b>TABLE 4-2 PCB INVENTORY REQUIREMENTS</b>			
	EPA	NAVY	HOW FULFILLED
H. Inspector Identification	X		Inspection Logs, see Chapter 6
I. If Leaking: Date of Discovery, Quantity of PCBs Released, Type of Containment, Cleanup	X		Inspection Logs, see Chapter 6
J. If Serviced (e.g. retrofilled): Date and Description of Servicing	X		Inspection Logs, see Chapter 6
III. ITEMS STORED FOR DISPOSAL (5 ppm and over):			
A. Type of PCB Item	X	X	Inventory
B. Date That PCB Item is Put into Storage	X	X	Inventory
C. Total Weight (Kgs.) of PCBs and PCB Articles** in Containers*** which were -			Calculated; see Table 4-3
1. Put into Storage During the Year	X	X	Calculated; see Table 4-3
2. Remaining in Storage at the End of Year	X	X	Calculated; see Table 4-3
D. Total Weight (kgs.) of PCBs in Transformers that were put into Storage During the Year	X	X	Calculated; see Table 4-3

\*\* "PCB Article": Any manufactured article that contains PCBs; e.g. transformers, capacitors, electric motors, pumps.

\*\*\* "PCB Container": Any package, can, bottle, bag, barrel, drum, tank, or other device that contains PCBs or PCB equipment.

<b>TABLE 4-2 PCB INVENTORY REQUIREMENTS</b>			
	EPA	NAVY	HOW FULFILLED
E. Total Number of PCB Articles**, not in Containers***, which were -			
1. Put into Storage During the Year	X	X	Calculated; see Table 4-3
2. Remaining in Storage at the End of the Year	X	X	Calculated; see Table 4-3
F. Is DRMO Accountable for PCB Item?		X	Needs to be incorporated into the inventory form
G. Does DRMO have Physical Custody of PCB Item?		X	Needs to be incorporated into the inventory form
IV. DISPOSED PCB ITEMS (5 ppm and greater):			
A. Type of PCB Item	X	X	Inventory
B. Disposal Facility Information: Name, Location, and Owner or Operator	X	X	Inventory
C. Date that PCB Item is Hauled Away for Disposal	X	X	Inventory

\*\* "PCB Article": Any manufactured article that contains PCBs; e.g. transformers, capacitors, electric motors, pumps.

\*\*\* "PCB Container": Any package, can, bottle, bag, barrel, drum, tank, or other device that contains PCBs or PCB equipment.

**TABLE 4-3  
EXAMPLE OF PCB SUMMARY TABLE**

Item Category	Transformers	Large Capacitors (High & Low Voltage)	Other Equipment	Totals
<b>Disposition Category</b>				
1) Number and Weight* of Items <u>In service</u> or <u>Stored for Reuse</u>				
2) Number and Weight* of Items <u>Removed from Service</u>				
3) Number and Weight* of Items <u>Stored for Disposal</u>				
4) Number and Weight* of Items <u>Sent to Disposal</u>				

Also list number and weight of:

Containers of PCB liquid \_\_\_\_\_, \_\_\_\_\_  
number kg

Containers of PCB solids \_\_\_\_\_, \_\_\_\_\_  
 (spill residue) number kg

Containers of PCB equipment \_\_\_\_\_, \_\_\_\_\_  
 (capacitors) number kg

\* Weight of dielectric fluid does not include the weight of the transformer body.

the PCB Management Program. The inventory list will have to reflect the addition of the newly discovered component but it should indicate that this component was newly discovered and not newly purchased. The component should be brought into compliance with the Plan immediately. If the component is found to have more than 500 ppm PCB then it shall also be brought into compliance with CFR 761.30(a)(1)(xv). Whenever a piece of electrical equipment is brought onto the Station under circumstances other than purchase (e.g., relocation from another installation) the PCB Coordinator shall be notified so that the item can be classified as to its PCB status.

## **5.0 MARKING**

### **5.1 Introduction**

Marking procedures are a critical part of PCB management. Properly marked equipment allows for prompt identification and response to a PCB leak or spill. If all PCB equipment is marked as such, an unmarked item indicates that the item is non-PCB equipment and no immediate action is required in the event of an explosion or spill. If marking of PCB equipment is haphazard or non-existent, leaks or spills from any piece of equipment can cause confusion and can cause work stoppage even if the item is not PCB containing.

In general, the following must be marked with proper marks during either storage or active use: containers for PCB liquids or PCB articles; PCB transformers and other heat transfer systems; large PCB capacitors; any type of equipment containing a PCB transformer or a large PCB high voltage capacitor; lighting ballasts; electrical motors using PCB coolants; systems using PCB hydraulic fluid; areas used to store PCBs; PCB-contaminated containers or waste materials; and PCB articles prior to disposal. Marking of PCB-contaminated electrical equipment is not required but recommended. The large PCB marks (Figure 5-1) are to be used whenever possible; however, small PCB marks (Figure 5-1) are available for very small items.

Poles, structures or fences located immediately in front of protected areas containing large high voltage PCB capacitors are required to be marked with the large PCB mark. This procedure can be exercised instead of marking individual capacitors. In addition, all small capacitors should be received from the manufacturer with a PCB label affixed; if no label is found on the capacitor, a label must be obtained and affixed on the outer surface of the capacitor. Vehicles transporting PCB containers with 45 kg PCBs or transformers must be marked with the large PCB mark (Figure 5-1). If a PCB transformer, capacitor, or other electrical device does not contain PCBs, it should be labeled as such.

### **5.2 PCB Marking**

The following sections provide a more detailed description of available PCB marks and their specific applications. They explain what and when to label, labels to use, and how to apply them. The labels illustrated in Figures 5-1 through 5-7 can be ordered from Labelmaster, 1-800-621-5808.

FIGURE 5-1

YELLOW PCB LABELS: 500 PPM OR GREATER

**CAUTION**  
CONTAINS  
**PCBs**  
(Polychlorinated Biphenyls)

A toxic environmental contaminant requiring special handling and disposal in accordance with U.S. Environmental Protection Agency Regulations 40 CFR 761—For Disposal Information contact the nearest U.S. E.P.A. Office.

---

In case of accident or spill, call toll free the U.S. Coast Guard National Response Center:  
800:424-8802

Also Contact \_\_\_\_\_  
Tel. No. \_\_\_\_\_

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

M<sub>L</sub>

**CAUTION**  
CONTAINS  
**PCBs**  
(Polychlorinated Biphenyls)

A toxic environmental contaminant requiring special handling and disposal in accordance with U.S. Environmental Protection Agency Regulations 40 CFR 761—For Disposal Information contact the nearest U.S. E.P.A. Office.

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In case of accident or spill, call toll free the U.S. Coast Guard National Response Center:  
800 424-8802

Also Contact \_\_\_\_\_  
Tel. No. \_\_\_\_\_

PCB LABELMASTER, CHICAGO, IL 60646

M<sub>L</sub>

**CAUTION** CONTAINS **PCBs**  
(Polychlorinated Biphenyls,  
FOR PROPER DISPOSAL INFORMATION  
CONTACT U.S. ENVIRONMENTAL  
PROTECTION AGENCY

M<sub>S</sub>

FIGURE 5-2

BLUE NON-PCB LABEL: 50 PPM OR LESS

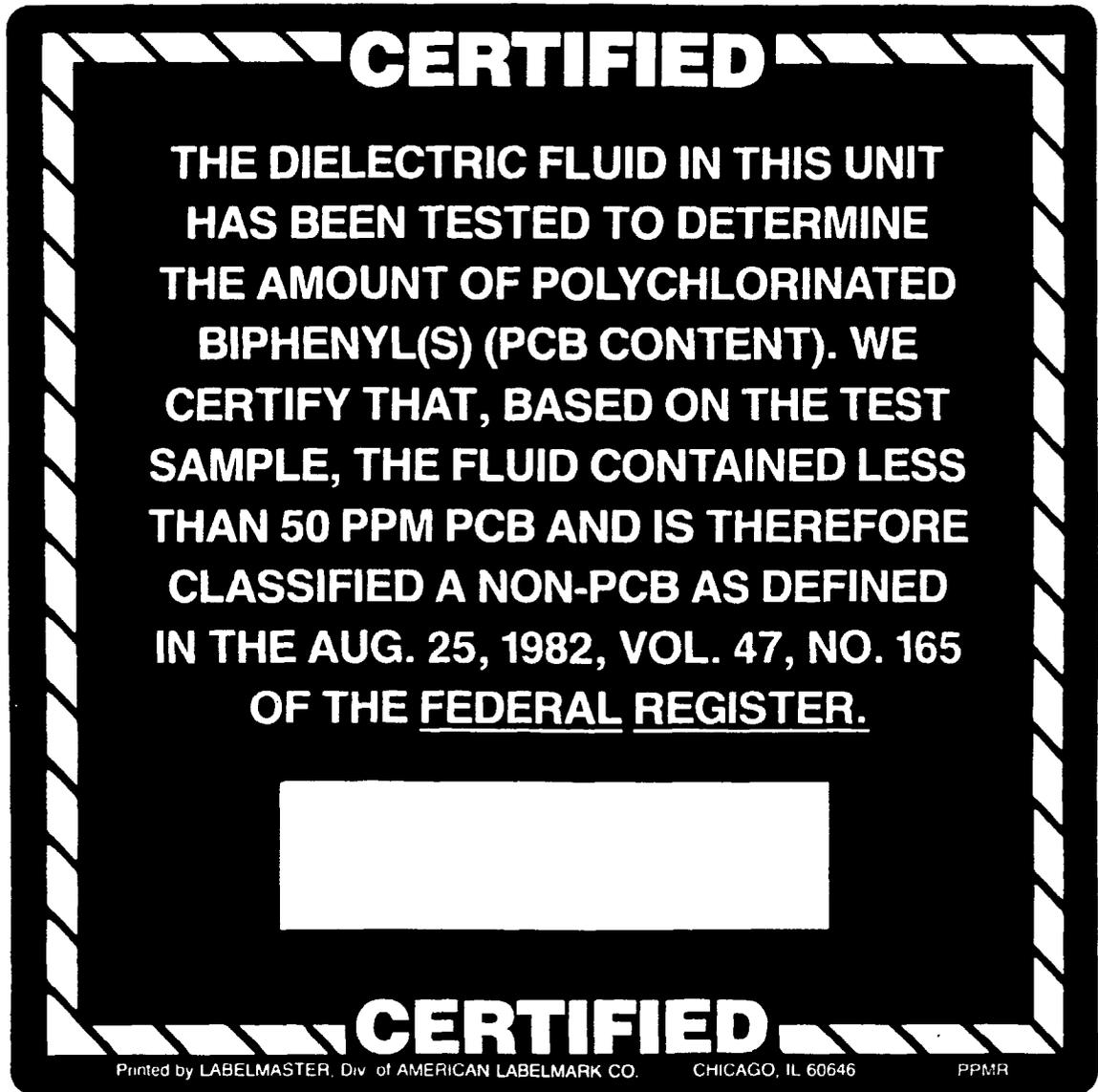


FIGURE 5-3

SMALL BLUE NO PCBS LABEL



FIGURE 5-4

HAZARDOUS WASTE LABEL

<b>HAZARDOUS WASTE</b>		
<b>STATE &amp; FEDERAL LAW PROHIBITS IMPROPER DISPOSAL</b>		
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY OR THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES.		
PROPER D.O.T. SHIPPING NAME _____		
_____		
_____		
HAZARDOUS PROPERTIES/DESCRIPTION: _____		
_____		
GENERATOR INFORMATION:                      TELEPHONE _____		
NAME _____		
ADDRESS _____		
CITY _____		STATE _____
EPA ID #:	E.P.A. WASTE #:	STATE WASTE CODE:
_____	_____	_____
ACCUMULATION START DATE _____	STATE MANIFEST DOCUMENT NO. _____	
<b>HANDLE WITH CARE!</b>		
<b>CONTAINS HAZARDOUS OR TOXIC WASTES</b>		
Printed by: Mesa Label Express, 8525 Arjons, Ste. T, San Diego, CA 92126 (619) 693-4988		
		CP-1A

FIGURE 5-5

HAZARD CLASS LABEL

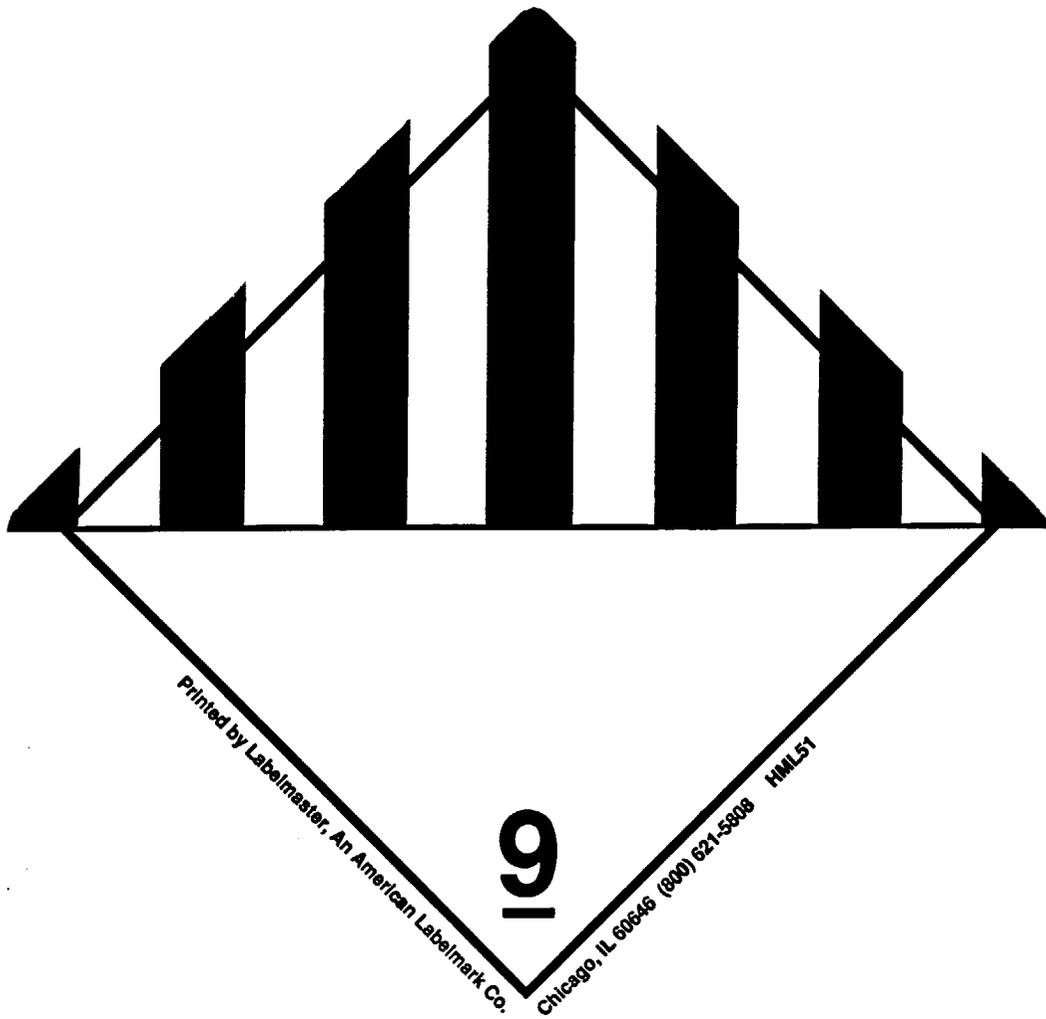


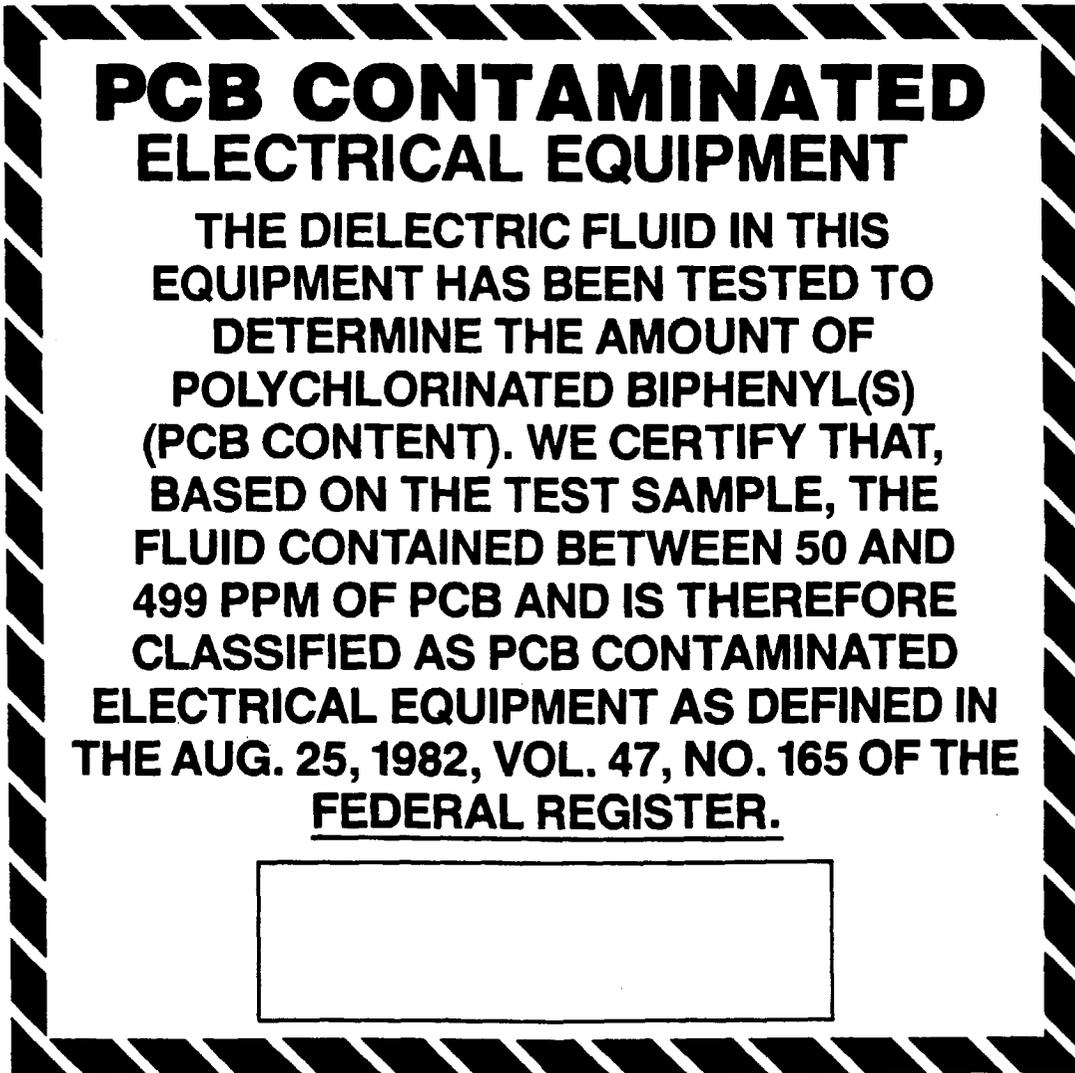
FIGURE 5-6

PCB EQUIPMENT LABELS



FIGURE 5-7

PCB-CONTAMINATED EQUIPMENT LABELS: 50 to 499 PPM



Printed by LABELMASTER, Div. of AMERICAN LABELMARK CO. CHICAGO, IL 60648 STYLE PC0NR

### 5.2.1 What Marks to Use

The following labels are to be used in the Station's PCB Management Program:

**Yellow PCB Labels:** The yellow background PCB label (also comes with a white background) in Figure 5-1 indicates that PCBs are present in a concentration of 500 ppm or greater. The large PCB label ( $M_L$ ) must be 6 inches on each side (all four sides). If the PCB item is too small to accommodate this size, this label may be reduced in size proportionally down to a minimum of 2 inches on a side. If the PCB item is still too small to accommodate the smallest  $M_L$  (2 inches on a side), the small PCB label ( $M_s$ ) must be used. The  $M_s$  must be a rectangle 1 inch by 2 inches. This may be proportionally reduced down to 0.4 by 0.8 inches as necessary.

**DOT Labels:** The DOT requires that the proper shipping description be marked on PCB items during transportation. The proper shipping description includes the DOT shipping name, the DOT Hazard Class, the UN/NA ID number, and the packaging group. The full shipping name must be used; abbreviations cannot be used. For PCBs, the DOT proper shipping description is as follows:

- Shipping Name: Polychlorinated biphenyls (RQ- 1 lb. if a single container)
- Hazard Class: 9
- UN/NA ID No: UN2315
- Packaging Group: II

The DOT Class 9 mark in Figure 5-5 must be on each item prior to shipment.

**Equipment Labels:** all equipment containing PCBs or contaminated by PCBs should be labeled as such (Figures 5-6 and 5-7).

### 5.2.2 How to Apply Marks

Prior to applying any labels, the surface of the item should be thoroughly cleaned so that the label sticks properly. Labels applied to equipment should be placed on parts that cannot become separated from the unit. Information on labels (PCB concentration or dates) should be written with an indelible ink pen to prevent sun and rain fading. The label must be sufficiently durable to equal or exceed the life of the item to which it is attached.

All labels are to be placed on the exterior of PCB items in a location that can be easily seen by anyone inspecting or servicing them. It is advantageous to place the labels where they can be easily seen so there is no question as to the regulatory status of each piece of electrical equipment. Large labels should be used whenever possible; however, small labels are available for items that are too small to accommodate the large labels.

### 5.2.3 What and When to Mark

Federal and state regulations require the labeling of items containing PCBs to alert anyone coming into contact with them that special handling is required. In addition, it is suggested that the Station have a program for labeling PCB-contaminated and non-PCB equipment and materials to help identify PCB and non-PCB items, especially in spill situations.

**PCB Equipment:** All equipment (transformers, capacitors, etc.) that contains 500 ppm PCBs or greater should be labeled with the yellow PCB label presented in Figures 5-1 and 5-6. Labels on equipment should be maintained in good condition and should be replaced when deteriorating. All PCB equipment and items must be labeled immediately upon entering the possession of the Station so that anyone subsequently relocating or removing them to storage will be aware of required handling and disposal procedures.

Equipment not marked with PCB or non-PCB labels and not containing a manufacturer's nameplate specifying PCB content will be handled as PCB-containing until testing can verify the concentration of PCBs within the unit.

Whenever equipment of unknown fluid content is opened for servicing, removed from service for disposal, or is leaking, a sample of the fluid will be tested for PCB content.

**PCB-Contaminated Equipment:** Equipment that has been sampled and tested and found to contain 50 to 499 ppm PCBs should be labeled with the yellow label presented in Figure 5-7. Oil-filled equipment not tested for PCB content must be considered PCB-contaminated until tested and proven otherwise. The concentration and date of testing shall be written on the label.

**Non-PCB Equipment:** Equipment that has been sampled and tested for PCBs and found to contain less than 50 ppm PCBs should be labeled with the blue mark in Figure 5-2. Figure 5-3 is used if the concentration is less than 5 ppm. The actual concentration should be written on the label so that the item is properly handled when disposed.

Newer electrical equipment often carries information on the manufacturer's nameplate stating that the concentration of PCBs is less than 50 ppm. However, since the regulatory disposal standard for California is 5 ppm the item must be tested or the manufacturer should be contacted. This equipment should be labeled when it is delivered with the blue non-PCB labels if verified to contain less than 5 ppm of PCBs.

**PCB Items:** Any article, such as pumps, pipes, and hoses, or containers for fluids, rags or spill debris, should be labeled with the yellow PCB label in Figures 5-1 or Figure 5-7, depending upon the concentration. The labels are to be placed on the exterior of PCB items in a location that can easily be seen and read by anyone inspecting or transporting them.

PCB labels should be applied to containers as soon as PCBs or PCB-contaminated materials are placed in the container, or as soon as the PCB concentration is determined. Labeling is the responsibility of the person who first adds the PCB material to the container.

**PCB-Contaminated Materials:** PCB-contaminated materials, including fluids, must be labeled as appropriate (Figure 5-7). Oil from electrical equipment not tested for PCB content must be considered PCB-contaminated until tested and proven otherwise.

**Areas Used to Store PCBs for Disposal:** The PCB storage facility and all areas used to temporarily store PCB wastes must be labeled with the yellow PCB marks in Figures 5-1 and 5-6. Each PCB container or article that is placed in storage for reuse or disposal must be marked with a PCB label, as well as the date placed into storage.

**Transport Vehicles:** Labeling of transport vehicles is required whenever the vehicle is loaded with PCB containers that contain more than 45 kg (99 pounds) of PCB liquids (greater than 5 ppm) or when loaded with one or more PCB transformers (500 ppm or greater). A yellow PCB label (Figure 5-1) must be placed on all four sides of the vehicle. Additional placarding may be required. For details see the Hazardous Materials Management Plan.

**PCB Transformer Locations:** The exterior of all PCB transformer locations (i.e., substation doors, machinery room doors, fences, hallways or means of access other than grates and manhole covers) must be marked with a yellow PCB label (Figure 5-1). The label must be placed so that it can be easily read.

In the past, some items marked with the PCB label have proven, upon analysis, to be PCB-contaminated or even to be non-PCB items. In these cases, the PCB label should be scraped completely off and replaced by the appropriate label. A different label should not be placed over the PCB label to avoid confusion or misunderstanding.

#### **5.2.4 Marking for Disposal**

When preparing PCB items for disposal, they must be marked in accordance with state and federal regulations. There are four possible scenarios for marking and labeling items for disposal:

1. Reportable quantity (RQ) is greater than 1 lb/container and PCB concentrations are greater than 50 ppm
  - a. California Hazardous Waste label (Figure 5-4)
  - b. TSCA mark (Figures 5-1 or 5-7)
  - c. DOT shipping description (see page 21)
  - d. DOT shipping label (Figure 5-5).
  
2. RQ is greater than 1 lb/container and PCB concentration is less than 50 ppm
  - a. California Hazardous Waste label (Figure 5-4)
  - b. DOT shipping description (see page 21)
  - c. DOT shipping label (Figure 5-5).
  
3. No RQ in container and PCB concentration is greater than 50 ppm
  - a. California Hazardous Waste label (Figure 5-4)
  - b. TSCA mark (Figures 5-1 or 5-7)
  - c. Non-DOT regulated.
  
4. No RQ in container and PCB concentration is less than 50 ppm
  - a. California Hazardous Waste label (Figure 5-4)
  - b. Non-DOT regulated
  - c. The description would be: Non-RCRA hazardous waste liquid or solid.

## **6.0 INSPECTIONS**

### **6.1 Introduction**

PCB inspections are an important part of the Station's PCB Management Program as they may be the primary means of discovering a leak or spill from a PCB item. The sooner a leak or spill is discovered, the sooner the problem can be corrected, thus reducing the chance of significant impact on human health or the environment. The TSCA regulations require that certain PCB items and storage areas be visually inspected on a regular basis. The regulations specify the frequency of inspections required for each type of item. Every inspection must be documented and the records must be kept on file to be used as a basis for the PCB annual report.

### **6.2 Type of PCB Items Requiring Inspection**

The inspection requirement for different PCB items is summarized in Table 6-1. If an item is not listed on Table 6-1, it has no TSCA inspection requirement. However, PCB items (including those in the 50 to 499 ppm range) will also be inspected and the inspection documented since this is a NEESA recommendation. In addition, PCB items containing 5 to 49 ppm of PCBs will also be incorporated into the inspection scheme to fulfill California disposal requirements.

The regulations require these visual inspections to include investigation for any leak of dielectric fluid on or around the transformer. The extent of the visual inspection will depend on the physical constraints of each transformer installation and should not require an electrical shutdown of the transformer being inspected. The inspection can be performed by personnel from the Electrical Department who have training in detection of leaks and spill response or notification.

### **6.3 Inspection Documentation**

The inspector must keep formal records of inspection results and servicing activities in order to document compliance with TSCA regulations. The records must include the following information (40 CFR 761.30(a)(1)(xii):

- Name and title of person performing the inspection
- Location and identification of each PCB item

**TABLE 6-1  
TSCA PCB INSPECTION REQUIREMENTS (40 CFR 761.30)**

<b>TRANSFORMERS (in service or in storage for reuse)</b>	
<b>ITEM</b>	<b>INSPECTION REQUIREMENTS</b>
Leaking	Daily to verify containment of leak (40 CFR 761.30(a)(1)(x)) until leak is repaired.
Intact w/500 ppm or greater and w/food or feed	Weekly (40 CFR 761.30(a)(1))(xiv)) Note: Location of transformers that poses a food or feed risk was prohibited effective 1 October 1985, therefore this inspection is not applicable.
Intact w/60,000 ppm or greater and without secondary containment	Quarterly (40 CFR 761.30(a)(1)(ix))
Intact w/60,000 ppm or greater and with secondary containment	Annually (40 CFR 761.30(a)(1)(xiii)(A))
Intact w/500-60,000 ppm	Annually (40 CFR 761.30(a)(1)(xiii)(B))
Intact w/below 500 ppm	None
<b>ELECTROMAGNETS, SWITCHES AND VOLTAGE REGULATORS</b>	
w/500 ppm or greater and w/food or feed risk	Weekly (40 CFR 761.30(h)(1)(ii) Note: Location of equipment that poses a food or feed risk was prohibited effective 1 October 1985, therefore this inspection is not applicable.
Others	None
<b>CAPACITORS, CIRCUIT BREAKERS, RECLOSERS, AND ELECTRIC CABLE</b>	
None	
<b>STORAGE AREAS (for items to be reused only)</b>	
Items inside storage	Monthly (40 CFR 761.65(c)(5))
Items temporarily stored outside storage area	Weekly (40 CFR 761.65(c)(2))

- Date of each visual inspection (and date of leak or spill discovery if different from normally scheduled inspection)
- Location of leaks or spills
- Estimate of amount of PCB liquid released from the leak or spill
- Date and description of all containment, cleanup, repair or replacement measures taken in response to the leak or spill
- Results of any containment and daily inspection required for uncorrected active leaks.

NFESC allows each activity to document inspections and servicing in any manner they choose. Figure 6-1 is an example of an activity PCB transformer inspection log sheet that may be used to record inspections. The first two columns give the date and inspector's initials. Columns 3 through 8 are to ensure that the inspector checks the problem areas on typical transformers. Column 9 is for ensuring that the spill containment equipment (beams, dikes, drip pans, etc.) are in working order. The 10th column is to verify that combustible materials are not stored within 5 meters of PCB transformers. The next column is used to reference write-ups of any servicing or work done on or near transformers. A separate inspection log sheet should be prepared for each PCB transformer listed on the activity PCB inventory list. Figure 6-2 is a leak and spill reporting form.

The inspection records shall be maintained by the electrical shop for at least 3 years after the PCB item is disposed. The records shall be readily available for review by regulatory officials.

If a leak or spill is discovered during an inspection, or during normal operations, proper reporting and containment procedures should be followed. Chapter 11 of the Plan explains the proper spill response procedures and details the procedures for spill reporting.

FIGURE 6-1

PCB INSPECTION AND SERVICING LOG FORMAT

Item Location \_\_\_\_\_

Item Identification \_\_\_\_\_

Item Description \_\_\_\_\_

DATE	INSPECTOR'S NAME	Check Each, + or - *									SUMMARY OF INSPECTION/SERVICE:  Description of inspections and servicing. If leaks or spills are observed attach Spill/Leak Report Form.	IF OVER 10 LBS, SPILL REPORT FILED ?
		BUSHINGS	GUAGES	VALVES	FINS	INSPECTION PORTS	TAP CHANGES	SPILL EQUIPMENT AVAILABLE	ARE COMBUSTIBLE MATERIALS WITHIN 5 M			

\* + Indicates good condition; - Indicates a deficiency

PCB SPILL REPORT (INCLUDING LEAKS)

PCB SPILL OR LEAK FORMAT

Spill Location: \_\_\_\_\_

Date/Time of Spill (if known): \_\_\_\_\_

Date/Time Spill Discovered: \_\_\_\_\_

How Discovered: \_\_\_\_\_

Source of Spill (describe): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

PCB Concentration in ppm (if known): \_\_\_\_\_

Estimated Quantity of Dielectric Fluid Spilled or Leaked (in gallons): \_\_\_\_\_

Estimated Quantity of PCBs in Spilled Fluid (see Appendix C): \_\_\_\_\_ pounds PCB

If quantity PCB constituent spilled exceeds 1 pound (RQ\*) a Hazardous Substance Release Message is required

If quantity PCB constituent spilled does not exceed 1 pound complete the following:

Description of Area/Objects Affected \_\_\_\_\_

\_\_\_\_\_

Personnel Contact/Special Environmental Concerns (describe) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Description of Containment Clean-up Procedure \_\_\_\_\_

\_\_\_\_\_

Date and time Clean-up Complete (See section 11 for spill cleanup documentation information.)

\_\_\_\_\_  
date

\_\_\_\_\_  
time

\* Appendix C explains how to determine the quantity PCB constituent spilled.

## **7.0 STORAGE REQUIREMENTS**

### **7.1 Introduction**

When a PCB item has been removed from service, it must be properly stored until disposal or reuse. As specified in the PCB Program Management Guide, proper PCB storage is the responsibility of the activity owning the PCB items. MCAS El Toro has two choices with regard to storage of PCB items. They may choose to transfer custody to the local Defense Reutilization and Marketing Office (DRMO). If DRMO has enough storage space conforming to USEPA requirements then they can assume accountability and physical custody of the PCB item immediately upon removal of the item from active service. However, if DRMO does not have sufficient space, then El Toro can transfer accountability to DRMO but keep the item stored until disposal.

The TSCA regulations allow for storage in temporary and permanent storage facilities. However, since the State of California regulates PCB waste at concentrations greater than 5 ppm as a hazardous waste, the storage requirements for a hazardous waste in California apply. Therefore, MCAS El Toro can store PCB items in one of two ways. First, the items can be stored in one of the accumulation areas on Station for no more than 90 days, at which time this item must be disposed of. Secondly, the item can be stored for no more than a year in the RCRA Part B permitted facility. This facility can store no more than 1,000 gallons of PCB-containing liquids and the facility is designed to contain 25 percent of this volume in case of a leak or spill. In either case, the Hazardous Material Management Plan should be consulted regarding the design parameters and operating procedures for hazardous waste stored in either of these areas.

### **7.2 Labeling for Storage and Disposal**

All PCB items at or above 5 ppm, including scrap equipment, must have the mark shown in Figures 5-1 or 5-7 fixed to them (see Chapter 5). For transformers, only one label is required. For drums and boxes, two labels are required. The label should be placed on two opposite sides of the upper third of a box or drum which will be visible to an approaching forklift operator. Additionally, a Hazardous Waste Identification label must be placed on the waste container (only when the PCB item is considered a waste and is placed in storage awaiting disposal). The correct configuration of marks is presented in Section 5.2.4 of this Plan. To determine if the (RQ) label is required refer to Appendix C (from NEESA's PCB Program Management) which indicates the procedures for making the calculation. In California, the RQ is 1 pound for PCBs.

If the item does not contain enough to exceed the RQ, this label is not necessary and only the hazardous waste label is required.

### **7.3 Packaging for Storage and Disposal**

PCB-contaminated equipment that has been declared a waste and does not leak can be placed upright in PVC-lined half boxes. Care must be taken not to damage appendages when placing the equipment into half boxes. All valves should be capped or otherwise sealed to prevent leakage. A 10-ml plastic bag, taped to the equipment, may be used for this purpose. Before use, half boxes must be inspected for soundness. The integrity of the liner inside each half box should be checked. The use of a half box is not a requirement but only a recommendation.

Leaking equipment that has been declared a waste, except PCB capacitors (see below) and is contaminated with 5 ppm or greater of PCBs must be pumped out and the PCB-contaminated insulating oil placed into steel drums. Each drum must be marked with the identification number of each piece of equipment whose liquid is placed into it. When full, the drum should be marked with the date and the PCB concentration of the piece of equipment with the highest PCB concentration that was drained into it. Drained equipment carcasses of PCB transformers or PCB-contaminated transformers should be filled with nonbiodegradable absorbent material and resealed. They can also be placed in half boxes, however, this is only a recommendation.

Leaking PCB capacitors should be placed into open-top steel drums that have 6 inches of absorbent placed in the bottom before filling. Nonleaking large PCB capacitors can be placed in the PCB spill box although this is a recommendation only. Do not mix PCB-contaminated soil or other debris in the same container with PCB capacitors.

All spill debris and miscellaneous solid PCB wastes such as small capacitors, light ballasts, and fixtures shall be lab packed in sealable, open-top, DOT-approved, steel drums. For further information regarding hazardous waste transport refer to the Hazardous Material Management Plan.

## **8.0 DISPOSAL REQUIREMENTS**

### **8.1 Introduction**

Since California requirements under CCR Title 22 are more stringent regarding the disposal of PCB waste, these regulations supersede the requirements of TSCA and RCRA's waste oil regulations. One major difference between the two laws is that California regulations identify any PCB waste greater than 5 ppm as hazardous, while TSCA regulates PCB waste greater than 50 ppm. Additionally, in California, PCB waste at 5,000 ppm or greater must be disposed of as an extremely hazardous waste, with additional requirements that apply as well.

### **8.2 Disposal Initiation Procedures**

As discussed in Chapter 7 of this Plan, there may be problems with DRMO having sufficient storage space for PCB waste, but regardless of the storage and custody arrangements that are agreed to, the DRMO will assume responsibility for the proper disposal of PCBs and PCB items. As PCB items are identified for disposal, the PCB Coordinator should notify the local DRMO to initiate the disposal process. Normally, this is done by completing a Disposal Turn-In Document (Form 1348-1). Figure 8-1 is an example of a completed 1348-1. Each local DRMO has their own variation of the protocol for disposal of PCB waste, so they should be contacted to obtain specific directions. Prior to DRMO assuming accountability and/or custody of the PCB item, this item must be properly identified, labeled, and containerized in a non-leaking manner (see Chapter 7 of this Plan). Based on DRMO policy, MCAS El Toro may need to drain and flush PCB equipment as it comes out of service, prior to storage or disposal.

### **8.3 Disposal Requirements**

The State of California has established stringent PCB disposal regulations in CCR Title 22-66268-110. MCAS El Toro should be familiar with these disposal requirements even though the DRMO is responsible for all PCB disposal. It is essential that the Station maintain a quality control function to ensure that all PCBs and PCB items are properly disposed of. Table 8-1 summarizes the state-approved disposal methods for various PCB items. There are three types of PCB disposal options: thermal destruction, chemical waste landfills, or alternative treatments (chemical biological processes). The following sections provide brief descriptions of the three disposal options.



**TABLE 8-1**  
**DESCRIPTION OF DISPOSAL OPTIONS FOR PCB SURVEY OF ELECTRICAL EQUIPMENT SCENARIOS**

Scenario #	PCB Waste	California Disposal Options	Regulatory Reference
1	Drained PCB Transformer Carcasses (contains greater than 500 ppm PCBs)	<ol style="list-style-type: none"> <li>1. Incineration in a DHS-approved incinerator that meets 40 CFR 761 requirements,</li> <li align="center">or</li> <li>2. After draining and/or flushing of PCBs in the transformer carcass in accordance with 40 CFR 761, the carcass shall be filled with a nonbiodegradable absorbent material and disposed of in a hazardous waste landfill approved for TSCA-regulated materials.</li> </ol>	California Code of Regulations 22-66268.110
2	Drained PCB-Contaminated Transformer Carcasses (contains between 5-499 ppm of PCBs)	<ol style="list-style-type: none"> <li>1. Incineration in a DHS-approved incinerator that meets 40 CFR 761 requirements,</li> <li align="center">or</li> <li>2. After draining and/or flushing of PCBs in the transformer carcass in accordance with 40 CFR 761, the carcass shall be filled with a nonbiodegradable absorbent material and disposed of in a hazardous waste landfill approved for TSCA-regulated materials.</li> </ol>	California Code of Regulations 22-66268.110
3	Drained or Empty Transformer Carcasses (contains less than 5 ppm of PCBs)	Not regulated under TSCA or Title 22. Can be recycled as scrap metal.	California Code of Regulations 22-66268.110 and 22-66261.6(a)(3)(B)

**TABLE 8-1**  
**DESCRIPTION OF DISPOSAL OPTIONS FOR PCB SURVEY OF ELECTRICAL EQUIPMENT SCENARIOS**

Scenario #	PCB Waste	California Disposal Options	Regulatory Reference
4	Fluid With a PCB Concentration Greater Than or Equal to 500 ppm	1. Incineration in a DHS-approved incinerator that meets 40 CFR 761 requirements, <b>or</b> 2. Treatment to a PCB concentration level of 2 ppm.	California Code of Regulations 22-66268.110
5	Fluid With a PCB Concentration Between 5 and 499 ppm	1. Incineration in a DHS-approved incinerator that meets 40 CFR 761 requirements, <b>or</b> 2. Treatment to a PCB concentration level of 2 ppm	California Code of Regulations 22-66268.110
6	Fluid with a PCB Concentration of Less Than 5 ppm	Not considered to be hazardous in the State of California. Can be recycled since the oil only exhibits a toxicity characteristic, is not a listed waste in 22-66261.30 and is a qualifying material in 40 CFR 261.6(a)(3).	California Code of Regulations 22-66268.110 and 22-66261.6(a)(3)(C)
7	PCB-Containing Electrical Equipment That is not Regulated Under TSCA, Such as Small Capacitors, Light Ballasts, and Fixtures	1. Incineration in a DHS-approved incinerator with a PCB DRE of 99.9999%. 2. Disposal in a hazardous waste landfill after placement in a lab pack.	California Code of Regulations 22-66268.110

## Incineration

PCB waste must be incinerated in a California approved incinerator that meets 40 CFR 761 requirements. These requirements include:

- At least 99.9999 percent destruction removal efficiency
- A certain high temperature throughout incineration
- A certain oxygen concentration in the stack gas
- Accurately measured and recorded feed rates; combustion temperatures, and stack emissions
- The ability to stop the feed of PCBs to the combustion chamber whenever a malfunction occurs in the monitoring system or the oxygen concentration in the stack gas is deficient.

Although this state regulation refers to "DTSC-approved incinerator," there are no incinerators operating in California which meet this requirement and are permitted to incinerate PCB waste. In the future, if any incinerators in California are allowed to burn PCB wastes, they will be required to obtain state approval. All commercially available incinerators that can burn PCB wastes are presently located outside the State of California.

## Landfilling

Currently, the only landfill in California that can accept PCB wastes (defined as greater than 5 ppm PCBs) is the Chemical Waste Management Facility in Kettlemen Hills, California (209-386-9711). However, the status of this landfill can change at any time making it necessary to verify with the State of California that the facility can accept this waste.

## Treatment

Retrofilling and dechlorination are two commercially available technologies used for eliminating PCBs in transformer oil. Several companies that have been operating in California for a number of years and are in compliance with both state and federal PCB regulatory requirements offer

these types of services in California. Essentially, these technologies either remove or destroy the PCB molecules in the transformer oil thereby lowering the concentration of PCBs to state-required or client-desired levels of treatment.

#### **8.4 The Manifest**

As indicated earlier in this Chapter, DRMO is responsible for PCB waste disposal. Also, since PCB waste is regulated as a hazardous waste in California, the Hazardous Material/Hazardous Waste Plan provides further information regarding disposal. However, there are some TSCA requirements that must be met relative to the manifests that are not addressed under TSCA or Title 22. These requirements include special information to be provided on the manifest and requirements for tracking PCB waste.

In addition to information required by the State of California (Title 22) and described in the Hazardous Material/Hazardous Waste Plan, the Station must provide, on a California manifest, the serial number of each PCB item or article, the type of waste (e.g., soil, liquid), earliest date of removal from service (for bulk PCB waste in containers) or the date of removal from service (for PCB equipment), and the weight of PCB in kilograms in the container or in each PCB article [761.207(a)]. The manifest, after signature by the designated person, should be kept for a period of 3 years from the time of transport [761.209(a)].

After the load of PCB waste has left the Station and been delivered to the disposal facility, the disposal facility must sign and return a copy to the Station PCB Coordinator. Within 24 hours of receipt of the manifest copy, the PCB Coordinator shall call the disposal facility and verify that the waste was received. Documentation of the call should be retained in the Station files. If the signed manifest from the disposal facility is not received in 35 days, the PCB Coordinator shall call the disposal facility and determine the cause. After 10 additional days, if the manifest has still not been received, the PCB Coordinator will complete an Exemption Report and submit to the USEPA Region IX [761.208(a)(4)]. For information regarding an Exemption Report, consult 761.215. Finally, the disposal facility should send a Certificate of Disposal to the Station PCB Coordinator within 30 days of disposal. This document shall be retained with the manifests.

## 9.0 SERVICING

### 9.1 Introduction

While the use of non-leaking PCB equipment may be considered "totally enclosed," the servicing of such PCB equipment constitutes a "non-totally enclosed" activity. This is because normal servicing usually involves procedures which expose the environment to PCBs. Servicing PCB equipment increases the risk of spills that could contaminate personnel and surrounding areas. USEPA has addressed this risk by specifying in the regulations the types of servicing activities authorized and types of servicing activities which are prohibited.

### 9.2 General Requirements

Table 9-1 summarizes the servicing prohibitions and requirements for specific PCB items.

There are some general guidelines in the regulations that apply to servicing all PCB equipment. The regulations require that all PCB fluid removed from PCB equipment be captured and either reused or disposed of in accordance with applicable (in this case State of California) PCB disposal requirements (See Chapter 8). Collection procedures should be carefully developed so that fluids from PCB equipment with 500 ppm PCB or more is not mixed with fluid from PCB-contaminated (or non-PCB) equipment with less than 500 ppm PCB. Such mixing is considered dilution for the purposes of evading the regulations and, if such mixing occurs, the mixture must be disposed of as PCB fluid (500 ppm or greater PCB) regardless of actual PCB concentration [40 CFR 761.30 (a)(2)(iv)]. In California, the effect of this is not significant since disposal options are the same for any oil containing more than 5 ppm PCBs.

In addition to the requirements of the TSCA regulations, additional precautions should be taken when servicing PCB equipment. Personnel responsible for servicing PCB equipment must be provided with proper personnel protective equipment (PPE) and trained in how to use their PPE (see Chapter 12).

The PCB Coordinator should ensure that Standard Operating Procedures (SOPs) are developed for all PCB servicing operations. These SOPs must detail the proper procedures for servicing PCB equipment. The SOP must ensure that servicing regulations and prohibitions are followed and that the correct personal protective gear is worn. The SOPs can be developed with assistance from both electrical shop personnel and safety staff. All servicing of PCB items should be

**TABLE 9-1  
TSCA PCB SERVICING PROHIBITIONS AND REQUIREMENTS**

ITEM	PROHIBITIONS	REQUIREMENTS
PCB Transformers, Electromagnets, Switches and Voltage Regulators (equal to or greater than 500 ppm PCB)	1. Servicing that requires removal of internal components (including transformer coil) is prohibited. 40 CFR 761.30(a)(2)(ii); 40 CFR 761.30(h)(2)(i)	1. May be drained, refilled or otherwise serviced to reclassify to PCB-contaminated status (5-499 ppm PCB) 40 CFR 761.30(h)(2)(v); 40 CFR 761.30(a)(2)(v) 2. May be serviced with fluid (dielectric) of <u>any</u> PCB concentration 40 CFR 761.30(a)(2)(ii)
PCB <u>Contaminated</u> Transformers, Electromagnets, Switches and Voltage Regulators (50-499 ppm PCB)	1. Servicing with fluid (dielectric) containing 500 ppm or greater PCB is prohibited. 40 CFR 761.30(a)(2)(i); 40 CFR 761.30(h)(2)(ii)	1. Service with fluid (dielectric) containing <u>less than 500 ppm only</u> 40 CFR 761.30(a)(2)(i) 2. May be drained, refilled or otherwise serviced to reclassify to non-PCB status (below 50 ppm PCB) 40 CFR 761.30(a)(2)(v)
PCB Circuit Breakers, Reclosers and Cables	1. Servicing with dielectric containing 50 ppm PCB or greater is prohibited 40 CFR 761.30(m)(1)(i) 2. Servicing that requires removal of internal components is prohibited. 40 CFR 761.30(m)(1)(ii)	1. Service with dielectric containing <u>less than 50 ppm PCB only</u> . 40 CFR 761.30(m)(1)(i) 2. May be drained, refilled or otherwise serviced to reclassify as PCB contaminated or non-PCB. 40 CFR 761.30(m)(1)(ii)

**TABLE 9-1 (Continued)**  
**TSCA PCB SERVICING PROHIBITIONS AND REQUIREMENTS**

<b>ITEM</b>	<b>PROHIBITIONS</b>	<b>REQUIREMENTS</b>
Heat Transfer Systems and Hydraulic Systems	1. Servicing with fluid containing greater than 50 ppm PCB is prohibited. 40 CFR 761.30(d)(4) and 40 CFR 761.30(e)(3)	1. If system fluid contains 50 ppm or greater PCB, the system must be drained and refilled with fluid containing less than 50 ppm PCB. Test fluid after three months of operation and repeat procedure if fluid still contains 50 ppm or greater PCB. If fluid contains less than 50 ppm no further servicing is required 40 CFR 761.30(d)(2) and 40 CFR 761.30(e)(2) 2. Hydraulic fluid may be filtered, distilled or otherwise serviced in order to reduce the PCB concentration to below 50 ppm. 40 CFR 761.30(e)(4)

recorded to document that proper procedures were followed. This is especially true if servicing is done to reclassify the PCB item or to correct a spill. The PCB Coordinator should ensure that all servicing is documented on an inspection and servicing log. An example of an inspection and servicing log is provided as Figure 6-1.

### **9.3 Removal And Reclassification**

For a PCB item located where it poses an exposure risk to human health or the environment, replacement or reclassification may be required. Replacement refers to physically removing the PCB equipment from the location and relocating it to a safer location or disposing of the PCB equipment and installing a non-PCB unit. If replacement is not possible or practical, then the transformer will need to be reclassified.

### **9.4 Reclassification**

If replacing the PCB unit is not practical or possible, retrofilling, filtering, or treatment processes can be used to reclassify a PCB unit.

#### **9.4.1 Retrofilling**

Draining a PCB transformer of its dielectric fluid and flushing with an appropriate solvent prior to refilling with a non-PCB dielectric fluid is referred to as retrofilling. There are three basic alternative dielectrics, excluding mineral oil, because of its higher fire danger: silicone; paraffin oil; and synthetic hydrocarbon materials. There are certain trade-offs, when using any of these substitutes, which are all less effective coolants than PCBs. One major drawback is that transformer capacity may be decreased when using any one of these substitutes in currently operating PCB transformers. Another major concern is replacing PCBs with an equally (or more) hazardous compound. Care should be taken when considering the hydrocarbon materials.

Retrofilling is a controversial and constantly improving technology. The current problems include:

- PCBs leach back into dielectric fluid after treatment is complete
- Required down time to perform process

- Time required to achieve desired PCB concentration (less than 50 ppm may take up to 4 years to achieve)
- Cost, estimated at 60 percent of replacement cost (or \$75-\$120 per gallon)
- Time guarantees of maintaining the PCB level at less than or equal to 50 ppm PCB after retrofilling are usually limited.

Private industry is working to resolve these problems and recently there have been some significant improvements. Contact the Southwest Division Naval Facilities Engineering Command for current recommendations on retrofilling. Care should be taken to monitor the contractor carefully to ensure that the work area is not contaminated, and that the resulting PCB wastes are properly handled and disposed of. All records concerning the entire retrofilling operation (includes laboratory analyses) must be kept for a minimum of 3 years after final disposal of the wastes [40 CFR 761.30 (d)(5) & (e)(5)].

Initially upon refilling, retrofilled transformers must be tested to determine PCB concentrations. They must then be retested until the dielectric fluid reaches less than 50 ppm PCB. After retrofilling, USEPA requires that the transformer must remain in service for at least 3 months prior to testing for reclassification [40 CFR 761.30 (a)(2)(v)].

If after 3 months in service, the PCB concentration is less than 50 ppm, the transformer is reclassified as non-PCB. If after 3 months in service, the PCB concentration is 50 to 499 ppm PCB, the transformer is reclassified as PCB-contaminated. For the purposes of retrofilling, "in service" means that the transformer is used electrically under loaded conditions that raise the temperature of the dielectric fluid to at least 50 degrees centigrade [40 CFR 761.30 (a)(2)(v)].

#### **9.4.2 Retrofilling Mineral Oil Transformers**

Mineral oil-filled transformers contaminated with PCBs and retrofilled PCB transformers can be rated as non-PCB transformers if proper and adequate filtering is conducted. Filtering systems use carbon, neoprene, or other filter media, and are attached to the exterior of the transformers. The dielectric fluid is circulated through the filter by a pump. Filtering may take as long as 24 months to maintain a level below 50 ppm, because PCBs leach from the internal transformer components.

In most cases, the cost of filtering will be in the range of \$5,000-\$25,000 for a standard 2,000 KVA PCB transformer including initial retrofilling when performed under contract.

Complete filtering systems are available from several sources. Research in this field is producing continuing improvements in time requirements for removal and in removal efficiency.

#### **9.4.3 Chemical Treatment Processes**

Technologies exist to treat PCB-contaminated oil-filled transformers to reduce the PCB concentration. However, the technology is new and there are still many problems and very few vendors. One technology uses a metallic sodium decontamination process. The sodium is extremely reactive with water which creates a potential safety hazard. Other technologies are being developed but are at this time not permitted by USEPA. The Station should take care to fully research any PCB treatment process to determine if there are associated health hazards and to ensure that the vendor will guarantee the results. Contact the Southwest Division Naval Facilities Engineering Command for information on PCB treatment processes.

## **10.0 TRAINING**

Training and education of employees in safe working practices is the key to reducing and/or eliminating exposure to PCBs. The training should be conducted for all new workers who will be expected to work around PCB items. Workers should also participate in an annual refresher course. There is no known commercially available training course on PCB handling and safety. Additional information and assistance can be obtained from the Industrial Hygienist at MCAS El Toro.

The training should include the following items:

- Introduction and Goals
- What are PCBs?
  - Basic Chemical Characteristics
- Overview of Regulations
  - TSCA
  - State of California
  - Other relevant regulations
- Personal Responsibilities
- Maintenance Requirements
  - Inspection
  - Labeling
  - Inventory
  - Servicing
- Disposal of PCB Waste
  - Packaging
  - Storage
  - Disposal

- PCB Safety
  - Health and Safety Precautions
  - Emergency Response
  
- Questions and Answers

PCB training can be presented to employees in various ways. It can be presented all at once, such as in an all day seminar. It can also be presented in segments, such as weekly installments. It is important to document attendance at each training session and a non-graded quiz can be administered at the end to give the employee an idea of how well they assimilated the material. Finally, each worker scheduled to work around PCBs should be required to read the PCB Management Plan and sign a declaration stating such.

## **11.0 EMERGENCY PLANNING AND SPILL CLEANUP PROCEDURES**

There are two types of emergencies associated with PCB items: (1) leaks or spills, and (2) fires involving PCB electrical equipment. This chapter covers the impact of these emergencies and the proper prevention and contingency procedures. Prevention procedures are those procedures and the associated equipment setup to prevent the spill or fire from occurring. Contingency procedures refer to the response to the spill or fire after it has happened. In both these cases, spills and fires, it is preferable that they never occur and so prevention planning is very important. However, if an emergency does occur, it is essential that the response plan is formulated and that all personnel involved in the emergency know exactly how to respond.

### **11.1 PCB Leak Response**

USEPA defines a "leak" to be any instance in which a PCB item has any PCBs on any portion of its external surface. If a PCB item is found to have a "leak" it must be cleaned up or contained and repaired as soon as possible. The regulations require that the work be initiated (not completed) within 48 hours of discovery. The leaking item must be inspected daily until the leak has been repaired and cleaned up to ensure that the leak is contained so it does not contaminate the surrounding area. A leak can be contained with any method which prevents it from spreading, such as buckets, drip-pans, plastic bags full of sorbent, etc. The cleanup should be performed as specified later in Section 11.3.

### **11.2 PCB Spills**

PCB spills are a regulated hazardous substance as defined in the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) regulations, 40 CFR 302. This is because PCBs are moderately toxic to humans and tend to bioaccumulate in the environment. PCBs are very persistent and once they are in the environment, they remain for an extremely long period of time. If PCBs are spilled into the environment, they get into the food chain and adversely impact fish, birds, animals, and ultimately man. If a spill enters a waterway, the spill may impact humans even more quickly. In this case, the CERCLA regulations and the Clean Water Act (CWA) regulations 40 CFR 112 require that proper notification and cleanup procedures be followed.

### **11.2.1 Spill Prevention Plan**

The PCB spill prevention measures (which should be covered under the Spill Prevention, Control and Countermeasures (SPCC) Plan) are only required by federal law for permanent PCB storage, if the PCB containers (greater than 50 ppm PCB) used are over 55 gallons each, or for areas where PCB contaminated liquid is stored in a temporary storage area. If the PCB material is considered waste (therefore, hazardous waste under the provisions of the State of California) then requirements for a SPCC Plan fall under the Hazardous Material/Hazardous Waste Management Plan. The USEPA does not require spill prevention equipment (berms, dikes, etc.) on PCB equipment in-service, but if in-service equipment (with PCB concentration greater than 60,000 ppm) is placed in a secondary containment scheme, the frequency of inspection is allowed to go from quarterly to an annual basis.

### **11.3 Spill Contingency Plans**

Since PCBs are in use at MCAS El Toro, the Station must be prepared to handle spill emergencies. The location of possible PCB spills, the quantity of PCBs that might be spilled and the most probable directions of flow can be determined using the MCAS El Toro PCB inventory (Appendix G).

Based on this information, a PCB spill contingency plan should be developed and implemented for all PCB storage facilities and other areas, such as power substations, having PCB equipment in use. Preparation of a plan documenting specific procedures to be followed when a PCB spill occurs is extremely important. Such a plan will save valuable time when a spill occurs and will effectively reduce environmental damage from an accidental spill. A copy of this plan should be given to the Station's spill coordinator and the Fire Department for use in responding to PCB spill emergencies. Another copy should be incorporated into the MCAS El Toro SPCC Plan.

Being properly prepared for handling PCB spill emergencies requires prior preparation of a spill kit and understanding the steps one should follow when a spill occurs. A PCB spill kit should contain an emergency spill procedures sheet and must be labeled and designated for use in handling PCB spills.

Most items can be obtained through the federal supply system or local manufacturers and suppliers. The exact size, content, and location of each spill kit will vary with the amount of PCBs, the location, and the type of equipment used at the site. Each vehicle that transports PCBs

should also have a spill kit for cleaning up and decontaminating spills that occur during transport. The exact contents of each spill kit should be tailored to the specific needs of the site although a recommended composition is contained in Appendix F along with sources for purchasing the needed materials.

### **11.3.1 Background**

The Toxic Substances Control Act (TSCA) governs the handling and spill cleanup of PCBs. The requirements established by TSCA are implemented by USEPA's PCB Spill Cleanup Policy (40 CFR 761, subpart G). The State of California uses USEPA's Spill Cleanup Policy for guidance concerning PCB cleanup levels. This policy includes testing, sampling, cleanup, and reporting requirements for spills involving items with PCB concentrations of 50 ppm or more. The policy does not apply to spills which occurred prior to May 4, 1987; such spills require site-by-site evaluation. In addition, the policy does not affect cleanup standards imposed by the Clean Water Act (CWA), the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA), or the Superfund Amendments and Reauthorization Act (SARA). Where more than one requirement applies, the stricter standard must be met.

Federal spill reporting, documentation, and cleanup instructions are contained in the Spill Contingency Plan. Section 11.3.2 covers Emergency Spill Response Procedures; Section 11.3.3 addresses detailed spill cleanup instructions; 11.3.4 covers PCB fire-related emergencies; 11.3.5 discusses spill related reporting requirements; 11.3.6 covers spill cleanup documentation; 11.3.7 deals with sampling requirements; and Section 11.3.8 contains the PCB concentration levels which must be achieved at a site for a spill to be considered cleaned up. Much of the information has been compiled in tables to allow for quick and easy reference. The Spill Contingency Plan in this chapter is designed to be applicable for a spill that would occur anywhere in Station except in locations where PCBs are being stored for disposal under California regulations. In this case, the Hazardous Material/Hazardous Waste Plan should be consulted.

### **11.3.2 Emergency Spill Response Procedures**

When a PCB spill occurs, immediate action must be taken to provide for evacuation, first aid, notification of authorities, containment, and decontamination. Those who work with PCBs or who work near PCB equipment should be adequately trained to react quickly and correctly in the event of a PCB emergency. An important part of spill response training is familiarity with the Spill Contingency Plan.

General emergency spill response procedures are provided here. Detailed PCB spill cleanup procedures are provided in Section 11.3.3.

#### **11.3.2.1 Immediate Actions**

- Turn off all electrical power to any equipment involved in the spill.
- Determine if personnel are injured or contaminated.
- Notify all appropriate personnel such as: the Station Spill Coordinator, Safety Office, Security, PCB Coordinator, Electrical Department Personnel, etc.
- In the event of a fire or release of an RQ, the PCB Coordinator will ensure immediate reporting of the incident to the National Response Center (NRC) at 1-800-424-8802 [40 CFR 761.30 (a)(1)(xi)]. (See Section 11.3.4)

#### **11.3.2.2 Injured or Contaminated Personnel**

- Coordinate all actions with medical personnel.
- Put on the appropriate personal protective equipment (PPE) and remove injured personnel to a safe location, upwind from the spill.
- Obtain medical assistance for injured or seriously contaminated personnel. Do not leave injured or incapacitated personnel alone.
- Remove contaminated clothing from the victim or rescuer. Immediately wipe-off any traces of oil from skin. Wash affected areas of body with waterless soap. After

wiping off waterless soap, shower with soap and water. Administer additional first-aid, if needed. Flush contaminated eyes for 15 minutes with clean water.

### **11.3.2.3 Containment and Control**

- Use appropriate PPE, details should be predetermined.
- Prevent further leakage, if deemed safe, by performing one or more of the following tasks:
  1. Overpack the container or transformer.
  2. Apply temporary seal to the leak using epoxy or a fiberglass patch kit.
  3. Close master valves or petcocks, if necessary.
  4. Position a container (e.g., a bucket) to catch the leaking material.
  5. Reposition the container or transformer, using a crane if necessary. Care must be taken to prevent the contamination of the crane with PCBs.
- Contain the spill by encircling the area with a trench, a dike of sand, absorbent material, dirt or rags.
- Spread absorbent on any spilled oil.
- If rain is imminent, use a weighted-down polyethylene or plastic tarpaulin to cover the spill area.

### **11.3.2.4 Site Security**

- Secure the spill site by roping off the visible spill area plus a three-foot buffer region. Post warning signs. If necessary, obtain assistance from the security or fire personnel.
- Proceed with site cleanup and decontamination as detailed in Section 11.3.3.

### **11.3.3 Detailed Spill Cleanup Instructions**

After steps have been taken to remove the immediate danger caused by a PCB spill, cleanup can begin. It is important that the PCB decontamination is done thoroughly and properly. All cleanup procedures require appropriate protective clothing and proper ventilation.

The number one rule for cleanup is: **DO NOT WORK ALONE.**

#### **Step 1. Absorption and Initial Removal of PCBs:**

- On solid surfaces (concrete, asphalt, metal) place appropriate absorbent materials (sand, sawdust, absorbent clay, etc.) over spilled PCBs.
- Work the absorbent into the spill using a broom, if necessary, to force the absorbent into close contact with the spilled PCB.
- Collect all spent absorbent material and equipment used and place into a properly labeled leak proof container.
- For spills on soil, remove contaminated soil from the spill area until the PCB concentration in the region is less than or equal to 10 ppm PCBs. Place this soil into properly labeled, leak proof drums for disposal. Replace contaminated soil with clean soil which contains less than 1 ppm PCBs.
- For small waterbodies (e.g., drainage ditches), pump all water from the affected areas and remove all sediment that is contaminated with PCBs. Remaining soil should have a PCB concentration less than 1 ppm PCBs. Properly label and package liquids and solids for disposal.
- See Chapters 5 and 9 for proper labeling and packaging procedures.

#### **Step 2. Solvent Decontamination:**

Porous surfaces (e.g., wood, soil, etc.) cannot be adequately decontaminated and must be removed, properly disposed of, and replaced with new materials. Nonporous surfaces (e.g.,

sealed Portland concrete, metal surfaces, etc.) should either be removed or decontaminated as outlined below.

- After cleaning up bulk PCB material, spread an appropriate solvent\* (e.g., kerosene, xylene, toluene, trichloroethane, trichlorobenzene, Power cleaner 155) evenly over the spill area, using a stainless steel sprayer or by light sprinkling. Apply solvents in sparing amounts.
- Use a broom or scrub brush to work the solvent into the surface.
- Wipe up all solvent with rags or other absorbent material.
- Remove contaminated rags and absorbent material using a broom or shovel.
- Repeat the cleanup process at least once. USEPA requires that for low concentration spills which involve less than one pound of pure PCBs, all contaminated surfaces must be washed and rinsed at least two times (40 CFR 761.125(b)(1)(i)). For all other spill situations, the cleanup process must be repeated until the required concentration level has been reached (See Section 11.3.9 for concentration levels). Concentration levels must be verified by standard wipe tests.
- Collect all spent decontaminants, absorbents, protective clothing, and gloves and place them in labeled, leak proof containers for proper disposal.
- Tools, vehicles, equipment, and other nonporous objects may be decontaminated by applying solvent with a brush or by dipping objects into solvent. However, it is recommended that all expendable contaminated items be disposed of and replaced.
- All tools and surfaces must be thoroughly rinsed using a sparing amount of clean water. All rinsate must be collected and placed in a labeled, leak proof container for proper disposal.

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\* See Appendix A for definitions.

### **Step 3. Personnel Decontamination:**

Employees who are unaware of the presence of PCBs may attempt to cleanup a spill without using the proper personal protective equipment, thereby causing contamination of clothing and skin. If this occurs, decontamination must take place immediately to remove any PCB oil or dielectric fluid from the skin. The decontamination procedure is shown below:

- Immediately wipe off any traces of oil from skin
- Remove clothing as soon as possible
- Wash skin with waterless soap
- Shower with soap and water.

All personnel who have or may have come into direct contact with any PCB oil or dielectric fluid should be placed in a medical surveillance program. This program should include an initial checkup, as soon as possible after exposure, and physical examinations at least annually. In general, employees who work in an area where PCBs are used or who work in cleanup crews should have a preplacement or pre-cleanup physical to establish a medical baseline.

### **Step 4. Sample Collection:**

- Collect representative samples of all affected areas (soil, water, solid surfaces, etc.) and analyze for PCB content. If the spill was caused by fire or high pressure, samples also need to be tested for dioxins and furans.
- Perform standard wipe tests on all affected solid surfaces. Guidance on performing standard wipe tests is provided in Section 11.3.7.
- All sampling must be documented. See Section 11.3.6 for Record keeping information.
- Laboratory services for sampling and testing may be contracted out.

The procedures described above are only the preliminary steps for complete PCB decontamination. For more guidance in follow-up actions, contact the: Southwest Division Naval Facilities Engineering Command, NEESA, or the appropriate regulatory agencies.

#### **11.3.4 PCB Fire-Related Emergency**

When a PCB transformer\* is involved in a fire-related incident\* the PCBs in the dielectric fluid can volatilize and form dioxins and furans, compounds which are approximately 10,000 times more toxic than PCBs.

All such incidents must be immediately reported to the National Response Center (1-800-424-8802). Be prepared to provide the following information:

- The type of PCB transformer (e.g., high or low secondary voltage network or radial transformer);
- The cause of the fire-related incident (e.g., high or low current fault), if known.
- Additional information necessary for proper documentation (outlined in Section 11.3.6).

For PCB fire-related incidents, immediate measures must be taken to contain and control any potential releases of PCBs or dioxins into water bodies. These measures include, but are not limited to:

- Block all floor drains in the vicinity of the transformer
- Contain water run-off
- Control and treat any water used in subsequent cleanup operations.

When responding to PCB emergencies, it is imperative that cleanup crews take special precautions to prevent additional contamination to the environment. If a fire occurs inside a building, do not vent PCB smoke to the outside; doing so will cause widespread contamination.

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\* See Appendix A for definitions.

When using machinery (e.g., cranes, trucks, etc.) for cleanup, do everything possible to avoid contaminating equipment. Otherwise, machinery will have to be decontaminated or disposed of.

### **11.3.5 Spill Reporting Requirements**

The On-Scene Spill Coordinator (OSC) is responsible for notifying the appropriate authorities when a PCB spill occurs. Table 11-1 identifies reporting requirements for different spill situations. PCB spills must be reported in accordance with OPNAVINST 5090.1.

### **11.3.6 Spill Cleanup Documentation**

The following items must be included in PCB spill decontamination records. These records must be maintained for 5 years [40 CFR 761.125(b)(3) and (c)(5)]:

1. Identification of the spill source (e.g., transformer, capacitor, oil switch, etc.).
2. Time and date of occurrence (actual or estimated).
3. Date and time that cleanup is completed.
4. If cleanup is delayed by an emergency or adverse weather, document cause of delay, duration of the delay, and time the delay occurred.
5. Brief description of spill location and nature of materials contaminated.
6. Pre-cleanup sampling data and a brief description of the sampling method.
7. Brief description of the solid surfaces cleaned and the cleaning method used.
8. Approximate depth of soil excavation and the amount of soil removed.
9. A certification statement signed by the responsible party stating that the cleanup standards have been met and that the recorded information is true to the best of his/her knowledge.
10. Post-cleanup verification sampling data.

**TABLE 11-1  
PCB SPILL NOTIFICATION**

PCB SPILL SITUATION	NOTIFY <sup>1</sup>	TIME LIMITS <sup>2</sup>
1. PCB concentration 50 ppm or greater, affecting: - Surface water, sewers - Drinking water supplies - Grazing lands, vegetables gardens (40 CFR 761.125(a)(1)(ii))	SWD EPA	24 hours
2. One pound or more of pure PCBs. (See Appendix C) (40 CFR 302)	SWD NRC	24 hours
3. Ten pounds or more of pure PCBs (See Appendix C) (40 CFR 761.125(c)(1)(i))	SWD EPA NRC	24 hours
4. High concentration spills.* Low concentration spills* involving more than one pound of pure PCBs. (40 CFR 761.125(c)(1)(i))	SWD EPA NRC	24 hours
5. PCB fire-related incident*	SWD EPA NRC	Immediately
6. PCB releases that are of immediate danger to nearby inhabitants or the environment	OES	Immediately
7. PCB spills of any type	DTSC-Region 4 Long Beach	Not given
8. PCB spills that may potentially be released into sources of drinking water	OEHHA	Not given

\* This term is defined in Appendix A.

1. SWD = Southwest Division  
EPA = Environmental Protection Agency (Office of Pesticides and Toxic Substances) (415-744-1087)  
NRC = National Response Center (1-800-424-8802)  
OES = California Office of Emergency Services (1-800-852-7550)  
DTSC = California Department of Toxic Substances Control (310-590-4868)  
OEHHA = California Office of Environmental Health Hazard Assessment (916-445-6900)
2. This is the maximum time allowed for notification of the authorities and initiation of cleanup.

Note: While not required for USEPA compliance, the following information would be useful if maintained in the records:

11. Estimated cost of cleanup by man-hours, dollars, or both.
12. Equipment manufacturer's name and address.
13. Type of fluid spilled (e.g., dielectric, mineral oil, etc.)
14. Quantity of PCBs spilled. (This quantity can be estimated using the procedure contained in Appendix C.)
15. Lab analysis of samples.

### **11.3.7 Sampling Requirements**

For all high-concentration spills and for low-concentration spills which involve more than 1 pound of pure PCB, spill cleanup must be verified using the USEPA sampling requirements shown below [40 CFR 761.130]:

1. The sampling area must be the greater of: (a) the area cleaned plus a one-foot boundary; or (b) an area 20 percent larger than the area of contamination.
2. The sampling scheme must ensure 95 percent confidence against false positives.
3. The number of samples must be sufficient to ensure that areas of contamination of a radius of 2 feet or greater will be detected, except that the minimum number of samples is three and the maximum is forty. The USEPA provides guidance on developing sample grids for large spills (Verification of PCB Spill Cleanup by Sampling and Analysis, USEPA 560/5-85-026, August 1985). Appendix E provides guidance on sampling procedures.
4. The sampling scheme must include calculation for expected variation due to analytical error.

5. Standard Wipe Test conditions: [40 CFR 761.123]
  - a) Use a template (10 cm by 10 cm) to delineate the area of sampling.
  - b) Wiping medium must be gauze pad or glass wool of known size which has been saturated with hexane.
  - c) Perform wipe quickly once the hexane is exposed to air.

The Station may choose to contract their sampling and testing out to a private company to ensure that proper methods are followed. For those that decide to do sampling in-house, USEPA recommends the Midwest Research Institute (MRI) sampling scheme which can be obtained from:

TSCA Assistance Office, USEPA Room E543  
401 M Street, SW  
Washington, D.C. 20460  
(202) 554-1404

### **11.3.8 Cleanup Concentration Levels**

Table 11-2 contains the PCB cleanup levels which are included in 40 CFR 761, Subpart G. USEPA expects these decontamination standards to apply to most spill situations, but they retain the authority to demand more stringent cleanup requirements in certain situations. The USEPA Region IX Administrator can require cleanup to levels lower than those included in Table 11-2 upon finding that further cleanup must occur to prevent unreasonable risk. For this reason, it is important that PCB spill cleanup actions be coordinated with the Southwest Division Naval Facilities Engineering Command and the regional USEPA office, if necessary.

**TABLE 11-2  
PCB SPILL CLEANUP CONCENTRATION LEVELS**

SPILL SITUATION	CONCENTRATION LEVELS
(1) Solid surfaces in electrical substations*.	100 ug per 100 sq. cm.
(2) Restricted access, low-contact*, indoor, non-impervious surfaces.	100 ug per 100 sq. cm., if encapsulated.**
(3) Restricted access, low-contact*, outdoor, surfaces.	100 ug per 100 sq. cm.
(4) Non-restricted access, low-contact*, outdoor, nonimpervious surfaces.	100 ug per 100 sq. cm.
(5) Solid surfaces that are not listed above.	10 ug per 100 sq. cm. if encapsulated.**
(6) Outdoor electrical substation* soil.	25 ppm PCBs or 50 ppm, if a label is visibly displayed.
(7) Restricted access* area soil.	25 ppm PCBs.
(8) Non-restricted access* area soil.	10 ppm PCBs with minimum excavation depth of 10 in.
(9) Surface waters, sewers, grazing lands, vegetable gardens, and drinking water.	Site-by-site requirements will be imposed by the regional authority.

\* Term is defined in Appendix A.

\*\* Permission to encapsulate a low concentration spill must be obtained from your EPA Regional Administrator.

## 12.0 OCCUPATIONAL SAFETY AND HEALTH CONSIDERATIONS

### 12.1 Introduction

The health and safety aspects of PCBs are regulated by the Occupational Safety and Health Administration (OSHA) regulations, 29 CFR 1910 and California OSHA regulations. Under these regulations exposure limits are specified and employers are required to ensure a safe work place and provide the proper protective equipment. This chapter is provided as a general guideline. Contact the industrial hygienist or safety office for specific guidance regarding proper protective equipment before handling any PCBs.

### 12.2 Exposure Limits

NAVOSH permissible exposure limits (PEL) of 1 milligram per cubic meter of air ( $\text{mg}/\text{m}^3$ ) for chlorodiphenyl products containing 42 percent chlorine and  $0.5 \text{ mg}/\text{m}^3$  for chlorodiphenyl products containing 54 percent chlorine determined as 8-hour time-weighted average (TWA) concentrations are based on the 1968 Threshold Limit Values (TLVs) of the American Conference of Governmental Industrial Hygienists (ACGIH). The TLVs have remained unchanged at  $1 \text{ mg}/\text{m}^3$  (42 percent) and  $0.5 \text{ mg}/\text{m}^3$  (54 percent) through 1993. These are the California permissible exposure limits as well. The IDLH for these two products is  $10 \text{ mg}/\text{m}^3$  and  $5 \text{ mg}/\text{m}^3$ , respectively (NIOSH Pocket Guide to Chemical Hazards). The OSHA PEL and the ACGIH TLV and STEL values include a "Skin" notation which refers to the potential contribution to overall exposure by the cutaneous route, including the mucous membranes and eyes, by either airborne or direct skin contact with PCBs.

The National Institute for Occupational Safety and Health (NIOSH) recommends that exposure to PCBs in the workplace be limited at or below the minimum reliable detectable concentration of 1 microgram per cubic meter ( $1 \text{ ug}/\text{m}^3$ ) determined as a TWA for up to a 10-hour workday, 40-hour workweek (NIOSH Pocket Guide to Chemical Hazards). The NIOSH recommended exposure limit (REL) was based on: findings of adverse reproductive effects in experimental animals; the conclusion that PCBs are carcinogens in rats and mice and, therefore, potential human carcinogens in the workplace; and on the conclusion that human and animal studies have not demonstrated a level of exposure to PCBs that will not subject the worker to possible liver injury.

In addition to the exposure limits for PCBs, the PCB Coordinator and industrial hygienist should consider the exposure limits associated with: any solvents used to service the PCB equipment; any solvents used to clean up a leak/spill; and with the chlorobenzenes and benzenes used in Askarel dielectric fluid. Airborne concentrations of solvents are likely to be higher than PCBs due to their high volatility. Therefore, the hazards associated with the solvents may be more significant than the hazards associated with the PCBs and may have more stringent personnel protection requirements.

### **12.3 Safety Plan Development**

A complete PCB safety and health plan must be developed and should include: site monitoring plan, recommended engineering controls (ventilation, standard operating procedures), list of appropriate protective clothing and equipment, personnel medical monitoring program, and proper sanitation procedures (decontamination, showering, eating, etc.). This plan should be developed by the Station safety officer and industrial hygienist. The following general recommendations are provided as guidelines only. Contact the safety office and the industrial hygienist for specific recommendations.

### **12.4 Personal Protective Equipment and Clothing**

The American Conference of Governmental Industrial Hygienists, Inc. (ACGIH) has evaluated the various materials used for personal protective equipment (PPE) with respect to various chemicals. PPE must be selected for the hazards present. Equipment is to be resistant to solvents used and other physical hazards as well as PCBs. Protective clothing should always be worn if exposure is possible, to avoid overexposure and any long term health effects not currently known. Protective equipment and clothing use must be evaluated for each set of circumstances. Eye protection and gloves will always be necessary. Coveralls (or aprons) and boots will be required when it is likely that other parts of the skin will contact the PCBs or PCB-contaminated material. Since no material is totally impervious, the industrial hygienist should be consulted for guidance on how long any given material can be expected to provide adequate protection. Viton elastomer material provides the best all around protection for PCBs. Clothing contaminated with PCBs must be stored in plastic bags and disposed of in appropriate containers.

## 12.5 Respiratory Protection

To prevent inhalation of PCBs, each work situation (normal and emergency) must be evaluated to determine if the concentration of PCBs in the air may exceed the exposure limits. In normal situations, the PCBs in dielectric fluid will not vaporize in sufficient quantities to exceed the limits (including servicing and some spills or leaks) which would require respiratory protection. To calculate the maximum concentration of PCBs that could be liberated into the atmosphere, the following equation applies:

$$C = \frac{P_v \times 10^6}{P_b}$$

C = Saturation concentration in ppm

P<sub>v</sub> = Vapor pressure in liquid at the temperature of the liquid being evaporated

P<sub>b</sub> = Barometer pressure

When large spills occur in confined spaces with poor ventilation or when liquid PCBs are warm the use of an air purifying respirator may be needed. In emergency situations, such as fires involving PCB equipment, self contained breathing respiratory protection may be indicated.

## 12.6 Protective Gear for Fire Response Personnel

Recent information on fire-related incidents involving PCB equipment shows that the resulting smoke and soot contains not only PCBs but also polychlorinated dibenzofurans (Furans-PCDF) and polychlorinated dibenzo-p-dioxins (Dioxins-PCDD). The National Institute for Occupational Safety and Health (NIOSH) recommends the following protective gear for emergency response personnel:

1. Outer protective garments should consist of a zippered coverall with attached hood and draw string, elastic cuffs, gloves, and closure boots. If exposure to soot is anticipated, workers should wear outer coveralls made of a nonwoven fabric such as spunbound Tyvek to exclude particulates. If exposure to liquids and/or soot is anticipated, or if the form of the contaminants is unknown, the outer coveralls should be made of chemically resistant materials such as Saranex-coated Tyvek or Viton-coated neoprene.

2. Gloves and boots should be made of neoprene, nitrile, butyl rubber, or Viton which have been shown to be resistant to permeation by PCBs.
3. For personal comfort, workers may wear inner garments consisting of cotton coveralls, undershirts, undershorts, gloves, and socks.
4. Inner garments should be disposed of after use because small amounts of contaminants may be transferred in removing outer garments.
5. Where a risk of exposure to airborne contaminants exists, such as when visible quantities of soot are to be removed, workers should wear a self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive pressure mode. Alternatively, a combination supplied air respirator, with full facepiece, operated in pressure-demand or other positive pressure mode and equipped with auxiliary positive pressure self-contained air supply can be used. When cleanup operations have advanced to a point where airborne PCBs or other contaminants can no longer be detected, air-purifying full facepiece respirators may no longer be necessary. However, always check with the Industrial Hygienist or safety office before going to less protection.

### 13.0 REFERENCES

1. Code of Federal Regulations, Environmental Protection Agency, Toxic Substance Control Act, 40 CFR 761.
2. California Code of Regulations, California Environmental Protection Agency, Title 22.
3. California Department of Toxic Substance Control, PCB Handling, Treatment and Disposal Fact Sheet, July 1992.
4. Naval Energy and Environmental Support Activity, PCB Program Management Guide, NEESA 20.2-028C, October 1989.
5. U.S. Marine Corps. Environmental Compliance and Protection Manual, Chapter 16.
6. Kennedy/Jenks Consultants, Final Report - Survey of PCB Items/Equipment at Marine Air Station - El Toro, November 20, 1992.
7. Science Applications International Corporation, Final Report - PCB Sampling of Electrical Equipment at MCAS El Toro, October 18, 1992.
8. U.S. Department of Human and Health Services, NIOSH Pocket Guide to Chemical Hazards, June 1990.

**APPENDIX A**

**PCB MANAGEMENT PLAN DEFINITIONS**

## APPENDIX A: PCB MANAGEMENT PLAN DEFINITIONS

As in all areas of expertise, PCB management has terminology which must be clearly defined so that participants can communicate effectively. The following definitions are based on the TSCA PCB regulations along with the interpretation of application to naval activities provided by the Chief of Naval Operations. These definitions are taken directly from, PCB Program Management Guide, Naval Energy and Environmental Support Activity, October 1989.

1. "Access, Nonrestricted" is any area other than outdoor electrical substations and other "Restricted Access" locations. Examples include base housing, commissaries, recreational facilities, and medical facilities.
2. "Access, Restricted" means that the area is fenced or walled-in to restrict public access. Areas located inside a base perimeter fence do not meet the definition of "Restricted Access" because of the perimeter fence alone. For indoor installations, "Restricted Access" means that the public doesn't have access and the roof, walls, and floors are adequate to contain any release of PCBs within the indoor location.
3. "Accountability" refers to the financial responsibility for the disposal of hazardous waste (HW) and hazardous materials (HM). An activity may be accountable for a HW (or HM) or may turn over accountability to DRMO. DRMO accepts the accountability when it receives a completed DD Form 1348-1 from the activity for the hazardous items. Accountability does not affect legal liability and is separate from the custody of the HW and HM (see definition of "Custody").
4. "Capacitor" means 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. "Small Capacitor" means a capacitor which contains less than 1.36 kg (3 lbs.) of dielectric fluid. The following assumptions may be used if the actual weight of the dielectric fluid is unknown. A capacitor whose total volume is less than 1,639 cubic centimeters (100 cubic inches) may be considered to contain less than 1.36 kg (3 lbs.) of dielectric fluid and a capacitor whose total volume is more than 3,278 cubic centimeters (200 cubic inches) must be considered to contain more than 1.36 kg (3 lbs.) of dielectric fluid. A capacitor whose volume is between 1,639 and 3,278 cubic centimeters may be

considered to contain less than 1.36 kg (3 lbs.) of dielectric fluid if the total weight of the capacitor is less than 4.08 kg. (9 lbs.).

- b. "Large High Voltage Capacitor" means a capacitor which contains 1.36 kg (3 lbs.) or more of dielectric fluid and which operates at 2000 volts (a.c. or d.c.) or above.
  - c. "Large Low Voltage Capacitor" means a capacitor which contains 1.36 kg (3 lbs.) or more of dielectric fluid and which operates below 2000 volts (a.c. or d.c.).
5. "CERCLA" stands for Comprehensive Environmental Response, Compensation and Liability Act.
  6. "Chemical Waste Landfill" means a landfill at which protection against risk of injury to health or the environment from the discharge of PCBs to land, water, or air is provided from PCBs and PCB items deposited therein by locating, engineering, and operating the landfill as specified in 40 CFR Part 761.75.
  7. "CFR" stands for Code of Federal Regulations.
  8. "Commercial building" means a non-industrial, non-substation building. Commercial buildings are typically accessible to both members of the general public and employees, and include: office buildings, hospitals, schools, and warehouses. They do not include substations or antenna buildings. CNO has defined commercial buildings to include: (1) civilian or Navy personnel assembly building, (2) educational properties, (3) institutional properties (such as museums, hospitals, clinics), (4) residential properties (living quarters), (5) stores, (6) office buildings (including administration buildings) and (7) transportation centers (including airport terminal buildings, subway stations, bus stations or train stations).
  9. "Custody" refers to the physical location of the PCB item. If the item is stored in an activity storage area, the activity has custody of the item (even if DRMO has accountability of the item). If the item is stored at a DRMO storage facility, DRMO has custody of the item.
  10. "Discharge" includes, but is not limited to, any spilling, leaking, seeping, pouring, emitting, emptying, or dumping of PCBs which occurs and which affects lands and/or surface and groundwaters.
  11. "DOT" stands for Department of Transportation.

12. "Double Wash/Rinse" clean solid surfaces at least two times with an appropriate solvent. Take precautions to contain any runoff and to dispose properly of wastes generated during cleaning.
13. "DRMO" stand for Defense Reutilization and Marketing Office.
14. "Electrical Substation" is an outdoor, fenced-off and restricted access area used in the transmission and/or distribution of electrical power.
15. "Emergency Situation" for continuing use of a PCB transformer exists when neither a non-PCB nor PCB-contaminated transformer is currently in storage for reuse or is readily available for installation within 24 hours and immediate replacement of a failed transformer is necessary to continue electrical service.
16. "Enhanced Electrical Protective System" means a system to avoid transformer failures caused by sustained low current faults. Examples are: pressure sensors, temperature sensors, disconnect equipment.
17. "EPA" stands for Environmental Protection Agency.
18. "Fire-related Incident" is any incident which involves the generation of sufficient heat and/or pressure to result in the rupture of a PCB transformer and the release of PCBs.
19. "Hazardous Waste (HW)" refers to wastes listed as hazardous by EPA, or authorized state or local agencies, or which meet characteristics specified by EPA. A simplification of the federal EPA definition is as follows:
  - A waste which is listed as hazardous in the Resource Conservation Recovery Act (RCRA) regulations (40 CFR 261)
  - A mixture that includes a listed hazardous waste.
  - A waste which exhibits any of the following four characteristics: ignitability, corrosivity, reactivity, or EP toxicity (listed in the RCRA regulations 40 CFR 261.21-24)
20. "High Concentration" for items that are tested and found to contain 500 ppm or greater PCBs.

21. "High-Contact Area" is a surface which is repeatedly touched often for long periods of time. Generally, these are areas below six feet in height, e.g. manned machinery, control panels, doors, floors, windows, sidewalks.
22. "Impervious solid Surface" is a surface which is nonporous and unlikely to absorb spilled PCBs, e.g. metal, glass, aluminum siding, enameled surfaces.
23. "In or Near Commercial Buildings" means being within the interior, on the roof, attached to the exterior wall, in the parking area serving, or within 30 meters of a non-industrial, non-substation building. (also see definition of "Commercial Building").
24. "Incinerator" means an engineered device using controlled flame combustion to thermally degrade PCBs and PCB items. Examples of devices used for incineration include rotary kilns, liquid injection incinerators, cement kilns, and high temperature boilers.
25. "Industrial Building" means a building directly used in manufacturing or other technically productive enterprises. Industrial buildings are not generally or typically accessible to other than workers. Industrial buildings include substations and antenna buildings. (Also see definition of "Commercial Building").
26. "KVA" stands for kilovolt ampere, which is a measurement of the power capacity of a transformer.
27. "Leak" or "Leaking" means any instance in which a PCB container, or PCB equipment has any PCBs on any portion of its external surface.
28. "Low Concentration" for items that are tested and found to contain less than 500 ppm PCBs or are assumed to be so, e.g. untested mineral oil dielectric fluid.
29. "Low-Contact Area" is a surface which is infrequently touched. Generally, these are areas above six feet in height, e.g. ceilings, utility poles, vaults, pipes, roadways, or concrete pads under machinery.
30. "Mark" refers to a specific label required by 40 CFR 761.45 which states that the item contains PCBs. The label includes the descriptive name, instructions, cautions, or other information applied to PCBs and PCB items, or other objects subject to these rules. [Note: mark is a synonym for label in this Plan]

31. "Marked" refers to the marking of PCB items, PCB storage areas and transport vehicles by means of any method that states the item contains PCBs which meets the requirements of 40 CFR 761, Subpart C.
32. "Moderate Leak" means any leak which results in any quantity of PCBs running off or about to run off the external surface of the PCB item.
33. "Network PCB Transformer" refers to any PCB transformer (greater than or equal to 500 ppm PCB) which is part of a network system versus part of a radial system (see "Radial PCB Transformer"). A network system consists of several transformers which are electrically interconnected in a specific configuration often used in vaults and buildings. Network transformers can be energized from either the primary or secondary winding. The secondary winding is the winding from which energy flows during normal operation. The primary winding can be energized from the secondary winding under abnormal conditions due to transformer interconnections. Determination of configuration can be made by a electrician using wiring diagrams.
34. "Non-Impervious Surface" is a porous surface, e.g. wood, concrete, asphalt, or plasterboard.
35. "Non-PCB Transformer" means any transformer containing less than 50 ppm PCBs as determined by manufacturer certification or laboratory analysis. [Note: In the State of California it is less than 5 ppm]
36. "OSHA" stands for Occupational Safety and Health Act.
37. "PCB" and "PCBs" means a chemical compound composed of or containing any of the various chlorinated biphenyl molecules. EPA defines PCBs as any chemical compound or combinations of compounds that contain 500 ppm (on a dry weight basis) or greater of PCBs, including any by-product, intermediate, or impurity manufactured at any point in a process. Any materials that contained 50 ppm or greater PCBs, but now contains less than 50 ppm because of dilution shall be included as PCBs unless otherwise stated. Substances are regulated by this rule include, but are not limited to, dielectric fluids, contaminated solvents, oils, waste oils, heat transfer fluids, hydraulic fluids, paints, sludges, slurries, dredge spoils, soils, materials contaminated as a result of spills, and other chemical substances including impurities and by-products.

soils, materials contaminated as a result of spills, and other chemical substances including impurities and by-products.

38. "PCB Article" means any manufactured article, other than a PCB container, that contains PCBs and whose surface(s) has been in direct contact with PCBs. "PCB Article" includes capacitors, transformers, electric motors, pumps, pipes and any other manufactured item (1) which is formed to a specific shape or design during manufacture, (2) which has end use function(s) dependent in whole or in part upon its shape or design during end use, and (3) which has either no change of chemical composition during its end use or only those changes of composition which have no commercial purpose separate from that of the PCB article.
39. "PCB Cleanup Solvents" is any liquid that has less than 50 ppm PCBs [5 ppm for State of California] and in which the solubility of PCBs is at least 5% (e.g. kerosene, xylene, toluene, trichloroethane, trichlorobenzene, Power Cleaner 155 [Penetone]). The solvent used to decontaminate a surface must be compatible with the surface and with any sealant applied to the surface. Consult with your safety office of EFD about the necessary protective equipment required for a given solvent.
40. "PCB Container" means any package, can, bottle, bag, barrel, drum, tank, or other device that contains PCBs or PCB Articles and whose surface(s) has been in direct contact with PCBs.
41. "PCB - Contaminated Equipment" means any electrical equipment (including but not limited to transformers, capacitors, circuit breakers, reclosers, voltage regulators, switches [including sectionalizers and motor starters], electromagnets, and cable, hydraulic equipment or other items, that contain 50 ppm [5 ppm for State of California] or greater PCB, but less than 500 ppm PCB. Oil-filled\*\* equipment other than circuit breakers, reclosures, cable, and hydraulic equipment whose PCB concentration is unknown, are assumed to be PCB-Contaminated Equipment until proven otherwise.
42. "PCB Equipment" means any manufactured item, other than a PCB container which contains a PCB article or other PCB equipment. This includes microwave ovens, electronic equipment, and fluorescent light ballasts and fixtures.

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\*\* "Oil-filled" refers to mineral oil.

43. "PCB Item" means any PCB article, PCB container, or PCB equipment that contains or has as any part of it any PCB or PCBs.
44. "PCB Transformer" means any transformer that contains 500 ppm PCB or greater.
45. "Posing an exposure risk to food or feed product" means any potential exposure of food or feed products to PCBs if any or all dielectric fluid is discharged from a PCB item.
46. "ppm" stands for concentration in parts per million expressed as milligrams per kilogram (mg/kg).
47. "Radial PCB Transformer" means a transformer (usually a single) in a system with the distribution lines projecting from the one major transformer. A radial transformer can be energized only from the primary winding. This determination can be made by an electrician using the wiring diagrams.
48. "Secondary Voltage" refers to the voltage exiting the transformer.  
"Higher Secondary Voltage" means that the secondary voltage is equal to or greater than 480 volts including 480/277 volt systems.  
"Lower Secondary Voltage" means that the secondary voltage is below 480 volts including 280/120 volt systems.
49. "Servicing" means conducting normal maintenance on a functional PCB unit or repairing and cleaning the PCB unit to eliminate the source of a leak.
50. "SPCC" Plan stands for Spill Prevention Control and Countermeasures Plan
51. "Stored for Disposal" refers to items in storage awaiting disposal. No further use is anticipated.
52. "Stored for Reuse" refers to items stored (off-line) for future use.
53. "Totally enclosed manner" means any manner that will ensure zero exposure of any concentration of PCBs to human beings or the environment.

**APPENDIX B**

**CODE OF FEDERAL REGULATIONS  
ENVIRONMENTAL PROTECTION AGENCY  
TOXIC SUBSTANCES CONTROL ACT  
40 CFR 761**

**PART 761—POLYCHLORINATED BI-  
PHENYLS (PCBs) MANUFACTUR-  
ING, PROCESSING, DISTRIBUTION  
IN COMMERCE, AND USE PROHIBI-  
TIONS**

**Subpart A—General**

Sec.

**761.1** Applicability.

**761.3** Definitions.

**761.19** References.

## Sec.

**Subpart B—Manufacturing, Processing, Distribution in Commerce, and Use of PCBs and PCB Items**

- 761.20 Prohibitions.  
761.30 Authorizations.

**Subpart C—Marking of PCBs and PCB Items**

- 761.40 Marking requirements.  
761.45 Marking formats.

**Subpart D—Storage and Disposal**

- 761.60 Disposal requirements.  
761.65 Storage for disposal.  
761.70 Incineration.  
761.75 Chemical waste landfills.  
761.79 Decontamination.

**Subpart E—Exemptions**

- 761.80 Manufacturing, processing, and distribution in commerce exemptions.

**Subpart F—[Reserved]****Subpart G—PCB Spill Cleanup Policy**

- 761.120 Scope.  
761.123 Definitions.  
761.125 Requirements for PCB spill clean-up.  
761.130 Sampling requirements.  
761.135 Effect of compliance with this policy and enforcement.

**Subparts H—I [Reserved]****Subpart J—General Records and Reports**

- 761.180 Records and monitoring.  
761.185 Certification program and retention or records by importers and persons generating PCBs in excluded manufacturing processes.  
761.187 Reporting importers and by persons generating PCBs in excluded manufacturing processes.  
761.193 Maintenance of monitoring records by persons who import, manufacture, process, distribute in commerce, or use chemicals containing inadvertently generated PCBs.

**Subpart K—PCB Waste Disposal Records and Reports**

- 761.202 EPA identification numbers.  
761.205 Notification of PCB waste activity (EPA Form 7710-53).  
761.207 The manifest—general requirements.  
761.208 Use of the manifest.  
761.209 Retention of manifest records.  
761.210 Manifest discrepancies.

## Sec.

- 761.211 Unmanifested waste report.  
761.215 Exception reporting.  
761.218 Certificate of Disposal.

AUTHORITY: 15 U.S.C. 2605, 2607, 2611, 2614, and 2616.

**Subpart A—General****§ 761.1 Applicability.**

(a) This part establishes prohibitions of, and requirements for, the manufacture, processing, distribution in commerce, use, disposal, storage, and marking of PCBs and PCB Items.

(b) This part applies to all persons who manufacture, process, distribute in commerce, use, or dispose of PCBs or PCB Items. Substances that are regulated by this rule include, but are not limited to, dielectric fluids, contaminated solvents, oils, waste oils, heat transfer fluids, hydraulic fluids, paints, sludges, slurries, dredge spoils, soils, materials contaminated as a result of spills, and other chemical substances or combination of substances, including impurities and by-products and any byproduct, intermediate or impurity manufactured at any point in a process. Most of the provisions of this part apply to PCBs only if PCBs are present in concentrations above a specified level. For example, subpart D applies generally to materials at concentrations of 50 parts per million (ppm) and above. Also certain provisions of subpart B apply to PCBs inadvertently generated in manufacturing processes at concentrations specified in the definition of "PCB" under § 761.3. No provision specifying a PCB concentration may be avoided as a result of any dilution, unless otherwise specifically provided.

(c) Definitions of the terms used in these regulations are in subpart A. The basic requirements applicable to disposal and marking of PCBs and PCB Items are set forth in subpart D—Disposal of PCBs and PCB Items and in subpart C—Marking of PCBs and PCB Items. Prohibitions applicable to PCB activities are set forth in subpart B—Manufacture, Processing, Distribution in Commerce, and Use of PCBs and PCB Items. Subpart B also includes authorizations from the pro-

hibitions. Subparts C and D set forth the specific requirements for disposal and marking of PCBs and PCB Items.

(d) Section 15 of the Toxic Substances Control Act (TSCA) states that failure to comply with these regulations is unlawful. Section 16 imposes liability for civil penalties upon any person who violates these regulations, and the Administrator can establish appropriate remedies for any violations subject to any limitations included in section 16 of TSCA. Section 16 also subjects a person to criminal prosecution for a violation which is knowing or willful. In addition, section 17 authorizes Federal district courts to enjoin activities prohibited by these regulations, compel the taking of actions required by these regulations, and issue orders to seize PCBs and PCB Items manufactured, processed or distributed in violation of these regulations.

(e) These regulations do not preempt other more stringent Federal statutes and regulations.

(f) Unless and until superseded by any new more stringent regulations issued under EPA authorities, or any permits or any pretreatment requirements issued by EPA, a state or local government that affect release of PCBs to any particular medium:

(1) Persons who inadvertently manufacture or import PCBs generated as unintentional impurities in excluded manufacturing processes, as defined in § 761.3, are exempt from the requirements of subpart B of this part, provided that such persons comply with subpart J of this part, as applicable.

(2) Persons who process, distribute in commerce, or use products containing PCBs generated in excluded manufacturing processes defined in § 761.3 are exempt from the requirements of subpart B provided that such persons comply with subpart J of this part, as applicable.

(3) Persons who process, distribute in commerce, or use products containing recycled PCBs defined in § 761.3, are exempt from the requirements of subpart B of this part, provided that such persons comply with subpart J of this part, as applicable.

(4) Except as provided in § 761.20 (d) and (e), persons who process, distrib-

ute in commerce, or use products containing excluded PCB products as defined in § 761.3, are exempt from the requirements of subpart B of this part.

(Sec. 6, Pub. L. 94-469, 90 Stat. 2020 (15 U.S.C. 2605))

[44 FR 31542, May 31, 1979, as amended at 49 FR 28189, July 10, 1984; 53 FR 24220, June 27, 1988]

**§ 761.3 Definitions.**

For the purpose of this part:

*Administrator* means the Administrator of the Environmental Protection Agency, or any employee of the Agency to whom the Administrator may either herein or by order delegate his authority to carry out his functions, or any person who shall by operation of law be authorized to carry out such functions.

*Agency* means the United States Environmental Protection Agency.

*Annual document log* means the detailed information maintained at the facility on the PCB waste handling at the facility.

*Annual report* means the written document submitted each year by each disposer and commercial storer of PCB waste to the appropriate EPA Regional Administrator. The annual report is a brief summary of the information included in the annual document log.

*Byproduct* means a chemical substance produced without separate commercial intent during the manufacturing or processing of another chemical substance(s) or mixture(s).

*Capacitor* means 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:

(1) *Small capacitor* means a capacitor which contains less than 1.36 kg (3 lbs.) of dielectric fluid. The following assumptions may be used if the actual weight of the dielectric fluid is unknown. A capacitor whose total volume is less than 1.639 cubic centimeters (100 cubic inches) may be considered to contain less than 1.36 kgs (3 lbs.) of dielectric fluid and a capacitor whose total volume is more than 3.278 cubic centimeters (200 cubic inches) must be considered to contain more

than 1.36 kg (3 lbs.) of dielectric fluid. A capacitor whose volume is between 1,639 and 3,278 cubic centimeters may be considered to contain less than 1.36 kg (3 lbs.) of dielectric fluid if the total weight of the capacitor is less than 4.08 kg (9 lbs.).

(2) *Large high voltage capacitor* means a capacitor which contains 1.36 kg (3 lbs.) or more of dielectric fluid and which operates at 2,000 volts (a.c. or d.c.) or above.

(3) *Large low voltage capacitor* means a capacitor which contains 1.36 kg (3 lbs.) or more of dielectric fluid and which operates below 2,000 volts (a.c. or d.c.).

*Certification* means a written statement regarding a specific fact or representation that contains the following language:

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

*Chemical substance*, (1) except as provided in paragraph (2) of this definition, means any organic or inorganic substance of a particular molecular identity, including: Any combination of such substances occurring in whole or part as a result of a chemical reaction or occurring in nature, and any element or uncombined radical.

(2) Such term does not include: Any mixture; any pesticide (as defined in the Federal Insecticide, Fungicide, and Rodenticide Act) when manufactured, processed, or distributed in commerce for use as a pesticide; tobacco or any tobacco product; any source material, special nuclear material, or byproduct material (as such terms are defined in the Atomic Energy Act of 1954 and regulations issued under such Act); any article the sale of which is subject to the tax imposed by section 4181 of the Internal Revenue Code of 1954 (determined without regard to any exemptions from such tax provided by

section 4182 or section 4221 or any provisions of such Code); and any food, food additive, drug, cosmetic, or device (as such terms are defined in section 201 of the Federal Food, Drug, and Cosmetic Act) when manufactured, processed, or distributed in commerce for use as a food, food additive, drug, cosmetic, or device.

*Chemical waste landfill* means a landfill at which protection against risk of injury to health or the environment from migration of PCBs to land, water, or the atmosphere is provided from PCBs and PCB Items deposited therein by locating, engineering, and operating the landfill as specified in § 761.75.

*Commerce* means trade, traffic, transportation, or other commerce:

(1) Between a place in a State and any place outside of such State, or

(2) Which affects trade, traffic, transportation, or commerce described in paragraph (1) of this definition.

*Commercial storer of PCB waste* means the owner or operator of each facility which is subject to the PCB storage facility standards of § 761.65, and who engages in storage activities involving PCB waste generated by others, or PCB waste that was removed while servicing the equipment owned by others and brokered for disposal. The receipt of a fee or any other form of compensation for storage services is not necessary to qualify as a commercial storer of PCB waste. It is sufficient under this definition that the facility stores PCB waste generated by others or the facility removed the PCB waste while servicing equipment owned by others. A generator who stores only the generator's own waste is subject to the storage requirements of § 761.65, but is not required to seek approval as a commercial storer. If a facility's storage of PCB waste at no time exceeds 500 liquid gallons of PCBs, the owner or operator is not required to seek approval as a commercial storer of PCB waste.

*Designated facility* means the off-site disposer or commercial storer of PCB waste designated on the manifest as the facility that will receive a manifested shipment of PCB waste.

*Disposal* means intentionally or accidentally to discard, throw away, or otherwise complete or terminate the useful life of PCBs and PCB Items. Disposal includes spills, leaks, and other uncontrolled discharges of PCBs as well as actions related to containing, transporting, destroying, degrading, decontaminating, or confining PCBs and PCB Items.

*Disposer of PCB waste*, as the term is used in subparts J and K of this part, means any person who owns or operates a facility approved by EPA for the disposal of PCB waste which is regulated for disposal under the requirements of subpart D of this part.

*Distribute in commerce and Distribution in Commerce* when used to describe an action taken with respect to a chemical substance, mixture, or article containing a substance or mixture means to sell, or the sale of, the substance, mixture, or article in commerce; to introduce or deliver for introduction into commerce, or the introduction or delivery for introduction into commerce of the substance, mixture, or article; or to hold or the holding of, the substance, mixture, or article after its introduction into commerce.

*Emergency Situation* for continuing use of a PCB Transformer exists when:

(1) Neither a non-PCB Transformer nor a PCB-Contaminated transformer is currently in storage for reuse or readily available (i.e., available within 24 hours) for installation.

(2) Immediate replacement is necessary to continue service to power users.

*EPA identification number* means the 12-digit number assigned to a facility by EPA upon notification of PCB waste activity under § 761.205.

*Excluded manufacturing process* means a manufacturing process in which quantities of PCBs, as determined in accordance with the definition of inadvertently generated PCBs, calculated as defined, and from which releases to products, air, and water meet the requirements of paragraphs (1) through (5) of this definition, or the importation of products containing PCBs as unintentional impurities, which products meet the requirements

of paragraphs (1) and (2) of this definition.

(1) The concentration of inadvertently generated PCBs in products leaving any manufacturing site or imported into the United States must have an annual average of less than 25 ppm, with a 50 ppm maximum.

(2) The concentration of inadvertently generated PCBs in the components of detergent bars leaving the manufacturing site or imported into the United States must be less than 5 ppm.

(3) The release of inadvertently generated PCBs at the point at which emissions are vented to ambient air must be less than 10 ppm.

(4) The amount of inadvertently generated PCBs added to water discharged from a manufacturing site must be less than 100 micrograms per resolvable gas chromatographic peak per liter of water discharged.

(5) Disposal of any other process wastes above concentrations of 50 ppm PCB must be in accordance with subpart D of this part.

*Excluded PCB products* means PCB materials which appear at concentrations less than 50 ppm, including but not limited to:

(1) Non-Aroclor inadvertently generated PCBs as a byproduct or impurity resulting from a chemical manufacturing process.

(2) Products contaminated with Aroclor or other PCB materials from historic PCB uses (investment casting waxes are one example).

(3) Recycled fluids and/or equipment contaminated during use involving the products described in paragraphs (1) and (2) of this definition (heat transfer and hydraulic fluids and equipment and other electrical equipment components and fluids are examples).

(4) Used oils, provided that in the cases of paragraphs (1) through (4) of this definition:

(i) The products or source of the products containing < 50 ppm concentration PCBs were legally manufactured, processed, distributed in commerce, or used before October 1, 1984.

(ii) The products or source of the products containing < 50 ppm concentrations PCBs were legally manufac-

tured, processed, distributed in commerce, or used, i.e., pursuant to authority granted by EPA regulation, by exemption petition, by settlement agreement, or pursuant to other Agency-approved programs;

(iii) The resulting PCB concentration (i.e. below 50 ppm) is not a result of dilution, or leaks and spills of PCBs in concentrations over 50 ppm.

**Fluorescent light ballast** means a device that electrically controls fluorescent light fixtures and that includes a capacitor containing 0.1 kg or less of dielectric.

**Generator of PCB waste** means any person whose act or process produces PCBs that are regulated for disposal under subpart D of this part, or whose act first causes PCBs or PCB Items to become subject to the disposal requirements of subpart D of this part, or who has physical control over the PCBs when a decision is made that the use of the PCBs has been terminated and therefore is subject to the disposal requirements of subpart D of this part. Unless another provision of this part specifically requires a site-specific meaning, "generator of PCB waste" includes all of the sites of PCB waste generation owned or operated by the person who generates PCB waste.

**Impurity** means a chemical substance which is unintentionally present with another chemical substance.

**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).

**Incinerator** means an engineered device using controlled flame combustion to thermally degrade PCBs and PCB Items. Examples of devices used for incineration include rotary kilns,

liquid injection incinerators, cement kilns, and high temperature boilers.

**Industrial building** 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.

**Laboratory** means a facility that analyzes samples for PCBs and is unaffiliated with any entity whose activities involve PCBs.

**Leak or leaking** means any instance in which a PCB Article, PCB Container, or PCB Equipment has any PCBs on any portion of its external surface.

**Manifest** means the shipping document EPA form 8700-22 and any continuation sheet attached to EPA form 8700-22, originated and signed by the generator of PCB waste in accordance with the instructions included with the form and subpart K of this part.

**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.

**Manufacture** means to produce, manufacture, or import into the customs territory of the United States.

**Manufacturing process** means all of a series of unit operations operating at a site, resulting in the production of a product.

**Mark** means the descriptive name, instructions, cautions, or other information applied to PCBs and PCB Items, or other objects subject to these regulations.

**Marked** means the marking of PCB Items and PCB storage areas and transport vehicles by means of apply-

ing a legible mark by painting, fixation of an adhesive label, or by any other method that meets the requirements of these regulations.

**Market/Marketers** means the processing or distributing in commerce, or the person who processes or distributes in commerce, used oil fuels to burners or other marketers, and may include the generator of the fuel if it markets the fuel directly to the burner.

**Mineral Oil PCB Transformer** means any transformer originally designed to contain mineral oil as the dielectric fluid and which has been tested and found to contain 500 ppm or greater PCBs.

**Mixture** means any combination of two or more chemical substances if the combination does not occur in nature and is not, in whole or in part, the result of a chemical reaction; except that such term does include any combination which occurs, in whole or in part, as a result of a chemical reaction if none of the chemical substances comprising the combination is a new chemical substance and if the combination could have been manufactured for commercial purposes without a chemical reaction at the time the chemical substances comprising the combination were combined.

**Municipal solid wastes** means garbage, refuse, sludges, wastes, and other discarded materials resulting from residential and non-industrial operations and activities, such as household activities, office functions, and commercial housekeeping wastes.

**Non-PCB Transformer** means 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, in accordance with the requirements of § 761.30(a)(2)(v).

**On site** means within the boundaries of a contiguous property unit.

**PCB and PCBs** means any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances which contains such substance. Refer to § 761.1(b) for

applicable concentrations of PCBs. PCB and PCBs as contained in PCB Items are defined in § 761.3. For any purposes under this part, inadvertently generated non-Aroclor PCBs are defined as the total PCBs calculated following division of the quantity of monochlorinated biphenyls by 50 and dichlorinated biphenyls by 5.

**PCB Article** means any manufactured article, other than a PCB Container, that contains PCBs and whose surface(s) has been in direct contact with PCBs. "PCB Article" includes capacitors, transformers, electric motors, pumps, pipes and any other manufactured item (1) which is formed to a specific shape or design during manufacture, (2) which has end use function(s) dependent in whole or in part upon its shape or design during end use, and (3) which has either no change of chemical composition during its end use or only those changes of composition which have no commercial purpose separate from that of the PCB Article.

**PCB Article Container** means 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 PCBs.

**PCB Container** means any package, can, bottle, bag, barrel, drum, tank, or other device that contains PCBs or PCB Articles and whose surface(s) has been in direct contact with PCBs.

**PCB-Contaminated Electrical Equipment** means any electrical equipment, including but not limited to transformers (including those used in railway locomotives and self-propelled cars), capacitors, circuit breakers, reclosers, voltage regulators, switches (including sectionalizers and motor starters), electromagnets, and cable, that contain 50 ppm or greater PCB, but less than 500 ppm PCB. Oil-filled electrical equipment other than circuit breakers, reclosers, and cable whose PCB concentration is unknown must be assumed to be PCB-Contaminated Electrical Equipment. (See § 761.30(a) and (h) for provisions permitting reclassification of electrical equipment containing 500 ppm or greater PCBs to PCB-Contaminated Electrical Equipment).

**PCB Equipment** means any manufactured item, other than a PCB Container or a PCB Article Container, which contains a PCB Article or other PCB Equipment, and includes microwave ovens, electronic equipment, and fluorescent light ballasts and fixtures.

**PCB Item** is defined as any PCB Article, PCB Article Container, PCB Container, or PCB Equipment, that deliberately or unintentionally contains or has a part of it any PCB or PCBs.

**PCB Transformer** means any transformer that contains 500 ppm PCB or greater.

**PCB waste(s)** means those PCBs and PCB Items that are subject to the disposal requirements of subpart D of this part.

**Person** means any natural or judicial person including any individual, corporation, partnership, or association; any State or political subdivision thereof; any interstate body; and any department, agency, or instrumentality of the Federal Government.

**Posing an exposure risk to food or feed** means being in any location where human food or animal feed products 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. EPA considers human food or animal feed to include items regulated by the U.S. Department of Agriculture or the Food and Drug Administration as human food or animal feed; this includes direct additives. Food or feed is excluded from this definition if it is used or stored in private homes.

**Process** means the preparation of a chemical substance or mixture, after its manufacture, for distribution in commerce:

(1) In the same form or physical state as, or in a different form or physical state from, that in which it was received by the person so preparing such substance or mixture, or

(2) As part of an article containing the chemical substance or mixture.

**Qualified incinerator** means one of the following:

(1) An incinerator approved under the provisions of § 761.70. Any level of

PCB concentration can be destroyed in an incinerator approved under § 761.70.

(2) A high efficiency boiler which complies with the criteria of § 761.60(a)(2)(iii)(A), and for which the operator has given written notice to the appropriate EPA Regional Administrator in accordance with the notification requirements for the burning of mineral oil dielectric fluid under § 761.60(a)(2)(iii)(B).

(3) An incinerator approved under section 3005(c) of the Resource Conservation and Recovery Act (42 U.S.C. 6925(c)) (RCRA).

(4) Industrial furnaces and boilers which are identified in 40 CFR 260.10 and 40 CFR 266.41(b) when operating at their normal operating temperatures (this prohibits feeding fluids, above the level of detection, during either startup or shutdown operations).

**Quantifiable Level/Level of Detection** means 2 micrograms per gram from any resolvable gas chromatographic peak, i.e. 2 ppm.

**Recycled PCBs** means those PCBs which appear in the processing of paper products or asphalt roofing materials from PCB-contaminated raw materials. Processes which recycle PCBs must meet the following requirements:

(1) There are no detectable concentrations of PCBs in asphalt roofing material products leaving the processing site.

(2) The concentration of PCBs in paper products leaving any manufacturing site processing paper products, or in paper products imported into the United States, must have an annual average of less than 25 ppm with a 50 ppm maximum.

(3) The release of PCBs at the point at which emissions are vented to ambient air must be less than 10 ppm.

(4) The amount of Aroclor PCBs added to water discharged from an asphalt roofing processing site must at all times be less than 3 micrograms per liter ( $\mu\text{g/L}$ ) for total Aroclors (roughly 3 parts per billion (3 ppb)). Water discharges from the processing of paper products must at all times be less than 3 micrograms per liter ( $\mu\text{g/l}$ ) for total Aroclors (roughly 3 ppb), or comply

with the equivalent mass-based limitation.

(5) Disposal of any other process wastes at concentrations of 50 ppm or greater must be in accordance with subpart D of this part.

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

**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.

**Sale for purposes other than resale** means sale of PCBs for purposes of disposal and for purposes of use, except where use involves sale for distribution in commerce. PCB Equipment which is first leased for purposes of use any time before July 1, 1979, will be considered sold for purposes other than resale.

**Small quantities for research and development** means any quantity of PCBs (1) that is originally packaged in one or more hermetically sealed containers of a volume of no more than five (5.0) milliliters, and (2) that is used only for purposes of scientific experimentation or analysis, or chemical research on, or analysis of, PCBs, but not for research or analysis for the development of a PCB product.

**Storage for disposal** means temporary storage of PCBs that have been designated for disposal.

**Transfer facility** means any transportation-related facility including loading docks, parking areas, and other similar areas where shipments of PCB waste are held during the normal course of transportation. Transport vehicles are not transfer facilities under this definition, unless they are used for the storage of PCB waste, rather than for actual transport activities. Storage areas for PCB waste at transfer facilities are subject to the storage facility standards of § 761.65, but such storage areas are exempt from the approval requirements of § 761.65(d) and the recordkeeping requirements of § 761.180, unless the same PCB waste is stored there for a

period of more than 10 consecutive days between destinations.

**Transporter of PCB waste** means, for the purposes of subpart K of this part, any person engaged in the transportation of regulated PCB waste by air, rail, highway, or water for purposes other than consolidation by a generator.

**Transport vehicle** means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (e.g., trailer, railroad freight car) is a separate transport vehicle.

**Totally enclosed manner** means any manner that will ensure no exposure of human beings or the environment to any concentration of PCBs.

**Waste Oil** means used products primarily derived from petroleum, which include, but are not limited to, fuel oils, motor oils, gear oils, cutting oils, transmission fluids, hydraulic fluids, and dielectric fluids.

(Sec. 6, Pub. L. 94-469, 90 Stat. 2020 (15 U.S.C. 2605))

[49 FR 25239, June 20, 1984, as amended at 49 FR 28189, July 10, 1984; 49 FR 29066, July 18, 1984; 49 FR 44638, Nov. 8, 1984; 50 FR 29199, July 17, 1985; 50 FR 32176, Aug. 9, 1985; 53 FR 24220, June 27, 1988; 53 FR 27327, July 19, 1988; 54 FR 52745, Dec. 21, 1989; 55 FR 26205, June 27, 1990]

#### § 761.19 References.

(a) [Reserved]

(b) **Incorporations by reference.** The following material is incorporated by reference, and is available for inspection at the Office of the Federal Register Information Center, Rm. 8301, 1100 L St. NW., Washington, DC 20408. These incorporations by reference were approved by the Director of the Office of the Federal Register. These materials are incorporated as they exist on the date of approval and a notice of any change in these materials will be published in the FEDERAL REGISTER. Copies of the incorporated material may be obtained from the TSCA Public Docket Office (TS-793), Rm. NE-G004, Office of Toxic Substances, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460, or from the American Society for Testing and Materials (ASTM).

1916 Race Street, Philadelphia, PA 19103.

**Subpart B—Manufacturing, Processing, Distribution in Commerce, and Use of PCBs and PCB Items**

References	CFR Citation
ASTM D-93-85 Standard Test Method for Flash Point by Pensky-Martens Closed Tester.	§ 761.60(a)(3)(iii)(B)(6). § 761.75(b)(8)(iii)
ASTM D-129-64 (Reapproved 1978) Standard Test Method for Sulfur in Petroleum Products (General Bomb Method)	§ 761.60(a)(3)(iii)(B)(6)
ASTM D-240-87 (Reapproved 1980) Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuel by Bomb Calorimeter	§ 761.60(a)(3)(iii)(B)(6)
ASTM D-482-80 Standard Test Method for Ash from Petroleum Products	§ 761.60(a)(3)(iii)(B)(6)
ASTM D-524-81 Standard Test Method for Ramsbottom Carbon Residue of Petroleum Products	§ 761.60(a)(3)(iii)(B)(6)
ASTM D-808-81 Standard Test Method for Chlorine in New and Used Petroleum Products (Bomb Method)	§ 761.60(a)(3)(iii)(B)(6)
ASTM D-923-88 Standard Test Method for Sampling Electrical Insulating Liquids.	§ 761.60(g)(1)(ii). § 761.60(g)(2)(ii)
ASTM D-1266-80 (Reapproved 1981) Standard Test Method for Sulfur in Petroleum Products (Lamp Method)	§ 761.60(a)(3)(iii)(B)(6)
ASTM D-1796-83 (Reapproved 1977) Methods for Water and Sediment in Crude Oils and Fuel Oils by Centrifuge	§ 761.60(a)(3)(iii)(B)(6)
ASTM D-2158-85 Standard Test Method for Residues in Liquefied Petroleum (LP) Gas	§ 761.60(a)(3)(iii)(B)(6)
ASTM D-2709-88 (Reapproved 1982) Standard Test Method for Water and Sediment in Distillate Fuel by Centrifuge	§ 761.60(a)(3)(iii)(B)(6)
ASTM D-2784-80 Standard Test Method for Sulfur in Liquefied Petroleum Gases (Oxyhydrogen Burner or Lamp)	§ 761.60(a)(3)(iii)(B)(6)
ASTM D-3178-84 (Reapproved 1978) Standard Test Methods for Carbon and Hydrogen in the Analysis Sample of Coke and Coal.	§ 761.60(a)(3)(iii)(B)(6)
ASTM D-3278-78 (Reapproved 1982) Standard Test Methods for Flash Point of Liquid by Setofflash Closed Tester.	§ 761.75(b)(8)(iii)
ASTM E-258-67 (Reapproved 1987) Standard Test Method for Total Nitrogen Inorganic Material by Modified KJELDAHL Method.	§ 761.60(a)(3)(iii)(B)(6)

[47 FR 22098, May 21, 1982, as amended at 49 FR 29067, July 18, 1984; 49 FR 36648, Sept. 19, 1984; 53 FR 10391, Mar. 31, 1988; 53 FR 12524, Apr. 15, 1988; 53 FR 21641, June 9, 1988]

**§ 761.20 Prohibitions.**

Except as authorized in § 761.30, the activities listed in paragraphs (a) and (d) of this section are prohibited pursuant to section 6(e)(2) of TSCA. The requirements set forth in paragraphs (b) and (c) of this section concerning export and import of PCBs for purposes of disposal and PCB Items for purposes of disposal are established pursuant to section 6(e)(1) of TSCA. Subject to any exemptions granted pursuant to section 6(e)(3)(B) of TSCA, the activities listed in paragraphs (b) and (c) of this section are prohibited pursuant to section 6(e)(3)(A) of TSCA. In addition, the Administrator hereby finds, under the authority of section 12(a)(2) of TSCA, that the manufacture, processing, and distribution in commerce of PCBs at concentrations of 50 ppm or greater and PCB Items with PCB concentrations of 50 ppm or greater present an unreasonable risk of injury to health within the United States. This finding is based upon the well-documented human health and environmental hazard of PCB exposure, the high probability of human and environmental exposure to PCBs and PCB Items from manufacturing, processing, or distribution activities; the potential hazard of PCB exposure posed by the transportation of PCBs or PCB Items within the United States; and the evidence that contamination of the environment by PCBs is spread far beyond the areas where they are used. In addition, the Administrator hereby finds, for purposes of section 6(e)(2)(C) of TSCA, that any exposure of human beings or the environment to PCBs, as measured or detected by any scientifically acceptable analytical method, may be significant, depending on such factors as the quantity of PCBs involved in the exposure, the likelihood of exposure to humans and the environment, and the effect of exposure. For purposes of determining which PCB Items are totally enclosed, pursuant to section 6(e)(2)(C) of TSCA, since exposure to such Items may be

significant, the Administrator further finds that a totally enclosed manner is a manner which results in no exposure to humans or the environment to PCBs. The following activities are considered totally enclosed: distribution in commerce of intact, nonleaking electrical equipment such as transformers (including transformers used in railway locomotives and self-propelled cars), capacitors, electromagnets, voltage regulators, switches (including sectionalizers and motor starters), circuit breakers, reclosers, and cable that contain PCBs at any concentration and processing and distribution in commerce of PCB Equipment containing an intact, nonleaking PCB Capacitor. See paragraph (c)(1) of this section for provisions allowing the distribution in commerce of PCBs and PCB Items.

(a) No persons may use any PCB, or any PCB Item regardless of concentration, in any manner other than in a totally enclosed manner within the United States unless authorized under § 761.30, except that:

(1) An authorization is not required to use those PCBs or PCB Items which consist of excluded PCB products as defined in § 761.3.

(2) An authorization is not required to use those PCBs or PCB Items resulting from an excluded manufacturing process or recycled PCBs as defined in § 761.3, provided all applicable conditions of § 761.1(f) are met.

(3) An authorization is not required to use those PCB Items which contain or whose surfaces have been in contact with excluded PCB products as defined in § 761.3.

(4) An authorization is not required to apply sewage sludges, contaminated with PCBs below 50 ppm, to land when regulated by authorities under the Clean Water Act and the Resource Conservation and Recovery Act.

(b) No person may manufacture PCBs for use within the United States or manufacture PCBs for export from the United States without an exemption except that:

(1) No person may manufacture PCBs for use within the United States or manufacture PCBs for export from the United States without an exemption, except that an exemption is not

required for PCBs manufactured in an excluded manufacturing process as defined in § 761.3, provided that all applicable conditions of § 761.1(f) are met.

(2) PCBs at concentrations less than 50 ppm may be imported or exported for purposes of disposal.

(c) No persons may process or distribute in commerce any PCB, or any PCB Item regardless of concentration, for use within the United States or for export from the United States without an exemption, except that an exemption is not required to process or distribute in commerce PCBs or PCB Items resulting from an excluded manufacturing process as defined in § 761.3, or to process or distribute in commerce recycled PCBs as defined in § 761.3, or to process or distribute in commerce excluded PCB products as defined in § 761.3, provided that all applicable conditions of § 761.1(f) are met. In addition, the activities described in paragraphs (c) (1) through (5) of this section may also be conducted without an exemption, under the conditions specified therein.

(1) PCBs at concentrations of 50 ppm or greater, or PCB Items with PCB concentrations of 50 ppm or greater, sold before July 1, 1979 for purposes other than resale may be distributed in commerce only in a totally enclosed manner after that date.

(2) PCBs at concentrations of 50 ppm or greater, or PCB Items with PCB concentrations of 50 ppm or greater may be processed and distributed in commerce in compliance with the requirements of this Part for purposes of disposal in accordance with the requirements of § 761.60.

(3) PCBs or PCB Items may be exported for disposal until May 1, 1980, if an export notice is submitted at least thirty (30) days before the first shipment in any calendar year leaves the customs territory of the United States. Export notices must be submitted to the TSCA Document Processing Center (TS-790), Rm. L-100, Office of Toxic Substances, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. The generator of the PCB waste material intended for disposal, or an agent acting on his behalf, must certify to the best of his

knowledge and belief that the information is complete and accurate. Each notice should contain the following information:

(i) Name, company name, address, and telephone number of the owner of the PCB waste material to be exported and the name and address of any person or agent acting on his behalf;

(ii) Estimated quantity of wastes to be shipped during the calendar year and the estimated number of shipments to be made and the dates when such shipments are expected to leave the customs territory of the United States;

(iii) Description of the PCBs or PCB Items being exported;

(iv) Country(s) of destination for the shipments;

(v) Name and address of facility(s) receiving the shipment and person(s) responsible for receiving the shipment(s).

(vi) Method(s) of disposal and precautions taken to control release into the environment.

(vii) No less than 30 days after the end of each calendar quarter (March 31, June 30, September 30, and December 31) during which PCBs were exported for disposal, each person exporting the PCBs must submit a report to the TSCA Document Processing Center (TS-790), Rm. L-100, Office of Toxic Substances, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. The report shall list the quantity of PCB wastes in each shipment made during the quarter and include the date when each shipment left the customs territory of the United States and the information specified in paragraphs (c)(3)(i) and (ii) through (vi) of this section. If the quantity of wastes shipped during the calendar year exceeds by 25 percent or more the estimated quantities reported in paragraph (c)(3)(ii) of this section, a special export notice must be submitted to the TSCA Document Processing Center (TS-790) at the address given in paragraph (c)(3) of this section, at least 30 days before any additional shipments leave the customs territory of the United States and the notice shall include the information specified

in paragraphs (c)(3)(i) through (vi) of this section.

(viii) Any person expecting to export PCB wastes for disposal in calendar year 1980 must submit an export notice at least thirty (30) days before the first shipment leaves the customs territory of the United States to the TSCA Document Processing Center (TS-790) at the address given in paragraph (c)(3) of this section, and the notice shall contain the information listed in paragraphs (c)(3)(i) through (vi) of this section.

(4) PCBs, at concentrations of less than 50 ppm, or PCB Items, with concentrations of less than 50 ppm, may be processed and distributed in commerce for purposes of disposal.

(5) Equipment, structures, or other materials that were contaminated with PCBs because of spills from, or proximity to, a PCB Item >50 ppm, and which are not otherwise authorized for use or distribution in commerce under this part, may be distributed in commerce, provided that these materials were decontaminated in accordance with applicable EPA PCB spill cleanup policies in effect at the time of the decontamination or, if not previously decontaminated, at the time of the distribution in commerce.

(d) The use of waste oil that contains any detectable concentration of PCB as a sealant, coating, or dust control agent is prohibited. Prohibited uses include, but are not limited to, road oiling, general dust control, use as a pesticide or herbicide carrier, and use as a rust preventative on pipes.

(e) In addition to any applicable requirements under 40 CFR Part 266, subpart E, marketers and burners of used oil who market (process or distribute in commerce) for energy recovery, used oil containing any quantifiable level of PCBs are subject to the following requirements:

(1) *Restrictions on marketing.* Used oil containing any quantifiable level of PCBs (2 ppm) may be marketed only to:

(i) Qualified incinerators as defined in 40 CFR 761.3.

(ii) Other marketers identified in 40 CFR 266.41(a)(1).

(iii) Burners identified in 40 CFR 266.41(b). Only burners in the automo-

tive industry may burn used oil generated from automotive sources in used oil-fired space heaters provided the provisions of 40 CFR 266.41(b)(2)(iii) (A), (B) and (C) are met. The Regional Administrator may grant a variance for a boiler that does not meet the 40 CFR 266.41(b) criteria after considering the criteria listed in 40 CFR 260.32 (a) through (f). The applicant must address the relevant criteria contained in 40 CFR 260.32 (a) through (f) in an application to the Regional Administrator.

(2) *Testing of used oil fuel.* Used oil to be burned for energy recovery is presumed to contain quantifiable levels (2 ppm) of PCB unless the marketer obtains analyses (testing) or other information that the used oil fuel does not contain quantifiable levels of PCBs.

(i) The person who first claims that a used oil fuel does not contain quantifiable level (2 ppm) PCB must obtain analyses or other information to support that claim.

(ii) Testing to determine the PCB concentration in used oil may be conducted on individual samples, or in accordance with the testing procedures described in § 761.60(g)(2). However, for purposes of this part, if any PCBs at a concentration of 50 ppm or greater have been added to the container or equipment, then the total container contents must be considered as having a PCB concentration of 50 ppm or greater for purposes of complying with the disposal requirements of this part.

(iii) Other information documenting that the used oil fuel does not contain quantifiable levels (2 ppm) of PCBs may consist of either personal, special knowledge of the source and composition of the used oil, or a certification from the person generating the used oil claiming that the oil contains no detectable PCBs.

(3) *Restrictions on burning.* (i) Used oil containing any quantifiable levels of PCB may be burned for energy recovery only in the combustion facilities identified in paragraph (e)(1) of this section when such facilities are operating at normal operating temperatures (this prohibits feeding these fuels during either startup or shut-

down operations). Owners and operators of such facilities are "burners" of used oil fuels.

(ii) Before a burner accepts from a marketer the first shipment of used oil fuel containing detectable PCBs (2 ppm), the burner must provide the marketer a one-time written and signed notice certifying that:

(A) The burner has complied with any notification requirements applicable to "qualified incinerators" (§ 761.3) or to "burners" regulated under 40 CFR Part 266, subpart E.

(B) The burner will burn the used oil only in a combustion facility identified in paragraph (e)(1) of this section and identify the class of burner he qualifies.

(4) *Recordkeeping requirements.* The following recordkeeping requirements are in addition to the recordkeeping requirements for marketers found in 40 CFR 266.43(b)(6) (i) and (ii), and for burners found in 40 CFR 266.44(e).

(i) *Marketers.* Marketers who first claim that the used oil fuel contains no detectable PCBs must include among the records required by 40 CFR 266.43(b)(6)(i), copies of the analysis or other information documenting his claim, and he must include among the records required by 40 CFR 266.43(b)(6)(ii), a copy of each certification notice received or prepared relating to transactions involving PCB-containing used oil.

(ii) *Burners.* Burners must include among the records required by 40 CFR 266.44(e), a copy of each certification notice required by paragraph (e)(3)(iii) of this section that he sends to a marketer.

(Approved by the office of Management of Budget under OMB control number 2050-0047)

(Sec. 6, Pub. L. 94-469, 90 Stat. 2020, (15 U.S.C. 2605)

[44 FR 31542, May 31, 1979. Redesignated at 47 FR 19527, May 6, 1982, and amended at 49 FR 25241, June 20, 1984; 49 FR 28190, July 10, 1984; 49 FR 44638, Nov. 8, 1984; 53 FR 12524, Apr. 15, 1988; 53 FR 24220, June 27, 1988]

#### § 761.30 Authorizations.

The following non-totally enclosed PCB activities are authorized pursuant to section 6(e)(2)(B) of TSCA:

(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) Except as otherwise provided, 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.

(A) The installation of PCB Transformers on or after October 1, 1985, however, and their use thereafter, is permitted either in an emergency situation, as defined in § 761.3, or in situations where the transformer has been retrofilled and is being placed into service in order to qualify for reclassification under paragraph (a)(2)(v) of this section.

(B) Installation of a PCB Transformer in an emergency situation is permitted when done in accordance with the following:

(1) Documentation to support the reason for the emergency installation of a PCB Transformer must be maintained at the owner's facility and completed within 30 days after installation of the PCB Transformer. The documentation must include, but is not limited to:

(i) The type of transformer, i.e., radial or lower or higher network, that requires replacement.

(ii) The type(s) of transformers, i.e., radial or lower or higher network, that must be used for replacement.

(iii) The date of transformer failure.

(iv) The date of subsequent replacement.

(v) The type of transformer, i.e., radial or lower or higher network, installed as a replacement.

(vi) A statement describing actions taken to locate a non-PCB or PCB-Contaminated transformer replacement.

(2) Such emergency installation is permitted until October 1, 1990, and the use of any PCB Transformer installed on such an emergency basis is permitted for 1 year from the date of installation or until October 1, 1990, whichever is earlier.

(3) PCB Transformers installed for emergency purposes may be subsequently reclassified; however, the transformer must be effectively reclassified to a non-PCB or PCB-Contaminated status within 1 year after installation or by October 1, 1990, whichever is earlier because the transformer was initially installed in an emergency situation.

(C) Installation of a retrofilled PCB Transformer for reclassification purposes is permitted when it is done in accordance with the following:

(1) Those who installed transformers for reclassification purposes must maintain on the owner's premises, completed within 30 days of installation, the following information:

(i) The date of installation.

(ii) The type of transformer, i.e., radial or lower or higher network, installed.

(iii) The PCB concentration, if known, at the time of installation.

(iv) The retrofill and reclassification schedule.

(2) For purposes of this paragraph, the installation of retrofilled PCB Transformers for purposes of reclassification under paragraph (a)(2)(v) of this section is permitted until October 1, 1990.

(i) However, the use of a retrofilled PCB Transformer installed for reclassification purposes is limited to 18

months after installation or until October 1, 1990, whichever is earlier.

(ii) Retrofilled mineral oil PCB Transformers may be installed for reclassification purposes indefinitely after October 1, 1990.

(iii) Once a retrofilled transformer has been installed for reclassification purposes, it must be tested 3 months after installation to ascertain the concentration of PCBs. If the PCB concentration is below 50 ppm, the transformer can be reclassified as a non-PCB Transformer. If the PCB concentration is between 50 and 500 ppm, the transformer can be reclassified as a PCB-Contaminated transformer. If the PCB concentration remains at 500 ppm or greater, the entire process must either be repeated until the transformer has been reclassified to a non-PCB or PCB-Contaminated transformer in accordance with paragraph (a)(2)(v) of this section or the transformer must be removed from service.

(D) Owners who installed PCB Transformers in emergency situations or for reclassification purposes between October 1, 1985 and September 1, 1988 must notify the Regional Administrator in writing by October 3, 1988 of such installation. The notification for emergency installation must include the information in paragraph (a)(1)(iii)(B)(1)(i) through (vi) of this section. The notification for reclassification must include the information in paragraph (a)(1)(iii)(C)(1)(i) through (iv) of this section. All PCB Transformers installed in an emergency situation or installed for reclassification purposes are subject to the requirements of this Part 761.

(iv) As of October 1, 1990, all higher secondary voltage radial PCB Transformers, in use in or near commercial buildings, and lower secondary voltage network PCB Transformers not located in sidewalk vaults in or near commercial buildings (network transformers with secondary voltages below 480 volts) that have not been removed from service as provided in paragraph (a)(1)(iv)(B) of this section, must be equipped with electrical protection to avoid transformer ruptures caused by high current faults. As of February 25, 1991, all lower secondary voltage radial PCB Transformers, in use in or

near commercial buildings, must be equipped with electrical protection to avoid transformer ruptures caused by high current faults.

(A) Current-limiting fuses or other equivalent technology must be used to detect sustained high current faults and provide for the complete deenergization of the transformer (within several hundredths of a second in the case of higher secondary voltage radial PCB Transformers and within tenths of a second in the case of lower secondary voltage network PCB Transformers), before transformer rupture occurs. Lower secondary voltage radial PCB Transformers must be equipped with electrical protection as provided in paragraph (a)(1)(iv)(E) of this section. The installation, setting, and maintenance of current-limiting fuses or other equivalent technology to avoid PCB Transformer ruptures from sustained high current faults must be completed in accordance with good engineering practices.

(B) All lower secondary voltage network PCB Transformers not located in sidewalk vaults (network transformers with secondary voltages below 480 volts), in use in or near commercial buildings, which have not been protected as specified in paragraph (a)(1)(iv)(A) of this section by October 1, 1990, must be removed from service by October 1, 1993.

(C) As of October 1, 1990, owners of lower secondary voltage network PCB Transformers, in use in or near commercial buildings which have not been protected as specified in paragraph (a)(1)(iv)(A) of this section and which are not located in sidewalk vaults, must register in writing those transformers with the EPA Regional Administrator in the appropriate region. The information required to be provided in writing to the Regional Administrator includes:

(1) The specific location of the PCB Transformer(s).

(2) The address(es) of the building(s) and the physical location of the PCB Transformer(s) on the building site(s).

(3) The identification number(s) of the PCB Transformer(s).

(D) As of October 1, 1993, all lower secondary voltage network PCB Transformers located in sidewalk

vaults (network transformers with secondary voltages below 480 volts) in use near commercial buildings must be removed from service.

(E) As of February 25, 1991, all lower secondary voltage radial PCB Transformers must be equipped with electrical protection, such as current-limiting fuses or other equivalent technology, to detect sustained high current faults and provide for the complete deenergization of the transformer or complete deenergization of the faulted phase of the transformer within several hundredths of a second. The installation, setting, and maintenance of current-limiting fuses or other equivalent technology to avoid PCB Transformer ruptures 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)(A) of this section, be equipped with protection to avoid transformer ruptures caused by sustained low current faults.

(A) Pressure and temperature sensors (or other equivalent technology which has been demonstrated to be effective in 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.

(vi) 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, DC 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 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.

(xv) In the event a mineral oil transformer, assumed to contain less than 500 ppm of PCBs as provided in § 761.3, is tested and found to be contaminated at 500 ppm or greater PCBs, it will be subject to all the requirements of this Part 761. In addition, efforts must be initiated immediately to bring the transformer into compliance in accordance with the following schedule:

(A) Report fire-related incidents, effective immediately after discovery.

(B) Mark the PCB transformer within 7 days after discovery.

(C) Mark the vault door, machinery room door, fence, hallway or other means of access to the PCB Transformer within 7 days after discovery.

(D) Register the PCB Transformer in writing with fire response personnel with primary jurisdiction and with the building owner, within 30 days of discovery.

(E) Install electrical protective equipment on a radial PCB Transformer and a non-sidewalk vault, lower secondary voltage network PCB Transformer in or near a commercial building within 18 months of discovery or by October 1, 1990, whichever is later.

(F) Remove a non-sidewalk vault, lower secondary voltage network PCB Transformer in or near a commercial building, if electrical protective equipment is not installed, within 18 months of discovery or by October 1, 1993, whichever is later.

(G) Remove a lower secondary voltage network PCB Transformer located in a sidewalk vault in or near a commercial building, within 18 months of discovery or by October 1, 1993, whichever is later.

(H) Retrofill and reclassify a radial PCB Transformer or a lower or higher secondary voltage network PCB Transformer, located in other than a sidewalk vault in or near a commercial building, within 18 months or by October 1, 1990, whichever is later. This is an option in lieu of installing electrical protective equipment on a radial or lower secondary voltage network PCB Transformer located in other than a sidewalk vault or of removing a higher secondary voltage network PCB Transformer or a lower secondary voltage network PCB Transformer, located in a sidewalk vault, from service.

(I) Retrofill and reclassify a lower secondary voltage network PCB Transformer, located in a sidewalk vault, in or near a commercial building within 18 months or by October 1, 1993, whichever is later. This is an option in lieu of installing electrical protective equipment or removing the transformer from service.

(J) Retrofill and reclassify a higher secondary voltage network PCB Transformer, located in a sidewalk vault, in or near a commercial building within 18 months or by October 1, 1990, whichever is later. This is an option in lieu of other requirements.

(2) *Servicing conditions.* (i) Transformers classified as PCB-Contaminated Electrical Equipment (as defined in the definition of "PCB-Contaminated Electrical Equipment" under § 761.3) may be serviced (including rebuilding) only with dielectric fluid containing less than 500 ppm PCB.

(ii) Any servicing (including rebuilding) of PCB Transformers (as defined in the definition of "PCB Transformer" under § 761.3) that requires the removal of the transformer coil from the transformer casing is prohibited. PCB Transformers may be serviced (including topping off) with dielectric fluid at any PCB concentration.

(iii) PCBs removed during any servicing activity must be captured and either reused as dielectric fluid or disposed of in accordance with the requirements of § 761.60. PCBs from PCB Transformers must not be mixed with or added to dielectric fluid from PCB-Contaminated Electrical Equipment.

(iv) Regardless of its PCB concentration, dielectric fluids containing less than 500 ppm PCB that are mixed with fluids that contain 500 ppm or greater PCB must not be used as dielectric fluid in any electrical equipment. The entire mixture of dielectric fluid must be considered to be greater than 500 ppm PCB and must be disposed of in an incinerator that meets the requirements in § 761.70.

(v) A PCB Transformer may be converted to PCB-Contaminated Electrical Equipment or to a non-PCB Transformer and a transformer that is classified as PCB-Contaminated Electrical Equipment may be reclassified to a non-PCB Transformer by draining, refilling and/or otherwise servicing the transformer. In order to reclassify, the transformer's dielectric fluid must contain less than 500 ppm PCB (for conversion to PCB-Contaminated Electrical Equipment) or less than 50 ppm PCB (for conversion to a non-PCB Transformer) after a minimum of

three months of in-service use subsequent to the last servicing conducted for the purpose of reducing the PCB concentration in the transformer. In-service means that the transformer is used electrically under loaded conditions that raise the temperature of the dielectric fluid to at least 50° Centigrade. The Director, Exposure Evaluation Division may grant, without further rulemaking, approval for the use of alternative methods that simulate the loaded conditions of in-service use. All PCBs removed from transformers for purposes of reducing PCB concentrations are subject to the disposal requirements of § 761.60.

(vi) Any dielectric fluid containing 50 ppm or greater PCB used for servicing transformers must be stored in accordance with the storage for disposal requirements of § 761.65.

(vii) Processing and distribution in commerce of PCBs for purposes of servicing transformers is permitted only for persons who are granted an exemption under TSCA 6(e)(3)(B).

(b) *Use in and servicing of railroad transformers.* PCBs may be used in transformers in railroad locomotives or railroad self-propelled cars ("railroad transformers") and may be processed and distributed in commerce for purposes of servicing these transformers in a manner other than a totally enclosed manner subject to the following conditions:

(1) *Use restrictions.* (i) After July 1, 1983, the number of railroad transformers containing a PCB concentration greater than 60,000 ppm (6.0 percent on a dry weight basis) in use by any affected railroad organization may not exceed two-thirds of the total railroad transformers containing PCBs in use by that organization on January 1, 1982.

(ii) After January 1, 1984, the number of railroad transformers containing a PCB concentration greater than 60,000 ppm in use by any affected railroad organization may not exceed one-third of the total railroad transformers containing PCBs in use by that organization on January 1, 1982.

(iii) After July 1, 1984, use of railroad transformers that contain dielec-

tric fluids with a PCB concentration greater than 60,000 ppm is prohibited.

(iv) After July 1, 1985, the number of railroad transformers containing a PCB concentration greater than 1,000 ppm (0.1 percent on a dry weight basis) in use by any affected railroad organization may not exceed two-thirds of the total railroad transformers containing PCBs in use by that organization on July 1, 1984.

(v) After January 1, 1986, the number of railroad transformers containing a PCB concentration greater than 1,000 ppm in use by any affected railroad organization may not exceed one-third of the total railroad transformers containing PCBs in use by that organization on July 1, 1984.

(vi) After July 1, 1986, use of railroad transformers that contain dielectric fluids with a PCB concentration greater than 1,000 ppm is prohibited.

(vii) The concentration of PCBs in the dielectric fluid contained in railroad transformers must be measured:

(A) Immediately upon completion of any authorized servicing of a railroad transformer conducted for the purpose of reducing the PCB concentration in the dielectric fluid in the transformer, and

(B) Between 12 and 24 months after each servicing conducted in accordance with paragraph (b)(1)(vii)(A) of this section;

(C) The data obtained as a result of paragraphs (b)(1)(vii)(A) and (B) of this section shall be retained until January 1, 1991.

(2) *Servicing restrictions.* (i) If the coil is removed from the casing of a railroad transformer (e.g., the transformer is rebuilt), after January 1, 1982, the railroad transformer may not be refilled with dielectric fluid containing a PCB concentration greater than 50 ppm;

(ii) After January 1, 1982, railroad transformers may only be serviced with dielectric fluid containing less than 60,000 ppm PCBs, except as provided in paragraph (b)(2)(i) of this section;

(iii) After January 1, 1984, railroad transformers may only be serviced with dielectric fluid containing less than 1000 ppm PCB, except as provided

in paragraph (b)(2)(i) of this section;

(iv) Dielectric fluid may be filtered through activated carbon or otherwise industrially processed for the purpose of reducing the PCB concentration in the fluid;

(v) Any PCB dielectric fluid that is used to service PCB railroad transformers must be stored in accordance with the storage for disposal requirements of § 761.65;

(vi) After July 1, 1979, processing and distribution in commerce of PCBs for purposes of servicing railroad transformers is permitted only for persons who are granted an exemption under TSCA section 6(e)(3)(B).

(vii) A PCB Transformer may be converted to a PCB-Contaminated Transformer or to a non-PCB Transformer by draining, refilling, and/or otherwise servicing the railroad transformer. In order to reclassify, the railroad transformer's dielectric fluid must contain less than 500 ppm (for conversion to PCB-Contaminated Transformer) or less than 50 ppm PCB (for conversion to a non-PCB Transformer) after a minimum of three months of inservice use subsequent to the last servicing conducted for the purpose of reducing the PCB concentration in the transformer.

(c) *Use in and servicing of mining equipment.* PCBs may be used in mining equipment and may be processed and distributed in commerce for purposes of servicing mining equipment in a manner other than a totally enclosed manner until January 1, 1982, subject to the following conditions:

(1) PCBs may be added to motors in mining equipment in mines or mining areas until January 1, 1982;

(2) PCB motors in loader-type mining equipment must be rebuilt as air-cooled or other non-PCB-containing motors whenever the motor is returned to a service shop for servicing;

(3) PCB motors in continuous miner-type equipment may be rebuilt as PCB motors until January 1, 1980;

(4) Any PCBs that are on hand to service or repair mining equipment must be stored in accordance with the storage for disposal requirements of § 761.65;

(5) After July 1, 1979, processing and distribution in commerce of PCBs for purposes of servicing mining equipment is permitted only for persons who are granted an exemption under TSCA section 6(e)(3)(B).

(d) *Use in heat transfer systems.* After July 1, 1984, intentionally manufactured PCBs may be used in heat transfer systems in a manner other than a totally enclosed manner at a concentration level of less than 50 ppm provided that the requirements of paragraphs (d)(1) through (5) of this section are met.

(1) Each person who owns a heat transfer system that ever contained PCBs at concentrations above 50 ppm must test for the concentration of PCBs in the heat transfer fluid of such a system no later than November 1, 1979, and at least annually thereafter. All test sampling must be performed at least three months after the most recent fluid refilling. When a test shows that the PCB concentration is less than 50 ppm, testing under this paragraph is no longer required.

(2) Within six months of a test performed under paragraph (d)(1) of this section that indicates that a system's fluid contains 50 ppm or greater PCB (0.005% on a dry weight basis), the system must be drained of the PCBs and refilled with fluid containing less than 50 ppm PCB. Topping-off with heat transfer fluids containing PCB concentrations of less than 50 ppm is permitted.

(3) After November 1, 1979, no heat transfer system that is used in the manufacture or processing of any food, drug, cosmetic or device, as defined in section 201 of the Federal Food, Drug, and Cosmetic Act, may contain transfer fluid with 50 ppm or greater PCB (0.005% on a dry weight basis).

(4) Addition of fluids containing PCB concentrations greater than 50 ppm is prohibited.

(5) Data obtained as a result of paragraph (d)(1) of this section must be retained for five years after the heat transfer system reaches 50 ppm PCB.

(e) *Use in hydraulic systems.* After July 1, 1984, intentionally manufactured PCBs may be used in hydraulic systems in a manner other than a to-

tally enclosed manner at a concentration level of less than 50 ppm provided that the requirements in paragraphs (e)(1) through (5) of this section are met.

(1) Each person who owns a hydraulic system that ever contained PCBs at concentrations above 50 ppm must test for the concentration of PCBs in the hydraulic fluid of each system no later than November 1, 1979, and at least annually thereafter. All test sampling must be performed at least three months after the most recent fluid refilling. When a test shows that the PCB concentration is less than 50 ppm, testing under this paragraph is no longer required.

(2) Within six months of a test under paragraph (e)(1) of this section that indicates that a system's fluid contains 50 ppm or greater PCB (0.005% on a dry weight basis), the system must be drained of the PCBs and refilled with fluid containing less than 50 ppm PCB. Topping-off with hydraulic fluids containing PCB concentrations less than 50 ppm to reduce PCB concentrations is permitted.

(3) Addition of PCBs at concentrations of greater than 50 ppm is prohibited.

(4) Hydraulic fluid may be drained from a hydraulic system and filtered, distilled, or otherwise serviced in order to reduce the PCB concentration below 50 ppm.

(5) Data obtained as a result of paragraph (e)(1) of this section must be retained for five years after the hydraulic system reaches 50 ppm.

(f) *Use in carbonless copy paper.* Carbonless copy paper containing PCBs may be used in a manner other than a totally enclosed manner indefinitely.

(g) *Pigments.* Diarylide and Phthalocyanin pigments that contain 50 ppm or greater PCB may be processed, distributed in commerce, and used in a manner other than a totally enclosed manner until January 1, 1982, except that after July 1, 1979, processing and distribution in commerce of diarylide or phthalocyanin pigments that contain 50 ppm or greater PCB is permitted only for persons who are granted an exemption under TSCA section 6(e)(3)(B).

(h) *Use in and servicing of electromagnets, switches and voltage regulators.* PCBs at any concentration may be used in electromagnets, switches (including sectionalizers and motor starters), and voltage regulators and may be used for purposes of servicing this equipment (including rebuilding) for the remainder of their useful lives, subject to the following conditions:

(1) *Use conditions.* (i) After October 1, 1985, the use and storage for reuse of any electromagnet which poses an exposure risk to food or feed is prohibited if the electromagnet contains greater than 500 ppm PCBs.

(ii) A visual inspection of each electromagnet subject to paragraph (h)(1)(i) of this section, shall be performed at least once every week according to the conditions contained in § 761.30(a)(1)(iii) and (iv).

(2) *Servicing conditions.* (i) Servicing (including rebuilding) any electromagnet, switch, or voltage regulator with a PCB concentration of 500 ppm or greater which requires the removal and rework of the internal components is prohibited.

(ii) Electromagnets, switches, and voltage regulators classified as PCB-Contaminated Electrical Equipment (as defined in the definition of "PCB-Contaminated Electrical Equipment" under § 761.3) may be serviced (including rebuilding) only with dielectric fluid containing less than 500 ppm PCB.

(iii) PCBs removed during any servicing activity must be captured and either reused as dielectric fluid or disposed of in accordance with the requirements of § 761.60. PCBs from electromagnets, switches, and voltage regulators with a PCB concentration of at least 500 ppm must not be mixed with or added to dielectric fluid from PCB-Contaminated Electrical Equipment.

(iv) Regardless of its PCB concentration, dielectric fluids containing less than 500 ppm PCB that are mixed with fluids that contain 500 ppm or greater PCB must not be used as dielectric fluid in any electrical equipment. The entire mixture of dielectric fluid must be considered to be greater than 500 ppm PCB and must be dis-

posed of in an incinerator that meets the requirements of § 761.70.

(v) An electromagnet, switch or voltage regulator with a PCB concentration of at least 500 ppm may be converted to PCB-Contaminated Electrical Equipment or to a non-PCB classification and PCB-Contaminated Electrical Equipment may be reclassified to a non-PCB classification by draining, refilling and/or otherwise servicing the equipment. In order to be reclassified, the equipment's dielectric fluid must contain less than 500 ppm PCB (for conversion to PCB-Contaminated Electrical Equipment) or less than 50 ppm PCB (for conversion to a non-PCB classification) after a minimum of three months of in-service use subsequent to the last servicing conducted for the purpose of reducing the PCB concentration in the equipment. In-service use means the equipment is used electrically under loaded conditions. The Assistant Administrator may grant, without further rulemaking, approval for the use of alternative methods that simulate the loaded conditions of in-service use. All PCBs removed from this equipment for purposes of reducing PCB concentrations are subject to the disposal requirements of § 761.60.

(vi) Any dielectric fluid containing 50 ppm or greater PCB used for servicing electromagnets, switches, or voltage regulators must be stored in accordance with the storage for disposal requirements of § 761.65.

(vii) Processing and distribution in commerce of PCBs for purposes of servicing electromagnets, switches or voltage regulators is permitted only for persons who are granted an exemption under TSCA 6(e)(3)(B).

(1) *Use in compressors and in the liquid of natural gas pipelines.* PCBs may be used indefinitely in the compressors and in the liquids of natural gas pipelines at a concentration level of less than 50 ppm provided that they are marked in accordance with § 761.45(a).

(j) *Small quantities for research and development.* PCBs may be used in small quantities for research and development, as defined in § 761.3, in a manner other than a totally enclosed manner, indefinitely. Manufacture,

processing, and distribution in commerce of PCBs in small quantities for research and development is permitted only for persons who have been granted an exemption under TSCA section 6(e)(3)(B).

(k) *Microscopy mounting medium.* PCBs may be used as a permanent microscopic mounting medium in a manner other than a totally enclosed manner indefinitely. Manufacture, processing, and distribution in commerce of PCBs for purposes of use as a mounting medium are permitted only for persons who are granted an exemption under TSCA section 6(e)(3)(B).

(l) *Use in capacitors.* PCBs at any concentration may be used in capacitors, subject to the following conditions:

(1) *Use conditions.* (i) After October 1, 1988, the use and storage for reuse of PCB Large High Voltage Capacitors and PCB Large Low Voltage Capacitors which pose an exposure risk to food or feed is prohibited.

(ii) After October 1, 1988, the use of PCB Large High Voltage Capacitors and PCB Large Low Voltage Capacitors is prohibited unless the capacitor is used within a restricted-access electrical substation or in a contained and restricted-access indoor installation. A restricted-access electrical substation is an outdoor, fenced or walled-in facility that restricts public access and is used in the transmission or distribution of electric power. A contained and restricted-access indoor installation does not have public access and has an adequate roof, walls, and floor to contain any release of PCBs within the indoor location.

(2) [Reserved]

(m) *Use in and servicing of circuit breakers, reclosers and cable.* PCBs at any concentration may be used in circuit breakers, reclosers, and cable and may be used for purposes of servicing this electrical equipment (including rebuilding) for the remainder of their useful lives, subject to the following conditions:

(1) *Servicing conditions.* (i) Circuit breakers, reclosers, and cable may be serviced (including rebuilding) only with dielectric fluid containing less than 50 ppm PCB.

(ii) Any circuit breaker, recloser or cable found to contain at least 50 ppm PCBs may be serviced only in accordance with the conditions contained in 40 CFR 761.30(h)(2).

(2) [Reserved]

(n) *Microscopy immersion oil.* PCBs may be used as an immersion oil in fluorescence microscopy, in a manner other than a totally enclosed manner indefinitely. Manufacture, processing, and distribution in commerce of PCBs for purposes of use as a low fluorescence immersion oil are permitted only for persons who are granted an exemption under TSCA section 6(e)(3)(B).

(o) *Optical liquids.* PCBs may be used as optical liquids in a manner other than a totally enclosed manner indefinitely. Manufacture, processing, and distribution in commerce of PCBs for purposes of use as optical liquids are permitted only for persons who are granted an exemption under TSCA section 6(e)(3)(B).

(Approved by the Office of Management and Budget under control number 2070-0003; the recordkeeping requirements of paragraph (a)(1)(xii) were approved by the Office of Management and Budget under control number 2070-0007)

(Sec. 6, Pub. L. 94-469, 90 Stat. 2020, 2025 (15 U.S.C. 2605))

[44 FR 31542, May 31, 1979. Redesignated at 47 FR 19527, May 6, 1982, and amended at 47 FR 37357, Aug. 25, 1983; 48 FR 135, Jan. 3, 1983; 49 FR 25241 and 25242, June 20, 1984; 49 FR 28190, and 28202, July 10, 1984; 50 FR 29199, July 17, 1985; 53 FR 12524, Apr. 15, 1988; 53 FR 24221, June 27, 1988; 53 FR 27328, July 19, 1988; 54 FR 28419, July 6, 1989; 55 FR 45804, Oct. 31, 1990; 55 FR 49045, Nov. 26, 1990]

### Subpart C—Marking of PCBs and PCB Items

#### § 761.40 Marking requirements.

(a) Each of the following items in existence on or after July 1, 1978 shall be marked as illustrated in Figure 1 in § 761.45(a): The mark illustrated in Figure 1 is referred to as M<sub>1</sub> throughout this subpart.

(1) PCB Containers;

(2) PCB Transformers at the time of manufacture, at the time of distribution in commerce if not already

marked, and at the time of removal from use if not already marked. [Marking of PCB-Contaminated Electrical Equipment is not required];

(3) PCB Large High Voltage Capacitors at the time of manufacture, at the time of distribution in commerce if not already marked, and at the time of removal from use if not already marked;

(4) Equipment containing a PCB Transformer or a PCB Large High Voltage Capacitor at the time of manufacture, at the time of distribution in commerce if not already marked, and at the time of removal of the equipment from use if not already marked;

(5) PCB Large Low Voltage Capacitors at the time of removal from use;

(6) Electric motors using PCB coolants (See also paragraph (e) of this section).

(7) Hydraulic systems using PCB hydraulic fluid (See also paragraph (e) of this section);

(8) Heat transfer systems (other than PCB Transformers) using PCBs (See also paragraph (e) of this section);

(9) PCB Article Containers containing articles or equipment that must be marked under paragraphs (a) (1) through (8) of this section;

(10) Each storage area used to store PCBs and PCB Items for disposal.

(b) As of October 1, 1978, each transport vehicle shall be marked on each end and side with  $M_L$  as described in § 761.45(a) if it is loaded with PCB Containers that contain more than 45 kg (99.4 lbs.) of PCBs in the liquid phase or with one or more PCB Transformers (See also paragraph (e) of this section).

(c) As of January 1, 1979, the following PCB Articles shall be marked with mark  $M_L$  as described in § 761.45(a):

(1) All PCB Transformers not marked under paragraph (a) of this section [marking of PCB-Contaminated Electrical Equipment is not required];

(2) All PCB Large High Voltage Capacitors not marked under paragraph (a) of this section

(i) Will be marked individually with mark  $M_L$ , or

(ii) If one or more PCB Large High Voltage Capacitors are installed in a protected location such as on a power

pole, or structure, or behind a fence; the pole, structure, or fence shall be marked with mark  $M_L$ , and a record or procedure identifying the PCB Capacitors shall be maintained by the owner or operator at the protected location.

(d) As of January 1, 1979, all PCB Equipment containing a PCB Small Capacitor shall be marked at the time of manufacture with the statement, "This equipment contains PCB Capacitor(s)". The mark shall be of the same size as the mark  $M_L$ .

(e) As of October 1, 1979, applicable PCB Items in paragraphs (a) (1), (6), (7), and (8) of this section containing PCBs in concentrations of 50 to 500 ppm and applicable transport vehicles in paragraph (b) of this section loaded with PCB Containers that contain more than 45 kg (99.4 lbs.) of liquid PCBs in concentrations of 50 ppm to 500 ppm shall be marked with mark  $M_L$  as described in § 761.45(a).

(f) Where mark  $M_L$  is specified but the PCB Article or PCB Equipment is too small to accommodate the smallest permissible size of mark  $M_L$ , mark  $M_S$ , as described in § 761.45(b), may be used instead of mark  $M_L$ .

(g) Each large low voltage capacitor, each small capacitor normally used in alternating current circuits, and each fluorescent light ballast manufactured ("manufactured", for purposes of this sentence, means built) between July 1, 1978 and July 1, 1998 that do not contain PCBs shall be marked by the manufacturer at the time of manufacture with the statement, "No PCBs". The mark shall be of similar durability and readability as other marking that indicate electrical information, part numbers, or the manufacturer's name. For purposes of this paragraph marking requirement only is applicable to items built domestically or abroad after June 30, 1978.

(h) All marks required by this subpart must be placed in a position on the exterior of the PCB Items or transport vehicles so that the marks can be easily read by any persons inspecting or servicing the marked PCB Items or transport vehicles.

(i) Any chemical substance or mixture that is manufactured after the effective date of this rule and that contains less than 500 ppm PCB (0.05% on

a dry weight basis), including PCB that is a byproduct or impurity, must be marked in accordance with any requirements contained in the exemption granted by EPA to permit such manufacture and is not subject to any other requirement in this subpart unless so specified in the exemption. This paragraph applies only to containers of chemical substances or mixtures. PCB articles and equipment into which the chemical substances or mixtures are processed, are subject to the marking requirements contained elsewhere in this subpart.

(j) PCB Transformer locations shall be marked as follows:

(1) Except as provided in paragraph (j)(2) of this section, as of December 1, 1985, the vault door, machinery room door, fence, hallway, or means of access, other than grates and manhole covers, to a PCB Transformer must be marked with the mark  $M_L$  as required by paragraph (a) of this section.

(2) A mark other than the  $M_L$  mark may be used provided all of the following conditions are met:

(i) The program using such an alternative mark was initiated prior to August 15, 1985, and can be substantiated with documentation.

(ii) Prior to August 15, 1985, coordination between the transformer owner and the primary fire department occurred, and the primary fire department knows, accepts, and recognizes what the alternative mark means, and that this can be substantiated with documentation.

(iii) The EPA Regional Administrator in the appropriate region is informed in writing of the use of the alternative mark by October 3, 1988 and is provided with documentation that the program began before August 15, 1985, and documentation that demonstrates that prior to that date the primary fire department knew, accepted and recognized the meaning of the mark, and included this information in firefighting training.

(iv) The Regional Administrator will either approve or disapprove in writing the use of an alternative mark within 30 days of receipt of the documentation of a program.

(3) Any mark placed in accordance with the requirements of this section

must be placed in the locations described in paragraph (j)(1) of this section and in a manner that can be easily read by emergency response personnel fighting a fire involving this equipment.

[44 FR 31542, May 31, 1979. Redesignated at 47 FR 19527, May 6, 1982, and amended at 47 FR 37359, Aug. 25, 1982; 50 FR 29201, July 17, 1985; 50 FR 32176, Aug. 9, 1985; 53 FR 12524, Apr. 15, 1988; 53 FR 27329, July 19, 1988]

#### § 761.45 Marking formats.

The following formats shall be used for marking:

(a) *Large PCB Mark— $M_L$* . Mark  $M_L$  shall be as shown in Figure 1, letters and striping on a white or yellow background and shall be sufficiently durable to equal or exceed the life (including storage for disposal) of the PCB Article, PCB Equipment, or PCB Container. The size of the mark shall be at least 15.25 cm (6 inches) on each side. If the PCB Article or PCB Equipment is too small to accommodate this size, the mark may be reduced in size proportionately down to a minimum of 5 cm (2 inches) on each side.

(b) *Small PCB Mark— $M_S$* . Mark  $M_S$  shall be as shown in Figure 2, letters and striping on a white or yellow background, and shall be sufficiently durable to equal or exceed the life (including storage for disposal) of the PCB Article, PCB Equipment, or PCB Container. The mark shall be a rectangle 2.5 by 5 cm (1 inch by 2 inches). If the PCB Article or PCB Equipment is too small to accommodate this size, the mark may be reduced in size proportionately down to a minimum of 1 by 2 cm (.4 by .8 inches).

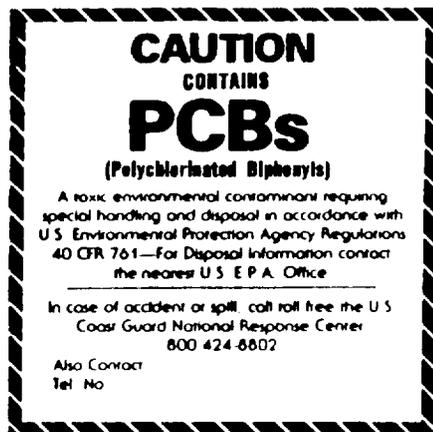


Figure 1

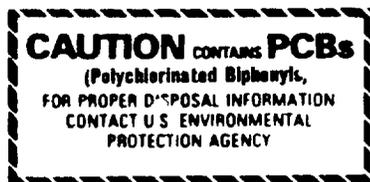


Figure 2

[44 FR 31542, May 31, 1979. Redesignated at 47 FR 19527, May 6, 1982]

**Subpart D—Storage and Disposal**

**NOTE:** This subpart does not require removal of PCBs and PCB Items from service and disposal earlier than would normally be the case. However, when PCBs and PCB Items are removed from service and disposed of, disposal must be undertaken in accordance with these regulations. PCBs (including soils and debris) and PCB Items which have been placed in a disposal site are considered to be "in service" for purposes of the applicability of this subpart. This subpart does not require PCBs and PCB Items landfilled prior to February 17, 1978 to be removed for disposal. However, if such PCBs or PCB Items are removed from the disposal site, they must be disposed of in accordance with this subpart. Other subparts are directed to the manufacture, processing, distribution in commerce, and use of PCBs and may result in some cases in disposal at an earlier date than would otherwise occur.

**§ 761.60 Disposal requirements.**

(a) **PCBs.** (1) Except as provided in paragraphs (a)(2), (3), (4), and (5) of this section, PCBs at concentrations of 50 ppm or greater must be disposed of in an incinerator which complies with § 761.70.

(2) Mineral oil dielectric fluid from PCB-Contaminated Electrical Equipment containing a PCB concentration of 50 ppm or greater, but less than 500 ppm, must be disposed of in one of the following:

(i) In an incinerator that complies with § 761.70;

(ii) In a chemical waste landfill that complies with § 761.75 if information is provided to the owner or operator of the chemical waste landfill that shows that the mineral oil dielectric fluid does not exceed 500 ppm PCB and is not an ignitable waste as described in § 761.75(b)(8)(iii);

(iii) In a high efficiency boiler provided that:

(A) The boiler complies with the following criteria:

(1) The boiler is rated at a minimum of 50 million BTU hours;

(2) If the boiler uses natural gas or oil as the primary fuel, the carbon monoxide concentration in the stack is 50 ppm or less and the excess oxygen is at least three (3) percent when PCBs are being burned;

(3) If the boiler uses coal as the primary fuel, the carbon monoxide concentration in the stack is 100 ppm or less and the excess oxygen is at least three (3) percent when PCBs are being burned;

(4) The mineral oil dielectric fluid does not comprise more than ten (10) percent (on a volume basis) of the total fuel feed rate;

(5) The mineral oil dielectric fluid is not fed into the boiler unless the boiler is operating at its normal operating temperature (this prohibits feeding these fluids during either start up or shut down operations);

(6) The owner or operator of the boiler:

(i) Continuously monitors and records the carbon monoxide concentration and excess oxygen percentage in the stack gas while burning mineral oil dielectric fluid; or

(ii) If the boiler will burn less than 30,000 gallons of mineral oil dielectric fluid per year, measures and records the carbon monoxide concentration and excess oxygen percentage in the stack gas at regular intervals of no longer than 60 minutes while burning mineral oil dielectric fluid.

(7) The primary fuel feed rates, mineral oil dielectric fluid feed rates, and total quantities of both primary fuel and mineral oil dielectric fluid fed to the boiler are measured and recorded at regular intervals of no longer than 15 minutes while burning mineral oil dielectric fluid.

(8) The carbon monoxide concentration and the excess oxygen percentage are checked at least once every hour that mineral oil dielectric fluid is burned. If either measurement falls below the levels specified in this rule, the flow of mineral oil dielectric fluid to the boiler shall be stopped immediately.

(B) Thirty days before any person burns mineral oil dielectric fluid in the boiler, the person gives written notice to the EPA Regional Administrator for the EPA Region in which the boiler is located and that the notice contains the following information:

(1) The name and address of the owner or operator of the boiler and the address of the boiler;

(2) The boiler rating in units of BTU/hour;

(3) The carbon monoxide concentration and the excess oxygen percentage in the stack of the boiler when it is operated in a manner similar to the manner in which it will be operated when mineral oil dielectric fluid is burned; and

(4) The type of equipment, apparatus, and procedures to be used to control the feed of mineral oil dielectric fluid to the boiler and to monitor and record the carbon monoxide concentration and excess oxygen percentage in the stack.

(C) When burning mineral oil dielectric fluid, the boiler must operate at a level of output no less than the output at which the measurements required under paragraph (a)(2)(iii)(B)(3) of this section were taken.

(D) Any person burning mineral oil dielectric fluid in a boiler obtains the

following information and retains the information for five years at the boiler location:

(1) The data required to be collected under paragraphs (a)(2)(A) (6) and (7) of this section; and

(2) The quantity of mineral oil dielectric fluid burned in the boiler each month;

(iv) In a facility that is approved in accordance with § 761.60(e). For the purpose of burning mineral oil dielectric fluid, an applicant under § 761.60(e) must show that his combustion process destroys PCBs as efficiently as does a high efficiency boiler, as defined in paragraph (a)(2)(iii) of this section, or a § 761.70 approved incinerator.

(3) Liquids, other than mineral oil dielectric fluid, containing a PCB concentration of 50 ppm or greater, but less than 500 ppm, shall be disposed of:

(i) In an incinerator which complies with § 761.70;

(ii) In a chemical waste landfill which complies with § 761.75 if information is provided to the owner or operator of the chemical waste landfill that shows that the waste does not exceed 500 ppm PCB and is not an ignitable waste as described in § 761.75(b)(8)(iii);

(iii) In a high efficiency boiler provided that.

(A) The boiler complies with the following criteria:

(1) The boiler is rated at a minimum of 50 million BTU/hour;

(2) If the boiler uses natural gas or oil as the primary fuel, the carbon monoxide concentration in the stack is 50 ppm or less and the excess oxygen is at least three (3) percent when PCBs are being burned;

(3) If the boiler uses coal as the primary fuel, the carbon monoxide concentration in the stack is 100 ppm or less and the excess oxygen is at least three (3) percent when PCBs are being burned;

(4) The waste does not comprise more than ten (10) percent (on a volume basis) of the total fuel feed rate;

(5) The waste is not fed into the boiler unless the boiler is operating at its normal operating temperature (this

prohibits feeding these fluids during either start up or shut down operations);

(6) The owner or operator of the boiler must:

(i) Continuously monitor and record the carbon monoxide concentration and excess oxygen percentage in the stack gas while burning waste fluid; or

(ii) If the boiler will burn less than 30,000 gallons of waste fluid per year, measure and record the carbon monoxide concentration and excess oxygen percentage in the stack gas at regular intervals of no longer than 60 minutes while burning waste fluid;

(7) The primary fuel feed rate, waste fluid feed rate, and total quantities of both primary fuel and waste fluid fed to the boiler must be measured and recorded at regular intervals of no longer than 15 minutes while burning waste fluid; and

(8) The carbon monoxide concentration and the excess oxygen percentage must be checked at least once every hour that the waste is burned. If either measurement falls below the levels specified in this rule, the flow of waste to the boiler shall be stopped immediately.

(B) Prior to any person burning these liquids in the boiler, approval must be obtained from the EPA Regional Administrator for the EPA Region in which the boiler is located and any persons seeking such approval must submit to the EPA Regional Administrator a request containing at least the following information:

(1) The name and address of the owner or operator of the boiler and the address of the boiler;

(2) The boiler rating in units of BTU/hour;

(3) The carbon monoxide concentration and the excess oxygen percentage in the stack of the boiler when it is operated in a manner similar to the manner in which it will be operated when low concentration PCB liquid is burned;

(4) The type of equipment, apparatus, and procedures to be used to control the feed of mineral oil dielectric fluid to the boiler and to monitor and record the carbon monoxide concentration and excess oxygen percentage in the stack;

(5) The type of waste to be burned (e.g., hydraulic fluid, contaminated fuel oil, heat transfer fluid, etc.);

(6) The concentration of PCBs and of any other chlorinated hydrocarbon in the waste and the results of analyses using the American Society of Testing and Materials (ASTM) methods as follows: Carbon and hydrogen content using ASTM D-3178-84, nitrogen content using ASTM E-258-87 (Reapproved 1987), sulfur content using ASTM D-2784-80, D-1266-80, or D-129-64, chlorine content using ASTM D-808-81, water and sediment content using either ASTM D-2709-68 or D-1796-83, ash content using D-482-80, calorific value using ASTM D-240-87, carbon residue using either ASTM D-2158-85 or D-524-81, and flash point using ASTM D-93-85.

(7) The quantity of wastes estimated to be burned in a thirty (30) day period;

(8) An explanation of the procedures to be followed to insure that burning the waste will not adversely affect the operation of the boiler such that combustion efficiency will decrease.

(C) On the basis of the information in paragraph (a)(3)(iii)(B) of this section and any other available information, the Regional Administrator may, at his discretion, find that the alternate disposal method will not present an unreasonable risk of injury to health or the environment and approve the use of the boiler;

(D) When burning PCB wastes, the boiler must operate at a level of output no less than the output at which the measurements required under paragraph (a)(3)(iii)(B)(3) of this section were taken; and

(E) Any person burning liquids in boilers approved as provided in paragraph (a)(3)(iii)(C) of this section, must obtain the following information and retain the information for five years at the boiler location:

(1) The data required to be collected in paragraphs (a)(3)(iii)(A) (6) and (7) of this section;

(2) The quantity of low concentration PCB liquid burned in the boiler each month.

(3) The analysis of the waste required by paragraph (a)(3)(iii)(B)(6) of this section taken once a month for

each month during which low concentration PCB liquid is burned in the boiler.

(iv) In a facility that is approved in accordance with § 761.60(e). For the purpose of burning liquids, other than mineral oil dielectric fluid, containing 50 ppm or greater PCB, but less than 500 ppm PCB, an applicant under § 761.60(e) must show that his combustion process destroys PCBs as efficiently as does a high efficiency boiler, as defined in § 761.60(a)(2)(iii), or a § 761.70 incinerator.

(4) Any non-liquid PCBs at concentrations of 50 ppm or greater in the form of contaminated soil, rags, or other debris shall be disposed of:

(i) In an incinerator which complies with § 761.70; or

(ii) In a chemical waste landfill which complies with § 761.75.

NOTE: Except as provided in § 761.75(b)(8)(ii), liquid PCBs shall not be processed into non-liquid forms to circumvent the high temperature incineration requirements of § 761.60(a).

(5) All dredged materials and municipal sewage treatment sludges that contain PCBs at concentrations of 50 ppm or greater shall be disposed of:

(i) In an incinerator which complies with § 761.70,

(ii) In a chemical waste landfill which complies with § 761.75; or

(iii) Upon application, using a disposal method to be approved by the Agency's Regional Administrator in the EPA Region in which the PCBs are located. Applications for disposal in a manner other than prescribed in paragraph (a)(5) (i) or (ii) of this section

must be made in writing to the Regional Administrator. The application must contain information that, based on technical, environmental, and economic considerations, indicates that disposal in an incinerator or chemical waste landfill is not reasonable and appropriate, and that the alternate disposal method will provide adequate protection to health and the environment. The Regional Administrator may request other information that he or she believes to be necessary for evaluation of the alternate disposal method. Any approval by the Regional Administrator shall be in writing and may contain any appropriate limita-

tions on the approved alternate method for disposal. In addition to these regulations, the Regional Administrator shall consider other applicable Agency guidelines, criteria, and regulations to ensure that the discharges of dredged material and sludges that contain PCBs and other contaminants are adequately controlled to protect the environment. The person to whom such approval is issued must comply with all limitations contained in the approval.

(6) When storage is desired prior to disposal, PCBs at concentrations of 50 ppm or greater shall be stored in a facility which complies with § 761.65.

(b) *PCB Articles*—(1) *Transformers*. (i) PCB Transformers shall be disposed of in accordance with either of the following:

(A) In an incinerator that complies with § 761.70; or

(B) In a chemical waste landfill which complies with § 761.75; *Provided*, That the transformer is first drained of all free flowing liquid, filled with solvent, allowed to stand for at least 18 hours, and then drained thoroughly. PCB liquids that are removed shall be disposed of in accordance with paragraph (a) of this section. Solvents may include kerosene, xylene, toluene and other solvents in which PCBs are readily soluble. Precautionary measures should be taken, however, that the solvent flushing procedure is conducted in accordance with applicable safety and health standards as required by Federal or State regulations.

(ii) [Reserved]

(2) *PCB Capacitors*. (i) The disposal of any capacitor shall comply with all requirements of this subpart unless it is known from label or nameplate information, manufacturer's literature (including documented communications with the manufacturer), or chemical analysis that the capacitor does not contain PCBs.

(ii) Any person may dispose of PCB Small Capacitors as municipal solid waste, unless that person is subject to the requirements of paragraph (b)(2)(iv) of this section.

(iii) Any PCB Large High or Low Voltage Capacitor which contains 500 ppm or greater PCBs, owned by any

person, shall be disposed of in accordance with either of the following:

(A) Disposal in an incinerator that complies with § 761.70; or

(B) Until March 1, 1981, disposal in a chemical waste landfill that complies with § 761.75.

(iv) Any PCB Small Capacitor owned by any person who manufactures or at any time manufactured PCB Capacitors or PCB Equipment and acquired the PCB Capacitors in the course of such manufacturing shall be disposed of in accordance with either of the following:

(A) Disposal in an incinerator which complies with § 761.70; or

(B) Until March 1, 1981, disposal in a chemical waste landfill which complies with § 761.75.

(v) Notwithstanding the restrictions imposed by paragraph (b)(2)(iii)(B) or (b)(2)(iv)(B) of this section, PCB capacitors may be disposed of in PCB chemical waste landfills that comply with § 761.75 subsequent to March 1, 1981, if the Assistant Administrator for Pesticides and Toxic Substances publishes a notice in the FEDERAL REGISTER declaring that those landfills are available for such disposal and explaining the reasons for the extension or reopening. An extension or reopening for disposal of PCB capacitors that is granted under this subsection shall be subject to such terms and conditions as the Assistant Administrator may prescribe and shall be in effect for such period as the Assistant Administrator may prescribe. The Assistant Administrator may permit disposal of PCB capacitors in EPA approved chemical waste landfills after March 1, 1981, in his opinion.

(A) Adequate incineration capability for PCB capacitors is not available, or

(B) The incineration of PCB capacitors will significantly interfere with the incineration of liquid PCBs, or

(C) There is other good cause shown.

As part of this evaluation, the Assistant Administrator will consider the impact of his action on the incentives to construct or expand PCB incinerators.

(vi) Prior to disposal in a § 761.75 chemical waste landfill, all large PCB capacitors, and all small PCB capacitors described in paragraph (b)(2)(iv)

of this section, shall be placed in one of the Department of Transportation specification containers identified in § 761.65(c)(6) or in containers that comply with 49 CFR 178.118 (specification 17H containers). Large PCB capacitors which are too big to fit inside one of these containers shall be placed in a container with strength and durability equivalent to the DOT specification containers. In all cases, interstitial space in the container shall be filled with sufficient absorbent material (such as sawdust or soil) to absorb any liquid PCBs remaining in the capacitors.

(3) *PCB hydraulic machines.* PCB hydraulic machines containing PCBs at concentrations of 50 ppm or greater such as die casting machines may be disposed of as municipal solid waste or salvage provided that the machines are drained of all free-flowing liquid and the liquid is disposed of in accordance with the provisions of paragraph (a) of this section. If the PCB liquid contains 1000 ppm PCB or greater, then the hydraulic machine must be flushed prior to disposal with a solvent containing less than 50 ppm PCB under transformer solvents at paragraph (b)(1)(i)(B) of this section and the solvent disposed of in accordance with paragraph (a) of this section.

(4) *PCB-Contaminated Electrical Equipment.* All PCB-Contaminated Electrical Equipment except capacitors shall be disposed of by draining all free flowing liquid from the electrical equipment and disposing of the liquid in accordance with paragraph (a)(2) or (3) of this section. The disposal of the drained electrical equipment is not regulated by this rule. Capacitors that contain between 50 and 500 ppm PCBs shall be disposed of in an incinerator that complies with § 761.70 or in a chemical waste landfill that complies with § 761.75.

(5) *Other PCB Articles.* (i) PCB articles with concentrations at 500 ppm or greater must be disposed of:

(A) In an incinerator that complies with § 761.70; or

(B) In a chemical waste landfill that complies with § 761.75, provided that all free-flowing liquid PCBs have been thoroughly drained from any articles before the articles are placed in the

chemical waste landfill and that the drained liquids are disposed of in an incinerator that complies with § 761.70.

(ii) PCB Articles with a PCB concentration between 50 and 500 ppm must be disposed of by draining all free flowing liquid from the article and disposing of the liquid in accordance with paragraph (a)(2) or (3) of this section. The disposal of the drained article is not regulated by this rule.

(6) *Storage of PCB Articles.* Except for a PCB Article described in paragraph (b)(2)(ii) of this section and hydraulic machines that comply with the municipal solid waste disposal provisions described in paragraph (b)(3) of this section, any PCB Article, with PCB concentrations at 50 ppm or greater, shall be stored in accordance with § 761.65 prior to disposal.

(c) *PCB Containers.* (1) Unless decontaminated in compliance with § 761.79 or as provided in paragraph (c)(2) of this section, a PCB container with PCB concentrations at 500 ppm or greater shall be disposed of:

(i) In an incinerator which complies with § 761.70, or

(ii) In a chemical waste landfill that complies with § 761.75; provided that if there are PCBs in a liquid state, the PCB Container shall first be drained and the PCB liquid disposed of in accordance with paragraph (a) of this section.

(2) Any PCB Container used to contain only PCBs at a concentration less than 500 ppm shall be disposed of as municipal solid wastes; provided that if the PCBs are in a liquid state, the PCB Container shall first be drained and the PCB liquid shall be disposed of in accordance with paragraph (a) of this section.

(3) Prior to disposal, a PCB container with PCB concentrations at 50 ppm or greater shall be stored in a facility which complies with § 761.65.

(d) *Spills.* (1) Spills and other uncontrolled discharges of PCBs at concentrations of 50 ppm or greater constitute the disposal of PCBs.

(2) PCBs resulting from the clean-up and removal of spills, leaks, or other uncontrolled discharges, must be stored and disposed of in accordance with paragraph (a) of this section.

(3) These regulations do not exempt any person from any actions or liability under other statutory authorities, including but not limited to the Clean Water Act, the Resource Conservation and Recovery Act, and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

(e) Any person who is required to incinerate any PCBs and PCB Items under this subpart and who can demonstrate that an alternative method of destroying PCBs and PCB Items exists and that this alternative method can achieve a level of performance equivalent to § 761.70 incinerators or high efficiency boilers as provided in paragraphs (a)(2)(iv) and (a)(3)(iv) of this section, may submit a written request to either the Regional Administrator or the Director, Exposure Evaluation Division for an exemption from the incineration requirements of § 761.70 or § 761.60. Requests for approval of alternate methods that will be operated in more than one region must be submitted to the Director, Exposure Evaluation Division except for research and development involving less than 500 pounds of PCB material (see paragraph (i)(2) of this section). Requests for approval of alternate methods that will be operated in only one region must be submitted to the appropriate Regional Administrator. The applicant must show that his method of destroying PCBs will not present an unreasonable risk of injury to health or the environment. On the basis of such information and any available information, the Regional Administrator or the Director, Exposure Evaluation Division may, in his discretion, approve the use of the alternate method if he finds that the alternate disposal method provides PCB destruction equivalent to disposal in a § 761.70 incinerator or a § 761.60 high efficiency boiler and will not present an unreasonable risk of injury to health or the environment. Any approval must be stated in writing and may contain such conditions and provisions as the Regional Administrator or Director, Exposure Evaluation Division deems appropriate. The person to whom such waiver is issued must comply with all

limitations contained in such determination.

(f)(1) Each operator of a chemical waste landfill, incinerator, or alternative to incineration approved under paragraph (e) of this section shall give the following written notices to the state and local governments within whose jurisdiction the disposal facility is located:

(i) Notice at least thirty (30) days before a facility is first used for disposal of PCBs required by these regulations; and

(ii) At the request of any state or local government, annual notice of the quantities and general description of PCBs disposed of during the year. This annual notice shall be given no more than thirty (30) days after the end of the year covered.

(iii) The Regional Administrator may reduce the notice period required by paragraph (f)(1)(i) of this section from thirty days to a period of no less than five days in order to expedite interim approval of the chemical waste landfill located in Sedgwick County, Kansas.

(2) Any person who disposes of PCBs under a paragraph (a)(5)(iii) of this section incineration or chemical waste landfiling waiver shall give written notice at least thirty (30) days prior to conducting the disposal activities to the state and local governments within whose jurisdiction the disposal is to take place.

(g) *Testing procedures.* (1) Owners or users of mineral oil dielectric fluid electrical equipment may use the following procedures to determine the concentration of PCBs in the dielectric fluid:

(i) Dielectric fluid removed from mineral oil dielectric fluid electrical equipment may be collected in a common container, provided that no other chemical substances or mixtures are added to the container. This common container option does not permit dilution of the collected oil. Mineral oil that is assumed or known to contain at least 50 ppm PCBs must not be mixed with mineral oil that is known or assumed to contain less than 50 ppm PCBs to reduce the concentration of PCBs in the common container. If dielectric fluid from untested,

oil-filled circuit breakers, reclosers, or cable is collected in a common container with dielectric fluid from other oil-filled electrical equipment, the entire contents of the container must be treated as PCBs at a concentration of at least 50 ppm, unless all of the fluid from the other oil-filled electrical equipment has been tested and shown to contain less than 50 ppm PCBs.

(ii) For purposes of complying with the marking and disposal requirements, representative samples may be taken from either the common containers or the individual electrical equipment to determine the PCB concentration, except that if any PCBs at a concentration of 500 ppm or greater have been added to the container or equipment then the total container contents must be considered as having a PCB concentration of 500 ppm or greater for purposes of complying with the disposal requirements of this subpart. For purposes of this subparagraph, representative samples of mineral oil dielectric fluid are either samples taken in accordance with ASTM D 923-86 or samples taken from a container that has been thoroughly mixed in a manner such that any PCBs in the container are uniformly distributed throughout the liquid in the container.

(2) Owners or users of waste oil may use the following procedures to determine the PCB concentration of waste oil:

(i) Waste oil from more than one source may be collected in a common container, provided that no other chemical substances or mixtures, such as non-waste oils, are added to the container.

(ii) For purposes of complying with the marking and disposal requirements, representative samples may be taken from either the common containers or the individual electrical equipment to determine the PCB concentration. *Except*, That if any PCBs at a concentration of 500 ppm or greater have been added to the container or equipment then the total container contents must be considered as having a PCB concentration of 500 ppm or greater for purposes of complying with the disposal requirements of this subpart. For purposes of this

paragraph, representative samples of mineral oil dielectric fluid are either samples taken in accordance with ASTM D 923-86 or samples taken from a container that has been thoroughly mixed in a manner such that any PCBs in the container are uniformly distributed throughout the liquid in the container.

(h) Requirements for export and import of PCBs for purposes of disposal and PCB Items for purposes of disposal are found in § 761.20.

(i) *Approval authority for disposal methods.* (1) The officials (the Director, Exposure Evaluation Division and the Regional Administrators) designated in §§ 761.60(e) and 761.70(a) and (b) to receive requests for approval of PCB disposal activities are the primary approval authorities for these activities. Notwithstanding, the Director, Exposure Evaluation Division may, at his/her discretion, assign the authority to review and approve any aspect of a disposal system to the Office of Pesticides and Toxic Substances or to a Regional Administrator.

(2) Except for activity authorized under § 761.30(j), research and development (R and D) into PCB disposal methods using a total of less than 500 pounds of PCB material (regardless of PCB concentration) will be reviewed and approved by the appropriate EPA Regional Administrator and research and development using 500 pounds or more of PCB material (regardless of PCB concentration) will be reviewed by the approval authorities set out in §§ 761.60(e) and 761.70(a) and (b).

(Sec. 6, Pub. L. 94-469, 90 Stat. 2020 (15 U.S.C. 2605)

[44 FR 31542, May 31, 1979, as amended at 44 FR 54297, Sept. 19, 1979; 45 FR 20475, Mar. 28, 1980. Redesignated at 47 FR 19527, May 6, 1982, and amended at 47 FR 37359, Aug. 25, 1982; 48 FR 5730, Feb. 8, 1983; 48 FR 13185, Mar. 30, 1983; 48 FR 15125, Apr. 7, 1983; 49 FR 28191, July 10, 1984; 49 FR 36848, Sept. 19, 1984; 53 FR 10391, Mar. 31, 1988; 53 FR 12524, Apr. 15, 1988; 53 FR 21641, June 9, 1988; 54 FR 22595, May 25, 1989]

#### § 761.65 Storage for disposal.

This section applies to the storage for disposal of PCBs at concentrations of 50 ppm or greater and PCB Items

with PCB concentrations of 50 ppm or greater.

(a) Any PCB Article or PCB Container stored for disposal before January 1, 1983, shall be removed from storage and disposed of as required by this part before January 1, 1984. Any PCB Article or PCB Container stored for disposal after January 1, 1983, shall be removed from storage and disposed of as required by subpart D of this part within one year from the date when it was first placed into storage.

(b) Except as provided in paragraph (c) of this section, after July 1, 1978, owners or operators of any facilities used for the storage of PCBs and PCB Items designated for disposal shall comply with the following requirements:

(1) The facilities shall meet the following criteria:

(i) Adequate roof and walls to prevent rain water from reaching the stored PCBs and PCB Items;

(ii) An adequate floor which has continuous curbing with a minimum six inch high curb. The floor and curbing must provide a containment volume equal to at least two times the internal volume of the largest PCB Article or PCB Container stored therein or 25 percent of the total internal volume of all PCB Articles or PCB Containers stored therein, whichever is greater;

(iii) No drain valves, floor drains, expansion joints, sewer lines, or other openings that would permit liquids to flow from the curbed area;

(iv) Floors and curbing constructed of continuous smooth and impervious materials, such as Portland cement concrete or steel, to prevent or minimize penetration of PCBs; and

(v) Not located at a site that is below the 100-year flood water elevation.

(2) [Reserved]

(c)(1) The following PCB Items may be stored temporarily in an area that does not comply with the requirements of paragraph (b) of this section for up to thirty days from the date of their removal from service, provided that a notation is attached to the PCB Item or a PCB Container (containing the item) indicating the date the item was removed from service:

(i) Non-leaking PCB Articles and PCB Equipment;

(ii) Leaking PCB Articles and PCB Equipment if the PCB Items are placed in a non-leaking PCB Container that contains sufficient sorbent materials to absorb any liquid PCBs remaining in the PCB Items;

(iii) PCB Containers containing non-liquid PCBs such as contaminated soil, rags, and debris; and

(iv) PCB Containers containing liquid PCBs at a concentration between 50 and 500 ppm, provided a Spill Prevention, Control and Countermeasure Plan has been prepared for the temporary storage area in accordance with 40 CFR Part 112. In addition, each container must bear a notation that indicates that the liquids in the drum do not exceed 500 ppm PCB.

(2) Non-leaking and structurally undamaged PCB Large High Voltage Capacitors and PCB-Contaminated Electrical Equipment that have not been drained of free flowing dielectric fluid may be stored on pallets next to a storage facility that meets the requirements of paragraph (b) of this section. PCB-Contaminated Electrical Equipment that has been drained of free flowing dielectric fluid is not subject to the storage provisions of § 761.65. Storage under this subparagraph will be permitted only when the storage facility has immediately available unfilled storage space equal to 10 percent of the volume of capacitors and equipment stored outside the facility. The capacitors and equipment temporarily stored outside the facility shall be checked for leaks weekly.

(3) Any storage area subject to the requirements of paragraph (b) or paragraph (c)(1) of this section shall be marked as required in subpart C—§ 761.40(a)(10).

(4) No item of movable equipment that is used for handling PCBs and PCB Items in the storage facilities and that comes in direct contact with PCBs shall be removed from the storage facility area unless it has been decontaminated as specified in § 761.79.

(5) All PCB Articles and PCB Containers in storage shall be checked for leaks at least once every 30 days. Any leaking PCB Articles and PCB Containers and their contents shall be

transferred immediately to properly marked non-leaking containers. Any spilled or leaked materials shall be immediately cleaned up, using sorbents or other adequate means, and the PCB-contaminated materials and residues shall be disposed of in accordance with § 761.80(a)(4).

(6) Except as provided in paragraph (c)(7) of this section, any container used for the storage of liquid PCBs shall comply with the Shipping Container Specification of the Department of Transportation (DOT), 49 CFR 178.80 (Specification 5 container without removable head), 178.82 (Specification 5B container without removable head), 178.102 (Specification 6D overpack with Specification 2S(§ 178.35) or 2SL(§ 178.35a) polyethylene containers) or 178.116 (Specification 17E container). Any container used for the storage of non-liquid PCBs shall comply with the specifications of 49 CFR 178.80 (Specification 5 container), 178.82 (Specification 5B container) or 178.115 (Specification 17C container). As an alternate, containers larger than those specified in DOT Specifications 5, 5B, or 17C may be used for non-liquid PCBs if the containers are designed and constructed in a manner that will provide as much protection against leaking and exposure to the environment as the DOT Specification containers, and are of the same relative strength and durability as the DOT Specification containers.

(7) Storage containers for liquid PCBs can be larger than the containers specified in paragraph (c)(6) of this section provided that:

(i) The containers are designed, constructed, and operated in compliance with Occupational Safety and Health Standards, 29 CFR 1910.106, *Flammable and combustible liquids*. Before using these containers for storing PCBs, the design of the containers must be reviewed to determine the effect on the structural safety of the containers that will result from placing liquids with the specific gravity of PCBs into the containers (see 29 CFR 1910.106(b)(1)(i)(f)).

(ii) The owners or operators of any facility using containers described in paragraph (c)(7)(i) of this section,

shall prepare and implement a Spill Prevention Control and Countermeasure (SPCC) Plan as described in Part 112 of this title. In complying with 40 CFR Part 112, the owner or operator shall read "oil(s)" as "PCB(s)" whenever it appears. The exemptions for storage capacity, 40 CFR 112.1(d)(2), and the amendment of SPCC plans by the Regional Administrator, 40 CFR 112.4, shall not apply unless some fraction of the liquids stored in the container are oils as defined by section 311 of the Clean Water Act.

(8) PCB Articles and PCB Containers shall be dated on the article or container when they are placed in storage. The storage shall be managed so that the PCB Articles and PCB Containers can be located by the date they entered storage. Storage containers provided in paragraph (c)(7) of this section, shall have a record that includes for each batch of PCBs the quantity of the batch and date the batch was added to the container. The record shall also include the date, quantity, and disposition of any batch of PCBs removed from the container.

(9) Owners or operators of storage facilities shall establish and maintain records as provided in § 761.180.

(d) *Approval of commercial storers of PCB waste.* (1) All commercial storers of PCB waste shall have interim approval to operate commercial facilities for the storage of PCB waste until August 2, 1990. Commercial storers of PCB waste are prohibited from storing any PCB waste at their facilities after August 2, 1990 unless they have submitted by August 2, 1990 a complete application for a final storage approval under paragraph (d)(2) of this section. The period of interim approval shall continue until the Regional Administrator (or the Director of the Exposure Evaluation Division (Director, EED) in cases involving commercial storage ancillary to a facility approved for disposal by the Director, EED) makes a final decision on the storage application at which time such interim approval shall terminate.

(2) The Regional Administrator for the region in which the storage facility is located (or the Director, EED, if the commercial storage area is ancillary to a facility approved for disposal

by the Director, EED) shall grant written, final approval to engage in the commercial storage of PCB waste upon a determination by the Regional Administrator or the Director, EED, that the criteria in paragraph (d)(2)(i) through (d)(2)(vii) of this section have been met by the applicant:

(i) The applicant, its principals, and its key employees responsible for the establishment or operation of the commercial storage facility are qualified to engage in the business of commercial storage of PCB waste.

(ii) The facility possesses the capacity to handle the quantity of PCB waste which the owner or operator of the facility has estimated will be the maximum quantity of PCB waste that will be handled at any one time at the facility.

(iii) The owner or operator of the facility has certified compliance with the storage facility standards in paragraphs (b) and (c)(7) of this section.

(iv) The owner or operator has developed a written closure plan for the facility that is deemed acceptable by the Regional Administrator (or the Director, EED, if the commercial storage is ancillary to a disposal facility permitted by the Director, EED) under the closure plan standards of paragraph (e) of this section.

(v) The owner or operator has included in the application for final approval a demonstration of financial responsibility for closure that meets the financial responsibility standards of paragraph (g) of this section.

(vi) The operation of the storage facility will not pose an unreasonable risk of injury to health or the environment.

(vii) The environmental compliance history of the applicant, its principals, and its key employees shall be deemed to constitute a sufficient basis for denial of approval whenever in the judgment of the Regional Administrator (or Director, EED) two or more related civil violations or a single environmental criminal conviction evidence a pattern or practice of non-compliance that demonstrate the applicant's unwillingness or inability to achieve and maintain its operations in a compliance status.

(3) Applicants for storage approvals shall submit a written application that includes any relevant information bearing upon the qualifications of the facility's principals and key employees to engage in the business of commercial storage of PCB wastes. This information shall include, but is not limited to:

(i) The identification of the owner and the operator of the facility, including all general partners of a partnership, any limited partner of a partnership, any stockholder of a corporation or any participant in any other type of business organization or entity who owns or controls, directly or indirectly, more than 5 percent of each partnership, corporation, or other business organization and all officials of the facility who have direct management responsibility for the facility.

(ii) The identification of the person responsible for the overall operations of the facility (i.e., a plant manager, superintendent, or a person of similar responsibility) and the supervisory employees who are or will be responsible for the operation of the facility.

(iii) Information concerning the technical qualifications and experience of the persons responsible for the overall operation of the facility and the employees responsible for handling PCB waste or other wastes.

(iv) Information concerning any past State or Federal environmental violations involving the same business or another business with which the principals or supervisory employees were affiliated directly that occurred within 5 years preceding the date of submission and which relate directly to violations that resulted in either a civil penalty (irrespective of whether the matter was disposed of by an adjudication or by a without prejudice settlement) or judgment of conviction whether entered after trial or a plea, either of guilt or nolo contendere or civil injunctive relief and involved storage, disposal, transport, or other waste handling activities.

(v) A list of all companies currently owned or operated in the past by the principals or key employees identified in paragraphs (d)(3)(i) and (d)(3)(ii) of this section that are or were directly

or indirectly involved with waste handling activities.

(vi) The owner's or operator's estimate of maximum PCB waste quantity to be handled at the facility.

(vii) A written statement certifying compliance with paragraph (b) or (c) of this section and containing a certification as defined in § 761.3.

(viii) A written closure plan for the facility, as described in paragraph (e) of this section.

(ix) The current closure cost estimate for the facility, as described in paragraph (f) of this section.

(x) A demonstration of financial responsibility to close the facility, as described in paragraph (g) of this section.

(4) The written approval issued by the Regional Administrator (or the Director, EED, if the commercial storage area is ancillary to a disposal facility approved by the Director, EED) shall include, but not be limited to, the following:

(i) The determination that the applicant has satisfied the requirements set forth in paragraph (d)(2) of this section, and a brief statement setting forth the basis for the determination.

(ii) Incorporation of the closure plan submitted by the facility owner or operator and approved by the Regional Administrator (or the Director, EED, if the commercial storage area is ancillary to a disposal facility approved by the Director, EED).

(iii) A condition imposing a maximum PCB storage capacity which the facility shall not exceed during its PCB waste storage operations. The maximum storage capacity imposed under this condition shall not be greater than the estimated maximum inventory of PCB waste included in the owner's or operator's application for final approval.

(iv) Such other conditions as deemed necessary by the Regional Administrator (or the Director, EED, if the commercial storage area is ancillary to a disposal facility approved by the Director, EED) to ensure that the operations of the PCB storage facility will not pose an unreasonable risk of injury to health or the environment.

(5) Storage areas at transfer facilities are exempt from the requirement

to obtain approval as a commercial storer of PCB waste under this paragraph, unless the same PCB waste is stored at these facilities for a period of time greater than 10 consecutive days between destinations.

(6) Storage areas at RCRA-permitted facilities may be exempt from the separate TSCA storage approval requirements in this paragraph (d) upon a showing to the Regional Administrator's satisfaction that the facility's existing RCRA closure plan is substantially equivalent to this rule's closure plan standards, and that such facility's closure cost estimate and financial assurance demonstration account for maximum PCB waste inventories, and the requirements of paragraph (d)(3)(i) through (d)(3)(v) and (d)(3)(vii) of this section are met. A pay-in period of longer than 3 years after approval of the storage facility pursuant to this rule, will be acceptable to EPA if that pay-in period has already been established for a valid RCRA facility or previously approved TSCA facility.

(7) Storage areas ancillary to TSCA-approved disposal facilities may be exempt from a separate facility approval provided all of the following conditions are met:

(i) The current disposal approval contains an expiration date.

(ii) The current disposal approval's closure and financial responsibility conditions specifically extend to storage areas ancillary to disposal.

(iii) The current disposal approval's closure and financial responsibility conditions provide for annual adjustments for inflation, and for modification when changes in operation would affect closure costs.

(iv) The current disposal approval contains conditions on closure and financial responsibility that are at least as stringent as those in paragraphs (e) and (g) of this section. However, the provision for a 3-year closure trust pay-in period, as specified in paragraph (g)(1)(i) of this section, would be waived in a case in which an approved TSCA facility or RCRA facility that covers PCB storage has a longer pay-in period for the trust.

(v) The current disposal approval satisfies the requirements of para-

graph (d)(3)(i) through (d)(3)(v) of this section.

(8) The approval of any existing TSCA-approved disposal facility ancillary to a commercial storage facility that is deficient in any of the conditions of paragraph (d)(7)(i) through (d)(7)(v) of this section shall be called in by the Regional Administrator or the Director, EED, if it was the Director, EED who issued it. The approval shall be modified to meet the requirements of paragraph (d)(7) of this section within 180 days of the effective date of this final rule, or a separate application for approval of the storage facility may be submitted to the Regional Administrator or the Director, EED, in the cases where the Director, EED issued the approval.

(e) *Closure.* (1) A commercial storer of PCB waste shall have a written closure plan that identifies the steps that the owner or operator of the facility shall take to close the PCB waste storage facility in a manner that eliminates the potential for post-closure releases of PCBs which may present an unreasonable risk to human health or the environment. An acceptable closure plan must include, at a minimum, all of the following:

(i) A description of how the PCB storage areas of the facility will be closed in a manner that eliminates the potential for post-closure releases of PCBs into the environment.

(ii) An identification of the maximum extent of storage operations that will be open during the active life of the facility, including an identification of the extent of PCB storage operations at the facility relative to other wastes that will be handled at the facility.

(iii) An estimate of the maximum inventory of PCB wastes that could be handled at one time at the facility over its active life, and a detailed description of the methods or arrangements to be used during closure for removing, transporting, storing, or disposing of the facility's inventory of PCB waste, including an identification of any off-site facilities that will be used.

(iv) A detailed description of the steps needed to remove or decontaminate PCB waste residues and contami-

nated containment system components, equipment, structures, and soils during closure in accordance with the levels specified in the PCB Spills Cleanup Policy in subpart G of this part, including a description of the methods for sampling and testing of surrounding soils, and the criteria for determining the extent of removal or decontamination.

(v) A detailed description of other activities necessary during the closure period to ensure that any post-closure releases of PCBs will not present unreasonable risks to human health or the environment. This includes activities such as ground-water monitoring, run-on and run-off control, and facility security.

(vi) A schedule for closure of each area of the facility where PCB waste is stored or handled, including the total time required to close each area of PCB waste storage or handling, and the time required for any intervening closure activities.

(vii) An estimate of the expected year of closure of the PCB waste storage areas, if a trust fund is opted for as the financial mechanism.

(2) A written closure plan determined to be acceptable by the Regional Administrator (or the Director, EED, if the commercial storage area is ancillary to a disposal facility approved by the Director, EED) under this section shall become a condition of any approval granted under paragraph (d) of this section.

(3) A separate and new closure plan need not be submitted in cases where a facility is currently covered by a TSCA approval or a RCRA permit, upon a showing to the satisfaction of the Regional Administrator (or the Director, EED, if the commercial storage area is ancillary to a disposal facility approved by the Director, EED) that the existing closure plan is substantially equivalent to closure plans required under paragraphs (d) through (g) of this section, and that the plan adequately accounts for PCB waste inventories.

(4) The commercial storer of PCB waste shall submit a written request to the Regional Administrator (or the Director, EED, if he approved the closure plan) for a modification to its

storage approval to amend its closure plan, whenever:

(i) Changes in ownership, operating plans, or facility design affect the existing closure plan.

(ii) There is a change in the expected date of closure, if applicable.

(iii) In conducting closure activities, unexpected events require a modification of the approved closure plan.

(5) The Regional Administrator or the Director, EED, if he approved the closure plan, may modify the existing closure plan under the conditions described in paragraph (e)(4) of this section.

(6) Commercial storers of PCB waste shall comply with the following closure schedule:

(i) The commercial storer shall notify in writing the Regional Administrator or the Director, EED if he approved the closure plan, at least 60 days prior to the date on which final closure of its PCB storage facility is expected to begin.

(ii) The date when a commercial storer of PCB waste "expects to begin closure" shall be no later than 30 days after the date on which the storage facility received its final quantities of PCB waste. For good cause shown, the Regional Administrator or the Director, EED if he approved the closure plan, may extend the date for commencement of closure for an additional 30-day period.

(iii) Within 90 days after receiving the final quantity of PCB waste for storage, a commercial storer of PCB waste shall remove all PCB waste in storage at the facility from the facility in accordance with the approved closure plan. For good cause shown, the Regional Administrator or the Director, EED if he approved the closure plan, may approve a reasonable extension to the period for removal of the PCB waste.

(iv) A commercial storer of PCB waste shall complete closure activities in accordance with the approved closure plan and within 180 days after receiving the final quantity of PCB waste for storage at the facility. For good cause shown, the Regional Administrator or Director, EED if he approved the closure plan, may approve

a reasonable extension to the closure period.

(7) During the closure period, all contaminated system component equipment, structures, and soils shall be disposed of in accordance with the disposal requirements of subpart D of this part, or, if applicable, decontaminated in accordance with the levels specified in the PCB Spills Cleanup Policy at subpart G of this part. When PCB waste is removed from the storage facility during closure, the owner or operator becomes a generator of PCB waste subject to the generator requirements of subpart J of this part.

(8) Within 60 days of completion of closure of each facility for the storage of PCB waste, the commercial storer of PCB waste shall submit to the Regional Administrator (or Director, EED if he approved the closure plan), by registered mail, a certification that the PCB storage facility has been closed in accordance with the approved closure plan. The certification shall be signed by the owner or operator and by an independent registered professional engineer.

(f) *Closure cost estimate.* (1) A commercial storer of PCB wastes shall have a detailed estimate, in current dollars, of the cost of closing the facility in accordance with its approved closure plan. The closure cost estimate shall be in writing, be certified by the person preparing it (using the certification defined in § 761.3) and comply with all of the following criteria:

(i) The closure cost estimate shall equal the cost of final closure at the point in the PCB storage facility's active life when the extent and manner of PCB storage operations would make closure the most expensive, as indicated by the facility's closure plan.

(ii) The closure cost estimate shall be based on the costs to the owner or operator of hiring a third party to close the facility, and the third party shall not be either a corporate parent or subsidiary of the owner or operator, or member in joint ownership of the facility.

(iii) The owner or operator shall include in the estimate the current market costs for off-site commercial disposal of the facility's maximum es-

timated inventory of PCB wastes, except that on-site disposal costs may be used if on-site disposal capacity will exist at the facility at all times over the life of the PCB storage facility.

(iv) The closure cost estimate may not incorporate any salvage value that may be realized with the sale of wastes, facility structures or equipment, land, or other assets associated with the facility at the time of closure.

(2) During the active life of the PCB storage facility, the commercial storer of PCB waste shall adjust annually for inflation the closure cost estimate within 60 days prior to the anniversary date of the establishment of the financial instruments used to demonstrate financial responsibility for closure, except that owners or operators who use the financial test or corporate guarantee shall adjust their closure cost estimates for inflation within 30 days after the close of the storer's fiscal year. The adjustment may be made by recalculating the maximum costs of closure in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its *Survey of Current Business*. The Implicit Price Deflator for Gross National Product is included in a monthly publication titled *Economic Indicators*, which is available from the Superintendent of Documents, Government Printing Office, Washington, DC 20402. The inflation factor used in the latter method is the result of dividing the latest published annual Deflator by the Deflator for the previous year. The adjustment to the closure cost estimate is then made by multiplying the most recent closure cost estimate by the latest inflation factor.

(3) Where the Regional Administrator (or the Director, EED, if he approved the closure plan) approves a modification to the facility's closure plan, and that modification increases the cost of closure, the owner or operator shall revise the closure cost estimate no later than 30 days after the modification is approved. Any such revision shall also be adjusted for inflation in accordance with paragraph (f)(2) of this section.

(4) The owner or operator of the facility shall keep at the facility during its operating life the most recent closure cost estimate, including any adjustments resulting from inflation or from modifications to the closure plan.

(g) *Financial assurance for closure.* A commercial storer of PCB waste shall establish financial assurance for closure of each PCB storage facility that he owns or operates. In establishing financial assurance for closure, the commercial storer of PCB waste may choose from the following financial assurance mechanisms or any combination of mechanisms:

(1) The "closure trust fund," as specified in § 264.143(a) of this chapter, except for paragraph (a)(3) of § 264.143. For purposes of this paragraph, the following provisions also apply:

(i) Payments into the trust fund shall be made annually by the owner or operator over the remaining operating life of the facility as estimated in the closure plan, or over 3 years, whichever period is shorter. This period of time is hereafter referred to as the "pay-in period." For an existing facility, the first payment must be made within 30 calendar days after EPA has notified the facility of its conditional approval. Interim approval to operate is canceled and the application is denied if EPA does not receive verification that the payment was made in that 30-day period.

(ii) For a new facility, the first payment into the closure trust fund shall be made before EPA grants final approval of the application and before the facility may accept the initial shipment of PCB waste for commercial storage. A receipt from the trustee shall be submitted by the owner or operator to the Regional Administrator (or the Director, EED, if the commercial storage area is ancillary to a disposal facility approved by the Director EED) before this initial delivery of PCB waste. The first payment shall be at least equal to the current closure cost estimate, divided by the number of years in the pay-in period, except as provided in paragraph (g)(7) of this section for multiple mechanisms. Subsequent payments shall be made no later than 30 days after each anniver-

sary date of the first payment. The amount of each subsequent payment shall be determined by subtracting the current value of the trust fund from the current closure cost estimate, and dividing this difference by the number of years remaining in the pay-in period.

(iii) If an owner or operator of a facility existing on the effective date of this paragraph establishes a trust fund to meet the financial assurance requirements of this paragraph, and the value of the trust fund is less than the current closure cost estimate when a final approval is granted for the facility, the amount of the current closure cost estimate still to be paid into the trust fund shall be paid in over the pay-in period as defined in paragraph (g)(1)(i) of this section. Payments shall continue to be made no later than 30 days after each anniversary date of the first payment made into the trust fund. The amount of each payment shall be determined by subtracting the current value of the trust fund from the current closure cost estimate, and dividing this difference by the number of years remaining in the pay-in period.

(iv) The submission of a trust agreement with the wording specified in § 264.151(a)(1) of this chapter, including any reference to hazardous waste management facilities, shall be deemed to be in compliance with the requirement to submit a trust agreement under this subpart.

(2) The "surety bond guaranteeing payment into a closure trust fund," as specified in § 264.143(b) of this chapter, including the use of the surety bond instrument specified at § 264.151(b) of this chapter and the standby trust specified at § 264.143(b)(3) of this chapter. The use of the surety bonds, surety bond instruments, and standby trust agreements specified in §§ 264.143(b) and 264.151(b) of this chapter shall be deemed to be in compliance with this subpart.

(3)(i) The "surety bond guaranteeing performance of closure," as specified at § 264.143(c) of this chapter, except for paragraph (c)(5) of § 264.143 of this chapter. The submission and use of the surety bond instrument speci-

fied at § 264.151(c) of this chapter and the standby trust specified at § 264.143(c)(3) of this chapter shall be deemed to be in compliance with the requirements under this subpart relating to the use of surety bonds and standby trust funds.

(ii) For the purposes of this paragraph, and under the terms of the bond, the surety shall become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Liability is established by a final administrative determination pursuant to section 16 of TSCA that the owner or operator has failed to perform final closure in accordance with the closure plan and other approval or regulatory requirements when required to do so.

(4)(i) The "closure letter of credit" specified in § 264.143(d) of this chapter, except for paragraph (d)(8). The submission and use of the irrevocable letter of credit instrument specified in § 264.151(d) of this chapter and the standby trust specified in § 264.143(d)(3) of this chapter shall be deemed to be in compliance with the requirements of this subpart relating to the use of letters of credit and standby trust funds.

(ii) For the purposes of this paragraph, the Regional Administrator (or the Director, EED, if the commercial storage area is ancillary to a disposal facility approved by the Director, EED) may draw on the letter of credit following a final administrative determination pursuant to section 16 of TSCA that the owner or operator has failed to perform final closure in accordance with the closure plan and other approval or regulatory requirements when required to do so.

(5) "Closure insurance," as specified in § 264.143(e) of this chapter, utilizing the certificate of insurance for closure specified at § 264.151(e) of this chapter. The use of closure insurance as specified in § 264.143(e) of this chapter and the submission and use of the certificate of insurance specified in § 264.151(e) of this chapter shall be deemed to be in compliance with the requirements of this subpart relating to the use of closure insurance.

(6) The "financial test and corporate guarantee for closure," as described in

§ 264.143(f) of this chapter, including a letter signed by the owner's or operator's chief financial officer as specified at § 264.151(f) of this chapter and, if applicable, the written corporate guarantee specified at § 264.151(h) of this chapter. The use of the financial test and corporate guarantee specified in § 264.143(f) of this chapter, the submission and use of the letter specified in § 264.151(f) of this chapter, and the submission and use of the written corporate guarantee specified at § 264.151(h) of this chapter shall be deemed to be in compliance with the requirements of this subpart relating to the use of financial tests and corporate guarantees.

(7) The use of multiple financial mechanisms, as specified in § 264.143(g) of this chapter is permitted.

(h) *Release of owner or operator.* Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been completed in accordance with the approved closure plan, the Regional Administrator or the Director, EED, if he approved the closure plan, will notify the owner or operator in writing that the owner or operator is no longer required by this section to maintain financial assurance for final closure of the facility, unless the Regional Administrator or the Director, EED, if he approved the closure plan, has reason to believe that final closure has not been completed in accordance with the approved closure plan. The Regional Administrator or the Director, EED, if he approved the closure plan, shall provide the owner or operator with a detailed written statement stating the reasons why he believed closure was not conducted in accordance with the approved closure plan.

(i) *Laboratories and samples.* (1) A laboratory is conditionally exempt from the notification and approval requirements for a commercial storer under § 761.65 (d) through (h) when it stores samples held for disposal in a facility that complies with the standards in § 761.65(b)(1)(i) through (b)(1)(iv).

(2) A laboratory sample is exempt from the manifesting requirements in § 761.208 when:

(i) The sample is being transported to a laboratory for the purpose of testing.

(ii) The sample is being transported back to the sample collector after testing.

(iii) The sample is being stored by the sample collector before transport to a laboratory for testing.

(iv) The sample is being stored in a laboratory before testing.

(v) The sample is being stored in a laboratory after testing but before it is returned to the sample collector.

(vi) The sample is being stored temporarily in the laboratory after testing for a specific purpose (for example, until conclusion of a court case or enforcement action where further testing of the sample may be necessary).

(3) In order to qualify for the exemption in paragraph (i)(2)(i) and (i)(2)(ii) of this section, a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector must:

(i) Comply with applicable U.S. Department of Transportation (DOT) or U.S. Postal Service (USPS) shipping requirements, found respectively in 49 CFR 173.345 and U.S. Postal Regulations 652.2 and 652.3.

(ii) Assure that the following information accompanies the sample:

(A) The sample collector's name, mailing address, and telephone number.

(B) The laboratory's name, mailing address, and telephone number.

(C) The quantity of the sample.

(D) The date of shipment.

(E) A description of the sample.

(iii) Package the sample so that it does not leak, spill, or vaporize from its packaging.

(4) When the concentration of the PCB sample has been determined, and its use is terminated, the sample must be properly disposed. A laboratory must either manifest the PCB waste to a disposer or commercial storer, as required under § 761.208, retain a copy of each manifest, as required under § 761.209, and follow up on exception reporting, as required under § 761.215 (a) and (b), or return the sample to

the sample collector who must then properly dispose of the sample. If the laboratory returns the sample to the sample collector, the laboratory must comply with the shipping requirements set forth in paragraph (i)(3)(i) through (i)(3)(iii) of this section.

(j) States and the Federal Government. States and the Federal Government are exempt from the requirements of paragraphs (f) and (g) of this section.

(Approved by the Office of Management and Budget under control number 2070-0112)

(Sec. 6, Pub. L. 94-469, 90 Stat. 2020 (15 U.S.C. 2605)

[44 FR 31542, May 31, 1979. Redesignated at 47 FR 19527, May 6, 1982, and amended at 47 FR 37359, Aug. 8, 1982; 49 FR 28191, July 10, 1984; 53 FR 12524, Apr. 15, 1988; 54 FR 52746, Dec. 21, 1989; 55 FR 695, Jan. 8, 1990; 55 FR 26205, June 27, 1990]

§ 761.70 Incineration.

This section applies to facilities used to incinerate PCBs required to be incinerated by this part.

(a) *Liquid PCBs.* An incinerator used for incinerating PCBs shall be approved by an EPA Regional Administrator or the Director, Exposure Evaluation Division pursuant to paragraph (d) of this section. Requests for approval of incinerators to be used in more than one region must be submitted to the Director, Exposure Evaluation Division, except for research and development involving less than 500 pounds of PCB material (see § 761.60(i)(2)). Requests for approval of incinerators to be used in only one region must be submitted to the appropriate Regional Administrator. The incinerator shall meet all of the requirements specified in paragraphs (a) (1) through (9) of this section, unless a waiver from these requirements is obtained pursuant to paragraph (d)(5) of this section. In addition, the incinerator shall meet any other requirements which may be prescribed pursuant to paragraph (d)(4) of this section.

(1) Combustion criteria shall be either of the following:

(i) Maintenance of the introduced liquids for a 2-second dwell time at

1200°C(±100°C) and 3 percent excess oxygen in the stack gas; or

(ii) Maintenance of the introduced liquids for a 1½ second dwell time at 1600°C(±100°C) and 2 percent excess oxygen in the stack gas.

(2) Combustion efficiency shall be at least 99.9 percent computed as follows:

$$\text{Combustion efficiency} = \frac{[\text{CO}_2 / (\text{CO}_2 + \text{CO})]100}{\text{where}}$$

CO<sub>2</sub> = Concentration of carbon dioxide.  
CO = Concentration of carbon monoxide.

(3) The rate and quantity of PCBs which are fed to the combustion system shall be measured and recorded at regular intervals of no longer than 15 minutes.

(4) The temperatures of the incineration process shall be continuously measured and recorded. The combustion temperature of the incineration process shall be based on either direct (pyrometer) or indirect (wall thermocouple-pyrometer correlation) temperature readings.

(5) The flow of PCBs to the incinerator shall stop automatically whenever the combustion temperature drops below the temperatures specified in paragraph (a)(1) of this section.

(6) Monitoring of stack emission products shall be conducted:

(i) When an incinerator is first used for the disposal of PCBs under the provisions of this regulation:

(ii) When an incinerator is first used for the disposal of PCBs after the incinerator has been modified in a manner which may affect the characteristics of the stack emission products; and

(iii) At a minimum such monitoring shall be conducted for the following parameters:

(a) O<sub>2</sub>; (b) CO; (c) CO<sub>2</sub>; (d) Oxides of Nitrogen (NO<sub>x</sub>); (e) Hydrochloric Acid (HCl); (f) Total Chlorinated Organic Content (RCI); (g) PCBs; and (h) Total Particulate Matter.

(7) At a minimum monitoring and recording of combustion products and incineration operations shall be conducted for the following parameters whenever the incinerator is incinerating PCBs:

(i) O<sub>2</sub>; (ii) CO; and (iii) CO<sub>2</sub>. The monitoring for O<sub>2</sub> and CO shall be

continuous. The monitoring for CO<sub>2</sub> shall be periodic, at a frequency specified by the Regional Administrator or Director, Exposure Evaluation Division.

(8) The flow of PCBs to the incinerator shall stop automatically when any one or more of the following conditions occur, unless a contingency plan is submitted by the incinerator owner or operator and approved by the Regional Administrator or Director, Exposure Evaluation Division. The contingency plan indicates what alternative measures the incinerator owner or operator would take if any of the following conditions occur:

(i) Failure of monitoring operations specified in paragraph (a)(7) of this section;

(ii) Failure of the PCB rate and quantity measuring and recording equipment specified in paragraph (a)(3) of this section; or

(iii) Excess oxygen falls below the percentage specified in paragraph (a)(1) of this section.

(9) Water scrubbers shall be used for HCl control during PCB incineration and shall meet any performance requirements specified by the appropriate EPA Regional Administrator or the Director, Exposure Evaluation Division. Scrubber effluent shall be monitored and shall comply with applicable effluent or pretreatment standards, and any other State and Federal laws and regulations. An alternate method of HCl control may be used if the alternate method has been approved by the Regional Administrator or the Director, Exposure Evaluation Division. (The HCl neutralizing capability of cement kilns is considered to be an alternate method.)

(b) *Nonliquid PCBs.* An incinerator used for incinerating nonliquid PCBs, PCB Articles, PCB Equipment, or PCB Containers shall be approved by the appropriate EPA Regional Administrator or the Director, Exposure Evaluation Division pursuant to paragraph (d) of this section. Requests for approval of incinerators to be used in more than one region must be submitted to the Director, Exposure Evaluation Division, except for research and development involving less than 500 pounds of PCB material (see

§ 761.60(d)(2)). Requests for approval of incinerators to be used in only one region must be submitted to the appropriate Regional Administrator. The incinerator shall meet all of the requirements specified in paragraphs (b)(1) and (2) of this section unless a waiver from these requirements is obtained pursuant to paragraph (d)(5) of this section. In addition, the incinerator shall meet any other requirements that may be prescribed pursuant to paragraph (d)(4) of this section.

(1) The mass air emissions from the incinerator shall be no greater than 0.001g PCB/kg of the PCB introduced into the incinerator.

(2) The incinerator shall comply with the provisions of paragraphs (a)(2), (3), (4), (6), (7), (8)(i) and (ii), and (9) of this section.

(c) *Maintenance of data and records.* All data and records required by this section shall be maintained in accordance with § 761.180, Records and monitoring.

(d) *Approval of incinerators.* Prior to the incineration of PCBs and PCB Items the owner or operator of an incinerator shall receive the written approval of the Agency Regional Administrator for the region in which the incinerator is located, or the Director, Exposure Evaluation Division. Approval from the Director, Exposure Evaluation Division may be effective in all ten EPA regions. Such approval shall be obtained in the following manner:

(1) *Application.* The owner or operator shall submit to the Regional Administrator or the Director, Exposure Evaluation Division an application which contains:

(i) The location of the incinerator;

(ii) A detailed description of the incinerator including general site plans and design drawings of the incinerator;

(iii) Engineering reports or other information on the anticipated performance of the incinerator;

(iv) Sampling and monitoring equipment and facilities available;

(v) Waste volumes expected to be incinerated;

(vi) Any local, State, or Federal permits or approvals; and

(vii) Schedules and plans for complying with the approval requirements of this regulation.

(2) *Trial burn.* (i) Following receipt of the application described in paragraph (d)(1) of this section, the Regional Administrator or the Director, Exposure Evaluation Division shall determine if a trial burn is required and notify the person who submitted the report whether a trial burn of PCBs and PCB Items must be conducted. The Regional Administrator or the Director, Exposure Evaluation Division may require the submission of any other information that the Regional Administrator or the Director, Exposure Evaluation Division finds to be reasonably necessary to determine the need for a trial burn. Such other information shall be restricted to the types of information required in paragraphs (d)(1)(i) through (vii) of this section.

(ii) If the Regional Administrator or the Director, Exposure Evaluation Division determines that a trial burn must be held, the person who submitted the report described in paragraph (d)(1) of this section shall submit to the Regional Administrator or the Director, Exposure Evaluation Division a detailed plan for conducting and monitoring the trial burn. At a minimum, the plan must include:

(A) Date trial burn is to be conducted;

(B) Quantity and type of PCBs and PCB Items to be incinerated;

(C) Parameters to be monitored and location of sampling points;

(D) Sampling frequency and methods and schedules for sample analyses; and

(E) Name, address, and qualifications of persons who will review analytical results and other pertinent data, and who will perform a technical evaluation of the effectiveness of the trial burn.

(iii) Following receipt of the plan described in paragraph (d)(2)(ii) of this section, the Regional Administrator or the Director, Exposure Evaluation Division will approve the plan, require additions or modifications to the plan, or disapprove the plan. If the plan is disapproved, the Regional Administrator or the Director, Exposure Evaluation Division will notify the person

who submitted the plan of such disapproval, together with the reasons why it is disapproved. That person may thereafter submit a new plan in accordance with paragraph (d)(2)(ii) of this section. If the plan is approved (with any additions or modifications which the Regional Administrator or the Director, Exposure Evaluation Division may prescribe), the Regional Administrator or the Director, Exposure Evaluation Division will notify the person who submitted the plan of the approval. Thereafter, the trial burn shall take place at a date and time to be agreed upon between the Regional Administrator or the Director, Exposure Evaluation Division and the person who submitted the plan.

(3) *Other information.* In addition to the information contained in the report and plan described in paragraphs (d)(1) and (2) of this section, the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances may require the owner or operator to submit any other information that the Regional Administrator or the Assistant Administrator for Pesticides and Toxic Substances finds to be reasonably necessary to determine whether an incinerator shall be approved.

**NOTE:** The Regional Administrator will have available for review and inspection an Agency manual containing information on sampling methods and analytical procedures for the parameters required in § 761.70(a)(3), (4), (6), and (7) plus any other parameters he/she may determine to be appropriate. Owners or operators are encouraged to review this manual prior to submitting any report required in § 761.70.

(4) *Contents of approval.* (i) Except as provided in paragraph (d)(5) of this section, the Regional Administrator or the Director, Exposure Evaluation Division may not approve an incinerator for the disposal of PCBs and PCB Items unless he finds that the incinerator meets all of the requirements of paragraphs (a) and/or (b) of this section.

(ii) In addition to the requirements of paragraphs (a) and/or (b) of this section, the Regional Administrator or the Director, Exposure Evaluation Division may include in an approval any other requirements that the Regional

Administrator or the Director, Exposure Evaluation Division finds are necessary to ensure that operation of the incinerator does not present an unreasonable risk of injury to health or the environment from PCBs. Such requirements may include a fixed period of time for which the approval is valid.

(5) *Waivers.* An owner or operator of the incinerator may submit evidence to the Regional Administrator or the Director, Exposure Evaluation Division that operation of the incinerator will not present an unreasonable risk of injury to health or the environment from PCBs, when one or more of the requirements of paragraphs (a) and/or (b) of this section are not met. On the basis of such evidence and any other available information, the Regional Administrator or the Director, Exposure Evaluation Division may in his/her discretion find that any requirement of paragraphs (a) and (b) of this section is not necessary to protect against such a risk, and may waive the requirements in any approval for that incinerator. Any finding and waiver under this paragraph must be stated in writing and included as part of the approval.

(6) *Persons approved.* An approval will designate the persons who own and who are authorized to operate the incinerator, and will apply only to such persons, except as provided in paragraph (d)(8) of this section.

(7) *Final approval.* Approval of an incinerator will be in writing and signed by the Regional Administrator or the Director, Exposure Evaluation Division. The approval will state all requirements applicable to the approved incinerator.

(8) *Transfer of property.* Any person who owns or operates an approved incinerator must notify EPA at least 30 days before transferring ownership in the incinerator or the property it stands upon, or transferring the right to operate the incinerator. The transferor must also submit to EPA, at least 30 days before such transfer, a notarized affidavit signed by the transferee which states that the transferee will abide by the transferor's EPA incinerator approval. Within 30 days of receiving such notification and affidavit, EPA will issue an amended approval

substituting the transferee's name for the transferor's name, or EPA may require the transferee to apply for a new incinerator approval. In the latter case, the transferee must abide by the transferor's EPA approval until EPA issues the new approval to the transferee.

(Sec. 6, Pub. L. 94-469, 90 Stat. 2020 (15 U.S.C. 2605)

[44 FR 31542, May 31, 1979. Redesignated at 47 FR 19527, May 6, 1982, and amended at 48 FR 13185, Mar. 30, 1983; 49 FR 28191, July 10, 1984; 53 FR 12524, Apr. 15, 1988]

#### § 761.75 Chemical waste landfills.

This section applies to facilities used to dispose of PCBs in accordance with the part.

(a) *General.* A chemical waste landfill used for the disposal of PCBs and PCB Items shall be approved by the Agency Regional Administrator pursuant to paragraph (c) of this section. The landfill shall meet all of the requirements specified in paragraph (b) of this section, unless a waiver from these requirements is obtained pursuant to paragraph (c)(4) of this section. In addition, the landfill shall meet any other requirements that may be prescribed pursuant to paragraph (c)(3) of this section.

(b) *Technical requirements.* Requirements for chemical waste landfills used for the disposal of PCBs and PCB Items are as follows:

(1) *Soils.* The landfill site shall be located in thick, relatively impermeable formations such as large-area clay pans. Where this is not possible, the soil shall have a high clay and silt content with the following parameters:

(i) In-place soil thickness, 4 feet or compacted soil liner thickness, 3 feet;

(ii) Permeability (cm/sec), equal to or less than  $1 \times 10^{-7}$ ;

(iii) Percent soil passing No. 200 Sieve, >30;

(iv) Liquid Limit, >30; and

(v) Plasticity Index >15.

(2) *Synthetic membrane liners.* Synthetic membrane liners shall be used when, in the judgment of the Regional Administrator, the hydrologic or geologic conditions at the landfill require such a liner in order to provide at least a permeability equivalent to the soils in paragraph (b)(1) of this section.

Whenever a synthetic liner is used at a landfill site, special precautions shall be taken to insure that its integrity is maintained and that it is chemically compatible with PCBs. Adequate soil underlining and soil cover shall be provided to prevent excessive stress on the liner and to prevent rupture of the liner. The liner must have a minimum thickness of 30 mils.

(3) *Hydrologic conditions.* The bottom of the landfill shall be above the historical high groundwater table as provided below. Floodplains, shorelands, and groundwater recharge areas shall be avoided. There shall be no hydraulic connection between the site and standing or flowing surface water. The site shall have monitoring wells and leachate collection. The bottom of the landfill liner system or natural in-place soil barrier shall be at least fifty feet from the historical high water table.

(4) *Flood protection.* (i) If the landfill site is below the 100-year floodwater elevation, the operator shall provide surface water diversion dikes around the perimeter of the landfill site with a minimum height equal to two feet above the 100-year floodwater elevation.

(ii) If the landfill site is above the 100-year floodwater elevation, the operators shall provide diversion structures capable of diverting all of the surface water runoff from a 24-hour, 25-year storm.

(5) *Topography.* The landfill site shall be located in an area of low to moderate relief to minimize erosion and to help prevent landslides or slumping.

(6) *Monitoring systems—(i) Water sampling.* (A) For all sites receiving PCBs, the ground and surface water from the disposal site area shall be sampled prior to commencing operations under an approval provided in paragraph (c) of this section for use as baseline data.

(B) Any surface watercourse designated by the Regional Administrator using the authority provided in paragraph (c)(3)(ii) of this section shall be sampled at least monthly when the landfill is being used for disposal operations.

(C) Any surface watercourse designated by the Regional Administrator using the authority provided in paragraph (c)(3)(ii) of this section shall be sampled for a time period specified by the Regional Administrator on a frequency of no less than once every six months after final closure of the disposal area.

(ii) *Groundwater monitor wells.* (A) If underlying earth materials are homogenous, impermeable, and uniformly sloping in one direction, only three sampling points shall be necessary. These three points shall be equally spaced on a line through the center of the disposal area and extending from the area of highest water table elevation to the area of the lowest water table elevation on the property.

(B) All monitor wells shall be cased and the annular space between the monitor zone (zone of saturation) and the surface shall be completely back-filled with Portland cement or an equivalent material and plugged with Portland cement to effectively prevent percolation of surface water into the well bore. The well opening at the surface shall have a removable cap to provide access and to prevent entrance of rainfall or stormwater runoff. The well shall be pumped to remove the volume of liquid initially contained in the well before obtaining a sample for analysis. The discharge shall be treated to meet applicable State or Federal discharge standards or recycled to the chemical waste landfill.

(iii) *Water analysis.* As a minimum, all samples shall be analyzed for the following parameters, and all data and records of the sampling and analysis shall be maintained as required in § 761.180(d)(1). Sampling methods and analytical procedures for these parameters shall comply with those specified in 40 CFR Part 136 as amended in 41 FR 52779 on December 1, 1976.

(A) PCBs.

(B) pH.

(C) Specific conductance.

(D) Chlorinated organics.

(7) *Leachate collection.* A leachate collection monitoring system shall be installed above the chemical waste landfill. Leachate collection systems shall be monitored monthly for quantity and physicochemical characteris-

tics of leachate produced. The leachate should be either treated to acceptable limits for discharge in accordance with a State or Federal permit or disposed of by another State or Federally approved method. Water analysis shall be conducted as provided in paragraph (b)(6)(iii) of this section. Acceptable leachate monitoring/collection systems shall be any of the following designs, unless a waiver is obtained pursuant to paragraph (c)(4) of this section.

(i) *Simple leachate collection.* This system consists of a gravity flow drainfield installed above the waste disposal facility liner. This design is recommended for use when semi-solid or leachable solid wastes are placed in a lined pit excavated into a relatively thick, unsaturated, homogenous layer of low permeability soil.

(ii) *Compound leachate collection.* This system consists of a gravity flow drainfield installed above the waste disposal facility liner and above a secondary installed liner. This design is recommended for use when semi-liquid or leachable solid wastes are placed in a lined pit excavated into relatively permeable soil.

(iii) *Suction lysimeters.* This system consists of a network of porous ceramic cups connected by hoses/tubing to a vacuum pump. The porous ceramic cups or suction lysimeters are installed along the sides and under the bottom of the waste disposal facility liner. This type of system works best when installed in a relatively permeable unsaturated soil immediately adjacent to the bottom and/or sides of the disposal facility.

(8) *Chemical waste landfill operations.* (i) PCBs and PCB Items shall be placed in a landfill in a manner that will prevent damage to containers or articles. Other wastes placed in the landfill that are not chemically compatible with PCBs and PCB Items including organic solvents shall be segregated from the PCBs throughout the waste handling and disposal process.

(ii) An operation plan shall be developed and submitted to the Regional Administrator for approval as required in paragraph (c) of this section. This plan shall include detailed explanations of the procedures to be used for

recordkeeping, surface water handling procedures, excavation and backfilling, waste segregation burial coordinates, vehicle and equipment movement, use of roadways, leachate collection systems, sampling and monitoring procedures, monitoring wells, environmental emergency contingency plans, and security measures to protect against vandalism and unauthorized waste placements. EPA guidelines entitled "Thermal Processing and Land Disposal of Solid Waste" (39 FR 29337, Aug. 14, 1974) are a useful reference in preparation of this plan. If the facility is to be used to dispose of liquid wastes containing between 50 ppm and 500 ppm PCB, the operations plan must include procedures to determine that liquid PCBs to be disposed of at the landfill do not exceed 500 ppm PCB and measures to prevent the migration of PCBs from the landfill. Bulk liquids not exceeding 500 ppm PCBs may be disposed of provided such waste is pretreated and/or stabilized (e.g., chemically fixed, evaporated, mixed with dry inert absorbant) to reduce its liquid content or increase its solid content so that a non-flowing consistency is achieved to eliminate the presence of free liquids prior to final disposal in a landfill. PCB Container of liquid PCBs with a concentration between 50 and 500 ppm PCB may be disposed of if each container is surrounded by an amount of inert sorbant material capable of absorbing all of the liquid contents of the container.

(iii) Ignitable wastes shall not be disposed of in chemical waste landfills. Liquid ignitable wastes are wastes that have a flash point less than 60 degrees C (140 degrees F) as determined by the following method or an equivalent method: Flash point of liquids shall be determined by a Pensky-Martens Closed Cup Tester, using the protocol specified in ASTM D 93-85, or the Setflash Closed Tester using the protocol specified in ASTM Standard D-3278-78.

(iv) Records shall be maintained for all PCB disposal operations and shall include information on the PCB concentration in liquid wastes and the three dimensional burial coordinates for PCBs and PCB Items. Additional

records shall be developed and maintained as required in § 761.180.

(9) *Supporting facilities.* (i) A six foot woven mesh fence, wall, or similar device shall be placed around the site to prevent unauthorized persons and animals from entering.

(ii) Roads shall be maintained to and within the site which are adequate to support the operation and maintenance of the site without causing safety or nuisance problems or hazardous conditions.

(iii) The site shall be operated and maintained in a manner to prevent safety problems or hazardous conditions resulting from spilled liquids and windblown materials.

(c) *Approval of chemical waste landfills.* Prior to the disposal of any PCBs and PCB Items in a chemical waste landfill, the owner or operator of the landfill shall receive written approval of the Agency Regional Administrator for the Region in which the landfill is located. The approval shall be obtained in the following manner:

(1) *Initial report.* The owner or operator shall submit to the Regional Administrator an initial report which contains:

(i) The location of the landfill;

(ii) A detailed description of the landfill including general site plans and design drawings;

(iii) An engineering report describing the manner in which the landfill complies with the requirements for chemical waste landfills specified in paragraph (b) of this section;

(iv) Sampling and monitoring equipment and facilities available;

(v) Expected waste volumes of PCBs;

(vi) General description of waste materials other than PCBs that are expected to be disposed of in the landfill;

(vii) Landfill operations plan as required in paragraph (b) of this section;

(viii) Any local, State, or Federal permits or approvals; and

(ix) Any schedules or plans for complying with the approval requirements of these regulations.

(2) *Other information.* In addition to the information contained in the report described in paragraph (c)(1) of this section, the Regional Administrator may require the owner or operator to submit any other information that

the Regional Administrator finds to be reasonably necessary to determine whether a chemical waste landfill should be approved. Such other information shall be restricted to the types of information required in paragraphs (c)(1) (i) through (ix) of this section.

(3) *Contents of approval.* (i) Except as provided in paragraph (c)(4) of this section the Regional Administrator may not approve a chemical waste landfill for the disposal of PCBs and PCB Items, unless he finds that the landfill meets all of the requirements of paragraph (b) of this section.

(ii) In addition to the requirements of paragraph (b) of this section, the Regional Administrator may include in an approval any other requirements or provisions that the Regional Administrator finds are necessary to ensure that operation of the chemical waste landfill does not present an unreasonable risk of injury to health or the environment from PCBs. Such provisions may include a fixed period of time for which the approval is valid.

The approval may also include a stipulation that the operator of the chemical waste landfill report to the Regional Administrator any instance when PCBs are detectable during monitoring activities conducted pursuant to paragraph (b)(6) of this section.

(4) *Waivers.* An owner or operator of a chemical waste landfill may submit evidence to the Regional Administrator that operation of the landfill will not present an unreasonable risk of injury to health or the environment from PCBs when one or more of the requirements of paragraph (b) of this section are not met. On the basis of such evidence and any other available information, the Regional Administrator may in his discretion find that one or more of the requirements of paragraph (b) of this section is not necessary to protect against such a risk and may waive the requirements in any approval for that landfill. Any finding and waiver under this paragraph will be stated in writing and included as part of the approval.

(5) *Persons approved.* Any approval will designate the persons who own and who are authorized to operate the chemical waste landfill, and will apply

only to such persons, except as provided by paragraph (c)(7) of this section.

(6) *Final approval.* Approval of a chemical waste landfill will be in writing and will be signed by the Regional Administrator. The approval will state all requirements applicable to the approved landfill.

(7) *Transfer of property.* Any person who owns or operates an approved chemical waste landfill must notify EPA at least 30 days before transferring ownership in the property or transferring the right to conduct the chemical waste landfill operation. The transferor must also submit to EPA, at least 30 days before such transfer, a notarized affidavit signed by the transferee which states that the transferee will abide by the transferor's EPA chemical waste landfill approval. Within 30 days of receiving such notification and affidavit, EPA will issue an amended approval substituting the transferee's name for the transferor's name, or EPA may require the transferee to apply for a new chemical waste landfill approval. In the latter case, the transferee must abide by the transferor's EPA approval until EPA issues the new approval to the transferee.

(Sec. 6, Pub. L. 94-469, 90 Stat. 2020 (15 U.S.C. 2605))

[44 FR 31542, May 31, 1979. Redesignated at 47 FR 19527, May 6, 1982, and amended at 48 FR 5730, Feb. 8, 1983; 49 FR 28191, July 10, 1984; 53 FR 12524, Apr. 15, 1988; 53 FR 21641, June 9, 1988]

#### § 761.79 Decontamination.

(a) Any PCB Container to be decontaminated shall be decontaminated by flushing the internal surfaces of the container three times with a solvent containing less than 50 ppm PCB. The solubility of PCBs in the solvent must be five percent or more by weight. Each rinse shall use a volume of the normal diluent equal to approximately ten (10) percent of the PCB Container capacity. The solvent may be reused for decontamination until it contains 50 ppm PCB. The solvent shall then be disposed of as a PCB in accordance with § 761.60(a). Non-liquid PCBs resulting from the decontamination procedures shall be disposed of in accord-

ance with the provisions of § 761.80(a)(4).

(b) Movable equipment used in storage areas shall be decontaminated by swabbing surfaces that have contacted PCBs with a solvent meeting the criteria of paragraph (a) of this section.

NOTE: Precautionary measures should be taken to ensure that the solvent meets safety and health standards as required by applicable Federal regulations.

144 FR 31542, May 31, 1979. Redesignated at 47 FR 19527, May 6, 1982]

**Subpart E—Exemptions**

**§ 761.80 Manufacturing, processing and distribution in commerce exemptions.**

(a) The Administrator grants the following petitioner(s) an exemption for 1 year to process and distribute in commerce PCBs for use as a mounting medium in microscopy:

(1) McCrone Accessories Components, Division of Walter C. McCrone Associates, Inc., 2820 South Michigan Avenue, Chicago, IL 60616.

(2) [Reserved]

(b) The Administrator grants the following petitioner(s) an exemption for 1 year to process and distribute in commerce PCBs for use as a mounting medium in microscopy, an immersion oil in low fluorescence microscopy and an optical liquid:

(1) R.P. Cargille Laboratories, Inc., 55 Commerce Road, Cedar Grove, N.J. 07009.

(2) [Reserved]

(c) The Administrator grants the following petitioner(s) an exemption for 1 year to export PCBs for use in small quantities for research and development:

(1) Accu-Standard, New Haven, CT. 06503.

(2) [Reserved]

(d) The Administrator grants the following petitioner(s) an exemption for 1 year to import (manufacture) into the United States, small quantities of existing PCB fluids from electrical equipment for analysis:

(1) Unison Transformer Services, Inc., Tarrytown, N.Y. 10591, provided each of the following conditions are met:

(i) The samples must be shipped in 5.0 ml or less, hermetically sealed vials.

(ii) The exemption is limited to no more than 250 total samples per year.

(iii) Unison makes quarterly inspections of its laboratories to ensure that proper safety procedures are being followed.

(iv) Unison annually notifies and describes to EPA its attempts to have samples analyzed abroad.

(2) [Reserved]

(e) [Reserved]

(f) The Administrator grants the following petitioner(s) an exemption for 1 year to manufacture PCBs for use in small quantities for research and development:

(1) California Bionuclear Corp., Sun Valley, CA 91352 (ME-13).

(2) Foxboro Co., North Haven, CT 06473 (ME-6).

(3) ULTRA-Scientific, Inc., Hope, RI 02831 (ME-99.1).

(4) Midwest Research Institute, Kansas City, MO 64110 (ME-70.1).

(5) Pathfinder Laboratories, St. Louis, MO 63146 (A division of Sigma Aldridge Corporation, St. Louis, MO, 63178 (ME-76).

(6) Radian Corp., Austin, TX 78766 (ME-81.2).

(7) Wellington Sciences USA, College Station, TX 77840 (ME-104.1).

(8) Accu-Standard, 25 Science Park, New Haven, CT. 06503.

(g) The Administrator grants a class exemption to all processors and distributors of PCBs in small quantities for research and development provided that the following conditions are met:

(1) All processors and distributors must maintain records of their PCB activities for a period of 5 years.

(2) Any person or company which expects to process or distribute in commerce 100 grams (.22 lb) or more PCBs in 1 year must report to EPA identifying the sites of PCB activities and the quantity of PCBs to be processed or distributed in commerce.

(h) The Administrator grants the following petitioner(s) a class exemption to its members for 1 year to process and distribute in commerce non-porous transformer component parts which have been decontaminated of

PCB residues and to buy and sell PCB Transformers or PCB-Contaminated Transformers to which only double-rinsed, non-porous component parts have been added:

(1) Electrical Apparatus Service Association, 1331 Baur Boulevard, St. Louis, MO. 63123.

(2) [Reserved]

(i)-(1) [Reserved]

(m) The Administrator grants the following petitioner(s) an exemption for 1 year to process and export small quantities of PCBs for research and development:

(1) Chem Service, Inc., West Chester, PA 19380 (PDE-41).

(2) Foxboro Co., North Haven, CT 06473 (ME-6).

(3) PolyScience Corp., Niles, IL 60648 (PDE-178).

(4) ULTRA-Scientific, Inc., Hope, RI 02831 (PDE-282.1).

(5) Supelco, Inc., Bellefonte, PA 16823-0048 (PDE-41.2).

(6) Radian Corp., Austin, TX 78766 (PDE-182.1).

(n) The 1-year exemption granted to petitioners in paragraphs (a) through (f) and (m) of this section shall be renewed automatically unless a petitioner notifies EPA of any increase in the amount of PCBs to be processed and distributed, imported (manufactured), or exported; or of any change in the manner of processing and distributing, importing (manufacturing), or exporting of PCBs and unless EPA initiates rulemaking to terminate the exemption. Until EPA acts on the petition, the petitioner will be allowed to continue the activities for which it requests exemption.

(o) The 1-year class exemption granted to all processors and distributors of PCBs in small quantities for research and development in paragraph (g) of this section shall be renewed automatically unless information is submitted affecting EPA's conclusion that the class exemption, or the activities of any individual or company included in the exemption, will not pose an unreasonable risk of injury to health or the environment. EPA will evaluate the information, issue a proposed rule for public comment, and issue a final rule affecting the class exemption or individuals or companies

included in the class exemption. Until EPA issues a final rule, individuals and companies included in the class exemption will be allowed to continue processing and distributing PCBs in small quantities for research and development.

[55 FR 38999, Sept. 24, 1990]

**Subpart F—[Reserved]**

**Subpart G—PCB Spill Cleanup Policy**

SOURCE: 52 FR 10705, Apr. 2, 1987, unless otherwise noted.

**§ 761.120 Scope.**

(a) *General.* This policy establishes criteria EPA will use to determine the adequacy of the cleanup of spills resulting from the release of materials containing PCBs at concentrations of 50 ppm or greater. The policy applies to spills which occur after May 4, 1987.

(1) Existing spills (spills which occurred prior to May 4, 1987, are excluded from the scope of this policy for two reasons:

(i) For old spills which have already been discovered, this policy is not intended to require additional cleanup where a party has already cleaned a spill in accordance with requirements imposed by EPA through its regional offices, nor is this policy intended to interfere with ongoing litigation of enforcement actions which bring into issue PCB spills cleanup.

(ii) EPA recognizes that old spills which are discovered after the effective date of this policy will require site-by-site evaluation because of the likelihood that the site involves more pervasive PCB contamination than fresh spills and because old spills are generally more difficult to clean up than fresh spills (particularly on porous surfaces such as concrete). Therefore, spills which occurred before the effective date of this policy are to be decontaminated to requirements established at the discretion of EPA, usually through its regional offices.

(2) EPA expects most PCB spills subject to the TSCA PCB regulations to conform to the typical spill situations

considered in developing this policy. This policy does, however, exclude from application of the final numerical cleanup standards certain spill situations from its scope: Spills directly into surface waters, drinking water, sewers, grazing lands, and vegetable gardens. These types of spills are subject to final cleanup standards to be established at the discretion of the regional office. These spills are, however, subject to the immediate notification requirements and measures to minimize further environmental contamination.

(3) For all other spills, EPA generally expects the decontamination standards of this policy to apply. Occasionally, some small percentage of spills covered by this policy may warrant more stringent cleanup requirements because of additional routes of exposure or significantly greater exposures than those assumed in developing the final cleanup standards of this policy. While the EPA regional offices have the authority to require additional cleanup in these circumstances, the Regional Administrator must first make a finding based on the specific facts of a spill that additional cleanup must occur to prevent unreasonable risk. In addition, before a final decision is made to require additional cleanup, the Regional Administrator must notify the Director, Office of Toxic Substances at Headquarters of his/her finding and the basis for the finding.

(4) There may also be exceptional spill situations that requires less stringent cleanup or a different approach to cleanup because of factors associated with the particular spill. These factors may mitigate expected exposures and risks or make cleanup to these requirements impracticable.

(b) *Spills that may require more stringent cleanup levels.* For spills within the scope of this policy, EPA generally retains, under § 761.135, the authority to require additional cleanup upon finding that, despite good faith efforts by the responsible party, the numerical decontamination levels in the policy have not been met. In addition, EPA foresees the possibility of exceptional spill situations in which site-specific risk factors may warrant

additional cleanup to more stringent numerical decontamination levels than are required by the policy. In these situations, the Regional Administrator has the authority to require cleanup to levels lower than those included in this policy upon finding that further cleanup must occur to prevent unreasonable risk. The Regional Administrator will consult with the Director, Office of Toxic Substances, prior to making such a finding.

(1) For example, site-specific characteristics, such as short depth to ground water, type of soil, or the presence of a shallow well, may pose exceptionally high potential for ground water contamination by PCBs remaining after cleanup to the standards specified in this policy. Spills that pose such a high degree of potential for ground water contamination have not been excluded from the policy under paragraph (d) of this section because the presence of such potential may not be readily apparent. EPA feels that automatically excluding such spills from the scope of the policy could result in the delay of cleanup—a particularly undesirable outcome if potential ground water contamination is, in fact, a significant concern.

(2) In those situations, the Regional Administrator may require cleanup in addition to that required under § 761.125 (b) and (c). However, the Regional Administrator must first make a finding, based on the specific facts of a spill, that additional cleanup is necessary to prevent unreasonable risk. In addition, before making a final decision on additional cleanup, the Regional Administrator must notify the Director of the Office of Toxic Substances of his finding and the basis for the finding.

(c) *Flexibility to allow less stringent or alternative requirements.* EPA retains the flexibility to allow less stringent or alternative decontamination measures based upon site-specific considerations. EPA will exercise this flexibility if the responsible party demonstrates that cleanup to the numerical decontamination levels is clearly unwarranted because of risk-mitigating factors, that compliance with the procedural requirements or

numerical standards in the policy is impracticable at a particular site, or that site-specific characteristics make the costs of cleanup prohibitive. The Regional Administrator will notify the Director of OTS of any decision and the basis for the decision to allow less stringent cleanup. The purpose of this notification is to enable the Director of OTS to ensure consistency of spill cleanup standards under special circumstances across the regions.

(d) *Excluded spills.* (1) Although the spill situations in paragraphs (d)(2) (1) through (vi) of this section are excluded from the automatic application of final decontamination standards under § 761.125 (b) and (c), the general requirements under § 761.125(a) do apply to these spills. In addition, all of these excluded situations require practicable, immediate actions to contain the area of contamination. While these situations may not always require more stringent cleanup measures, the Agency is excluding these scenarios because they will always involve significant factors that may not be adequately addressed by cleanup standards based upon typical spill characteristics.

(2) For the spill situations in paragraphs (d)(2)(i) through (vi) of this section, the responsible party shall decontaminate the spill in accordance with site-specific requirements established by the EPA regional offices.

(i) Spills that result in the direct contamination of surface waters (surface waters include, but are not limited to, "waters of the United States" as defined in Part 122 of this chapter, ponds, lagoons, wetlands, and storage reservoirs).

(ii) Spills that result in the direct contamination of sewers or sewage treatment systems.

(iii) Spills that result in the direct contamination of any private or public drinking water sources or distribution systems.

(iv) Spills which migrate to and contaminate surface waters, sewers, or drinking water supplies before cleanup has been completed in accordance with this policy.

(v) Spills that contaminate animal grazing lands.

(vi) Spills that contaminate vegetable gardens.

(e) *Relationship of policy to other statutes.* (1) This policy does not affect cleanup standards or requirements for the reporting of spills imposed, or to be imposed, under other Federal statutory authorities, including but not limited to, the Clean Water Act (CWA), the Resource Conservation and Recovery Act (RCRA), and the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA). Where more than one requirement applies, the stricter standard must be met.

(2) The Agency recognizes that the existence of this policy will inevitably result in attempts to apply the standards to situations within the scope of other statutory authorities. However, other statutes require the Agency to consider different or alternative factors in determining appropriate corrective actions. In addition, the types and magnitudes of exposures associated with sites requiring corrective action under other statutes often involve important differences from those expected of the typical, electrical equipment-type spills considered in developing this policy. Thus, cleanups under other statutes, such as RCRA corrective actions or remedial and response actions under SARA may result in different outcomes.

#### § 761.123 Definitions.

For purposes of this policy, certain words and phrases are used to denote specific materials, procedures, or circumstances. The following definitions are provided for purposes of clarity and are not to be taken as exhaustive lists of situations and materials covered by the policy.

*Double wash/rinse* means a minimum requirement to cleanse solid surfaces (both impervious and nonimpervious) two times with an appropriate solvent or other material in which PCBs are at least 5 percent soluble (by weight). A volume of PCB-free fluid sufficient to cover the contaminated surface completely must be used in each wash/rinse. The wash/rinse re-

quirement does not mean the mere spreading of solvent or other fluid over the surface, nor does the requirement mean a once-over wipe with a soaked cloth. Precautions must be taken to contain any runoff resulting from the cleansing and to dispose properly of wastes generated during the cleansing.

**High-concentration PCBs** means PCBs that contain 500 ppm or greater PCBs, or those materials which EPA requires to be assumed to contain 500 ppm or greater PCBs in the absence of testing.

**High-contact industrial surface** means a surface in an industrial setting which is repeatedly touched, often for relatively long periods of time. Manned machinery and control panels are examples of high-contact industrial surfaces. High-contact industrial surfaces are generally of impervious solid material. Examples of low-contact industrial surfaces include ceilings, walls, floors, roofs, roadways and sidewalks in the industrial area, utility poles, unmanned machinery, concrete pads beneath electrical equipment, curbing, exterior structural building components, indoor vaults, and pipes.

**High-contact residential/commercial surface** means a surface in a residential/commercial area which is repeatedly touched, often for relatively long periods of time. Doors, wall areas below 6 feet in height, uncovered flooring, windowsills, fencing, bannisters, stairs, automobiles, and children's play areas such as outdoor patios and sidewalks are examples of high-contact residential/commercial surfaces. Examples of low-contact residential/commercial surfaces include interior ceilings, interior wall areas above 6 feet in height, roofs, asphalt roadways, concrete roadways, wooden utility poles, unmanned machinery, concrete pads beneath electrical equipment, curbing, exterior structural building components (e.g., aluminum/vinyl siding, cinder block, asphalt tiles), and pipes.

**Impervious solid surfaces** means solid surfaces which are nonporous and thus unlikely to absorb spilled PCBs within the short period of time required for cleanup of spills under

this policy. Impervious solid surfaces include, but are not limited to, metals, glass, aluminum siding, and enameled or laminated surfaces.

**Low-concentration PCBs** means PCBs that are tested and found to contain less than 500 ppm PCBs, or those PCB-containing materials which EPA requires to be assumed to be at concentrations below 500 ppm (i.e., untested mineral oil dielectric fluid).

**Nonimpervious solid surfaces** means solid surfaces which are porous and are more likely to absorb spilled PCBs prior to completion of the cleanup requirements prescribed in this policy. Nonimpervious solid surfaces include, but are not limited to, wood, concrete, asphalt, and plasterboard.

**Nonrestricted access areas** means any area other than restricted access, outdoor electrical substations, and other restricted access locations, as defined in this section. In addition to residential/commercial areas, these areas include unrestricted access rural areas (areas of low density development and population where access is uncontrolled by either man-made barriers or naturally occurring barriers, such as rough terrain, mountains, or cliffs).

**Other restricted access (nonsubstation) locations** means areas other than electrical substations that are at least 0.1 kilometer (km) from a residential/commercial area and limited by man-made barriers (e.g., fences and walls) to substantially limited by naturally occurring barriers such as mountains, cliffs, or rough terrain. These areas generally include industrial facilities and extremely remote rural locations. (Areas where access is restricted but are less than 0.1 km from a residential/commercial area are considered to be residential/commercial areas.)

**Outdoor electrical substations** means outdoor, fenced-off, and restricted access areas used in the transmission and/or distribution of electrical power. Outdoor electrical substations restrict public access by being fenced or walled off as defined under § 761.30(l)(1)(ii). For purposes of this TSCA policy, outdoor electrical substations are defined as being located at least 0.1 km from a residential/commercial area. Outdoor fenced-off and restricted access areas

used in the transmission and/or distribution of electrical power which are located less than 0.1 km from a residential/commercial area are considered to be residential/commercial areas.

**PCBs** means polychlorinated biphenyls as defined under § 761.3. As specified under § 761.1(b), no requirements may be avoided through dilution of the PCB concentration.

**Requirements and standards** means: (1) "Requirements" as used in this policy refers to both the procedural responses and numerical decontamination levels set forth in this policy as constituting adequate cleanup of PCBs.

(2) "Standards" refers to the numerical decontamination levels set forth in this policy.

**Residential/commercial areas** means those areas where people live or reside, or where people work in other than manufacturing or farming industries. Residential areas include housing and the property on which housing is located, as well as playgrounds, roadways, sidewalks, parks, and other similar areas within a residential community. Commercial areas are typically accessible to both members of the general public and employees and include public assembly properties, institutional properties, stores, office buildings, and transportation centers.

**Responsible party** means the owner of the PCB equipment, facility, or other source of PCBs or his/her designated agent (e.g., a facility manager or foreman).

**Soil** means all vegetation, soils and other ground media, including but not limited to, sand, grass, gravel, and oyster shells. It does not include concrete and asphalt.

**Spill** means both intentional and unintentional spills, leaks, and other uncontrolled discharges where the release results in any quantity of PCBs running off or about to run off the external surface of the equipment or other PCB source, as well as the contamination resulting from those releases. This policy applies to spills of 50 ppm or greater PCBs. The concentration of PCBs spilled is determined by the PCB concentration in the material spilled as opposed to the concen-

tration of PCBs in the material onto which the PCBs were spilled. Where a spill of untested mineral oil occurs, the oil is presumed to contain greater than 50 ppm, but less than 500 ppm PCBs and is subject to the relevant requirements of this policy.

**Spill area** means the area of soil on which visible traces of the spill can be observed plus a buffer zone of 1 foot beyond the visible traces. Any surface or object (e.g., concrete sidewalk or automobile) within the visible traces area or on which visible traces of the spilled material are observed is included in the spill area. This area represents the minimum area assumed to be contaminated by PCBs in the absence of precleanup sampling data and is thus the minimum area which must be cleaned.

**Spill boundaries** means the actual area of contamination as determined by postcleanup verification sampling or by precleanup sampling to determine actual spill boundaries. EPA can require additional cleanup when necessary to decontaminate all areas within the spill boundaries to the levels required in this policy (e.g., additional cleanup will be required if postcleanup sampling indicates that the area decontaminated by the responsible party, such as the spill area as defined in this section, did not encompass the actual boundaries of PCB contamination).

**Standard wipe test** means, for spills of high-concentration PCBs on solid surfaces, a cleanup to numerical surface standards and sampling by a standard wipe test to verify that the numerical standards have been met. This definition constitutes the minimum requirements for an appropriate wipe testing protocol. A standard-size template (10 centimeters (cm) x 10 cm) will be used to delineate the area of cleanup; the wiping medium will be a gauze pad or glass wool of known size which has been saturated with hexane. It is important that the wipe be performed very quickly after the hexane is exposed to air. EPA strongly recommends that the gauze (or glass wool) be prepared with hexane in the laboratory and that the wiping medium be stored in sealed glass vials until it is used for the wipe test. Fur-

ther, EPA requires the collection and testing of field blanks and replicates.

(52 FR 10705, Apr. 2, 1987; 52 FR 23397, June 19, 1987)

#### § 761.125 Requirements for PCB spill cleanup.

(a) *General.* Unless expressly limited, the reporting, disposal, and precleanup sampling requirements in paragraphs (a) (1) through (3) of this section apply to all spills of PCBs at concentrations of 50 ppm or greater which are subject to decontamination requirements under TSCA, including those spills listed under § 761.120(b) which are excluded from the cleanup standards at paragraphs (b) and (c) of this section.

(1) *Reporting requirements.* The reporting in paragraphs (a)(1) (1) through (iv) of this section is required in addition to applicable reporting requirements under the Clean Water Act (CWA) or the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA). For example, under the National Contingency Plan all spills involving 10 pounds or more by weight of PCBs must currently be reported to the National Response Center (1-800-424-8802). The requirements in paragraphs (a)(1) (1) through (iv) of this section are designed to be consistent with existing reporting requirements to the extent possible so as to minimize reporting burdens on governments as well as the regulated community.

(i) Where a spill directly contaminates surface water, sewers, or drinking water supplies, as discussed under § 761.120(d), the responsible party shall notify the appropriate EPA regional office (the Office of Pesticides and Toxic Substances Branch) and obtain guidance for appropriate cleanup measures in the shortest possible time after discovery, but in no case later than 24 hours after discovery.

(ii) Where a spill directly contaminates grazing lands or vegetable gardens, as discussed under § 761.120(d), the responsible party shall notify the appropriate EPA regional office (the Office of Pesticides and Toxic Substances Branch) and proceed with the immediate requirements specified under paragraph (b) or (c) of this section,

depending on the source of the spill, in the shortest possible time after discovery, but in no case later than 24 hours after discovery.

(iii) Where a spill exceeds 10 pounds of PCBs by weight and is not addressed in paragraph (a)(1) (i) or (ii) of this section, the responsible party will notify the appropriate EPA regional office (Pesticides and Toxic Substances Branch) and proceed to decontaminate the spill area in accordance with this TSCA policy in the shortest possible time after discovery, but in no case later than 24 hours after discovery.

(iv) Spills of 10 pounds or less, which are not addressed in paragraph (a)(1) (i) or (ii) of this section, must be cleaned up in accordance with this policy (in order to avoid EPA enforcement liability), but notification of EPA is not required.

(2) *Disposal of cleanup debris and materials.* All concentrated soils, solvents, rags, and other materials resulting from the cleanup of PCBs under this policy shall be properly stored, labeled, and disposed of in accordance with the provisions of § 761.60.

(3) *Determination of spill boundaries in the absence of visible traces.* For spills where there are insufficient visible traces yet there is evidence of a leak or spill, the boundaries of the spill are to be determined by using a statistically based sampling scheme.

(b) *Requirements for cleanup of low-concentration spills which involve less than 1 pound of PCBs by weight (less than 270 gallons of untested mineral oil)—(1) Decontamination requirements.* Spills of less than 270 gallons of untested mineral oil, low-concentration PCBs, as defined under § 761.123, which involve less than 1 pound of PCBs by weight (e.g., less than 270 gallons of untested mineral oil containing less than 500 ppm PCBs) shall be cleaned in the following manner:

(i) Solid surfaces must be double washed/rinsed (as defined under § 761.123); except that all indoor, residential surfaces other than vault areas must be cleaned to 10 micrograms per 100 square centimeters (10 µg/100 cm<sup>2</sup>) by standard commercial wipe tests.

(ii) All soil within the spill area (i.e., visible traces of soil and a buffer of 1

lateral foot around the visible traces) must be excavated, and the ground be restored to its original configuration by back-filling with clean soil (i.e., containing less than 1 ppm PCBs).

(iii) Requirements of paragraphs (b)(1) (i) and (ii) of this section must be completed within 48 hours after the responsible party was notified or became aware of the spill.

(2) *Effect of emergency or adverse weather.* Completion of cleanup may be delayed beyond 48 hours in case of circumstances including but not limited to, civil emergency, adverse weather conditions, lack of access to the site, and emergency operating conditions. The occurrence of a spill on a weekend or overtime costs are not acceptable reasons to delay response. Completion of cleanup may be delayed only for the duration of the adverse conditions. If the adverse weather conditions, or time lapse due to other emergency, has left insufficient visible traces, the responsible party must use a statistically based sampling scheme to determine the spill boundaries as required under paragraph (a)(3) of this section.

(3) *Records and certification.* At the completion of cleanup, the responsible party shall document the cleanup with records and certification of decontamination. The records and certification must be maintained for a period of 5 years. The records and certification shall consist of the following:

(i) Identification of the source of the spill (e.g., type of equipment).

(ii) Estimated or actual date and time of the spill occurrence.

(iii) The date and time cleanup was completed or terminated (if cleanup was delayed by emergency or adverse weather: the nature and duration of the delay).

(iv) A brief description of the spill location.

(v) Precleanup sampling data used to establish the spill boundaries if required because of insufficient visible traces, and a brief description of the sampling methodology used to establish the spill boundaries.

(vi) A brief description of the solid surfaces cleaned and of the double wash/rinse method used.

(vii) Approximate depth of soil excavation and the amount of soil removed.

(viii) A certification statement signed by the responsible party stating that the cleanup requirements have been met and that the information contained in the record is true to the best of his/her knowledge.

(ix) While not required for compliance with this policy, the following information would be useful if maintained in the records:

(A) Additional pre- or post-cleanup sampling.

(B) The estimated cost of the cleanup by man-hours, dollars, or both.

(c) *Requirements for cleanup of high-concentration spills and low-concentration spills involving 1 pound or more PCBs by weight (270 gallons or more of untested mineral oil).* Cleanup of low-concentration spills involving 1 lb or more PCBs by weight and of all spills of materials other than low-concentration materials shall be considered complete if all of the immediate requirements, cleanup standards, sampling, and recordkeeping requirements of paragraphs (c) (1) through (5) of this section are met.

(1) *Immediate requirements.* The four actions in paragraphs (c)(1) (1) through (iv) of this section must be taken as quickly as possible and within no more than 24 hours (or within 48 hours for PCB Transformers) after the responsible party was notified or became aware of the spill, except that actions described in paragraphs (c)(1) (ii) through (iv) of this section can be delayed beyond 24 hours if circumstances (e.g., civil emergency, hurricane, tornado, or other similar adverse weather conditions, lack of access due to physical impossibility, or emergency operating conditions) so require for the duration of the adverse conditions. The occurrence of a spill on a weekend or overtime costs are not acceptable reasons to delay response. Owners of spilled PCBs who have delayed cleanup because of these types of circumstances must keep records documenting the fact that circumstances precluded rapid response.

(i) The responsible party shall notify the EPA regional office and the NRC

as required by § 761.125(a)(1) or by other applicable statutes.

(ii) The responsible party shall effectively cordon off or otherwise delineate and restrict an area encompassing any visible traces plus a 3-foot buffer and place clearly visible signs advising persons to avoid the area to minimize the spread of contamination as well as the potential for human exposure.

(iii) The responsible party shall record and document the area of visible contamination, noting the extent of the visible trace areas and the center of the visible trace area. If there are no visible traces, the responsible party shall record this fact and contact the regional office of the EPA for guidance in completing statistical sampling of the spill area to establish spill boundaries.

(iv) The responsible party shall initiate cleanup of all visible traces of the fluid on hard surfaces and initiate removal of all visible traces of the spill on soil and other media, such as gravel, sand, oyster shells, etc.

(v) If there has been a delay in reaching the site and there are insufficient visible traces of PCBs remaining at the spill site, the responsible party must estimate (based on the amount of material missing from the equipment or container) the area of the spill and immediately cordon off the area of suspect contamination. The responsible party must then utilize a statistically based sampling scheme to identify the boundaries of the spill area as soon as practicable.

(vi) Although this policy requires certain immediate actions, as described in paragraphs (c)(1)(i) through (iv) of this section, EPA is not placing a time limit on completion of the cleanup effort since the time required for completion will vary from case to case. However, EPA expects that decontamination will be achieved promptly in all cases and will consider promptness of completion in determining whether the responsible party made good faith efforts to clean up in accordance with this policy.

(2) *Requirements for decontaminating spills in outdoor electrical substations.* Spills which occur in outdoor electrical substations, as defined under § 761.123, shall be decontaminated in

accordance with paragraphs (c)(2)(i) and (ii) of this section. Conformance to the cleanup standards under paragraphs (c)(2)(i) and (ii) of this section shall be verified by post-cleanup sampling as specified under § 761.130. At such times as outdoor electrical substations are converted to another use, the spill site shall be cleaned up to the nonrestricted access requirements under paragraph (c)(4) of this section.

(i) Contaminated solid surfaces (both impervious and non-impervious) shall be cleaned to a PCB concentration of 100 micrograms ( $\mu\text{g}$ )/100 square centimeters ( $\text{cm}^2$ ) (as measured by standard wipe tests).

(ii) At the option of the responsible party, soil contaminated by the spill will be cleaned either to 25 ppm PCBs by weight, or to 50 ppm PCBs by weight provided that a label or notice is visibly placed in the area. Upon demonstration by the responsible party that cleanup to 25 ppm or 50 ppm will jeopardize the integrity of the electrical equipment at the substation, the EPA regional office may establish an alternative cleanup method or level and place the responsible party on a reasonably timely schedule for completion of cleanup.

(3) *Requirements for decontaminating spills in other restricted access areas.* Spills which occur in restricted access locations other than outdoor electrical substations, as defined under § 761.123, shall be decontaminated in accordance with paragraphs (c)(3) (i) through (v) of this section. Conformance to the cleanup standards in paragraphs (c)(3) (i) through (v) of this section shall be verified by post-cleanup sampling as specified under § 761.130. At such times as restricted access areas other than outdoor electrical substations are converted to another use, the spill site shall be cleaned up to the nonrestricted access area requirements of paragraph (c)(4) of this section.

(i) High-contact solid surfaces, as defined under § 761.163 shall be cleaned to 10  $\mu\text{g}/100 \text{ cm}^2$  (as measured by standard wipe tests).

(ii) Low-contact, indoor, impervious solid surfaces will be decontaminated to 10  $\mu\text{g}/100 \text{ cm}^2$ .

(iii) At the option of the responsible party, low-contact, indoor, nonimpervious surfaces will be cleaned either to 10  $\mu\text{g}/100 \text{ cm}^2$  or to 100  $\mu\text{g}/100 \text{ cm}^2$  and encapsulated. The Regional Administrator, however, retains the authority to disallow the encapsulation option for a particular spill situation upon finding that the uncertainties associated with that option pose special concerns at that site. That is, the Regional Administrator would not permit encapsulation if he/she determined that if the encapsulation failed the failure would create an imminent hazard at the site.

(iv) Low-contact, outdoor surfaces (both impervious and nonimpervious) shall be cleaned to 100  $\mu\text{g}/100 \text{ cm}^2$ .

(v) Soil contaminated by the spill will be cleaned to 25 ppm PCBs by weight.

(4) *Requirements for decontaminating spills in nonrestricted access areas.* Spills which occur in nonrestricted access locations, as defined under § 761.123, shall be decontaminated in accordance with paragraphs (c)(4)(i) through (v) of this section. Conformance to the cleanup standards at paragraphs (c)(4)(i) through (v) of this section shall be verified by post-cleanup sampling as specified under § 761.130.

(i) Furnishings, toys, and other easily replaceable household items shall be disposed of in accordance with the provisions of § 761.60 and replaced by the responsible party.

(ii) Indoor solid surfaces and high-contact outdoor solid surfaces, defined as high contact residential/commercial surfaces under § 761.123, shall be cleaned to 10  $\mu\text{g}/100 \text{ cm}^2$  (as measured by standard wipe tests).

(iii) Indoor vault areas and low-contact, outdoor, impervious solid surfaces shall be decontaminated to 10  $\mu\text{g}/100 \text{ cm}^2$ .

(iv) At the option of the responsible party, low-contact, outdoor, nonimpervious solid surfaces shall be either cleaned to 10  $\mu\text{g}/100 \text{ cm}^2$  or cleaned to 100  $\mu\text{g}/100 \text{ cm}^2$  and encapsulated. The Regional Administrator, however, retains the authority to disallow the encapsulation option for a particular spill situation upon finding that the uncertainties associated with that

option pose special concerns at that site. That is, the Regional Administrator would not permit encapsulation if he/she determined that if the encapsulation failed the failure would create an imminent hazard at the site.

(v) Soil contaminated by the spill will be decontaminated to 10 ppm PCBs by weight provided that soil is excavated to a minimum depth of 10 inches. The excavated soil will be replaced with clean soil, i.e., containing less than 1 ppm PCBs, and the spill site will be restored (e.g., replacement of turf).

(5) *Records.* The responsible party shall document the cleanup with records of decontamination. The records must be maintained for a period of 5 years. The records and certification shall consist of the following:

(i) Identification of the source of the spill, e.g., type of equipment.

(ii) Estimated or actual date and time of the spill occurrence.

(iii) The date and time cleanup was completed or terminated (if cleanup was delayed by emergency or adverse weather; the nature and duration of the delay).

(iv) A brief description of the spill location and the nature of the materials contaminated. This information should include whether the spill occurred in an outdoor electrical substation, other restricted access location, or in a nonrestricted access area.

(v) Precleanup sampling data used to establish the spill boundaries if required because of insufficient visible traces and a brief description of the sampling methodology used to establish the spill boundaries.

(vi) A brief description of the solid surfaces cleaned.

(vii) Approximate depth of soil excavation and the amount of soil removed.

(viii) Postcleanup verification sampling data and, if not otherwise apparent from the documentation, a brief description of the sampling methodology and analytical technique used.

(ix) While not required for compliance with this policy, information on the estimated cost of cleanup (by man-hours, dollars, or both) would be useful if maintained in the records.

152 FR 10705, Apr. 2, 1987, as amended at 53 FR 40884, Oct. 19, 1988)

#### § 761.130 Sampling requirements.

Postcleanup sampling is required to verify the level of cleanup under § 761.125(c) (2) through (4). The responsible party may use any statistically valid, reproducible, sampling scheme (either random samples or grid samples) provided that the requirements of paragraphs (a) and (b) of this section are satisfied.

(a) The sampling area is the greater of (1) an area equal to the area cleaned plus an additional 1-foot boundary, or (2) an area 20 percent larger than the original area of contamination.

(b) The sampling scheme must ensure 95 percent confidence against false positives.

(c) The number of samples must be sufficient to ensure that areas of contamination of a radius of 2 feet or more within the sampling area will be detected, except that the minimum number of samples is 3 and the maximum number of samples is 40.

(d) The sampling scheme must include calculation for expected variability due to analytical error.

(e) EPA recommends the use of a sampling scheme developed by the Midwest Research Institute (MRI) for use in EPA enforcement inspections: "Verification of PCB Spill Cleanup by Sampling and Analysis." Guidance for the use of this sampling scheme is available in the MRI report "Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup." Both the MRI sampling scheme and the guidance document are available from the TSCA Assistance Office, Environmental Protection Agency, Rm. E-543, 401 M St. SW., Washington, DC 20460 (202-554-1404). The major advantage of this sampling scheme is that it is designed to characterize the degree of contamination within the entire sampling area with a high degree of confidence while using fewer samples than any other grid or random sampling scheme. This sampling scheme also allows some sites to be characterized on the basis of composite samples.

(f) EPA may, at its discretion, take samples from any spill site. If EPA's

sampling indicates that the remaining concentration level exceeds the required level, EPA will require further cleanup. For this purpose, the numerical level of cleanup required for spills cleaned in accordance with § 761.125(b) is deemed to be the equivalent of numerical cleanup requirements required for cleanups under § 761.125(c)(2) through (4). Using its best engineering judgment, EPA may sample a statistically valid random or grid sampling technique, or both. When using engineering judgment or random "grab" samples, EPA will take into account that there are limits on the power of a grab sample to dispute statistically based sampling of the type required of the responsible party. EPA headquarters will provide guidance to the EPA regions on the degree of certainty associated with various grab sample results.

#### § 761.135 Effect of compliance with this policy and enforcement.

(a) Although a spill of material containing 50 ppm or greater PCBs is considered improper PCB disposal, this policy establishes requirements that EPA considers to be adequate cleanup of the spilled PCBs. Cleanup in accordance with this policy means compliance with the procedural as well as the numerical requirements of this policy. Compliance with this policy creates a presumption against both enforcement action for penalties and the need for further cleanup under TSCA. The Agency reserves the right, however, to initiate appropriate action to compel cleanup where, upon review of the records of cleanup or EPA sampling following cleanup, EPA finds that the decontamination levels in the policy have not been achieved. The Agency also reserves the right to seek penalties where the Agency believes that the responsible party has not made a good faith effort to comply with all provisions of this policy, such as prompt notification of EPA of a spill, recordkeeping, etc.

(b) EPA's exercise of enforcement discretion does not preclude enforcement action under other provisions of TSCA or any other Federal statute. This includes, even in cases where the

numerical decontamination levels set forth in this policy have been met, civil or criminal action for penalties where EPA believes the spill to have been the result of gross negligence or knowing violation.

#### Subparts H and I—[Reserved]

#### Subpart J—General Records and Reports

##### § 761.180 Records and monitoring.

This section contains recordkeeping and reporting requirements that apply to PCBs, PCB Items, and PCB storage and disposal facilities that are subject to the requirements of the part.

(a) *PCBs and PCB Items in service or projected for disposal.* Beginning February 5, 1990, each owner or operator of a facility, other than a commercial storer or a disposer of PCB waste, using or storing at any one time at least 45 kilograms (99.4 pounds) of PCBs contained in PCB Container(s), or one or more PCB Transformers, or 50 or more PCB Large High or Low Voltage Capacitors shall develop and maintain at the facility, or a central facility provided they are maintained at that facility, all annual records and the written annual document log of the disposition of PCBs and PCB Items. The written annual document log must be prepared for each facility by July 1 covering the previous calendar year (January through December). The annual document log shall be maintained for at least 3 years after the facility ceases using or storing PCBs and PCB Items in the quantities prescribed in this paragraph. Annual records (manifests and certificates of disposal) shall be maintained for the same period. The annual records and the annual document log shall be available for inspection at the facility where they are maintained by authorized representatives of EPA during normal business hours, and each owner or operator of a facility subject to these requirements shall know the location of these records. All records and annual documents required to be prepared and maintained by this section prior to February 5, 1990 shall continue to be maintained at the facility for the same time as the annual

records and the annual document log. The annual document required for 1989 shall cover the period from January 1, 1989 to February 5, 1990.

(1) The annual records shall include the following:

(i) All signed manifests generated by the facility during the calendar year.

(ii) All Certificates of Disposal that have been received by the facility during the calendar year.

(2) The written annual document log shall include the following:

(1) The name, address, and EPA identification number of the facility covered by the annual document log and the calendar year covered by the annual document log.

(ii) The unique manifest number of every manifest generated by the facility during the calendar year, and from each manifest and for unmanifested waste that may be stored at the facility, the following information:

(A) For bulk PCB waste (e.g., in a tanker or truck), its weight in kilograms, the first date it was removed from service for disposal, the date it was placed into transport for off-site storage or disposal, and the date of disposal, if known.

(B) The serial number (if available) or other means of identifying each PCB Article (e.g., transformer or capacitor), the weight in kilograms of the PCB waste in each transformer or capacitor, the date it was removed from service for disposal, the date it was placed in transport for off-site storage or disposal, and the date of disposal, if known.

(C) A unique number identifying each PCB Container, a description of the contents of each PCB Container, such as liquid, soil, cleanup debris, etc., including the total weight of the material in kilograms in each PCB Container, the first date material placed in each PCB Container was removed from service for disposal, and the date each PCB Container was placed in transport for off-site storage or disposal, and the date of disposal (if known).

(D) A unique number identifying each PCB Article Container, a description of the contents of each PCB Article Container, such as pipes, capacitors, electric motors, pumps, etc., in-

cluding the total weight in kilograms of the content of each PCB Article Container, the first date a PCB Article placed in each PCB Article Container was removed from service for disposal, and the date the PCB Article Container was placed in transport for off-site storage or disposal, and the date of disposal (if known.)

(iii) The total number by specific type of PCB Articles and the total weight in kilograms of PCBs in PCB Articles, the total number of PCB Article Containers and total weight in kilograms of the contents of PCB Article Containers, the total number of PCB Containers and the total weight in kilograms of the contents of PCB Containers, and the total weight in kilograms of bulk PCB waste that was placed into storage for disposal or disposed during the calendar year.

(iv) The total number of PCB Transformers and total weight in kilograms of PCBs contained in the transformers remaining in service at the end of the calendar year.

(v) The total number of Large High or Low Voltage PCB Capacitors remaining in service at the end of the calendar year.

(vi) The total weight in kilograms of any PCBs and PCB Items in PCB Containers, including the identification of container contents, remaining in service at the facility at the end of the calendar year.

(vii) For any PCBs or PCB Item received from or shipped to another facility owned or operated by the same generator, the information required under paragraph (a)(2)(ii)(A) through (a)(2)(ii)(D) of this section.

(viii) A record of each telephone call, or other means of verification agreed upon by both parties, made to each designated commercial storer or designated disposer to confirm receipt of PCB waste transported by an independent transporter, as required by § 761.208.

(b) *Disposal and commercial storers of PCB waste.* Beginning February 5, 1990, each owner or operator of a facility (including high efficiency boiler operations) used for the commercial storage or disposal of PCBs and PCB Items shall maintain annual records on the disposition of all PCBs and

PCB items at the facility and prepare and maintain a written annual document log that includes the information required by paragraphs (b)(2) of this section for PCBs and PCB Items that were handled as PCB waste at the facility. The written annual document log shall be prepared by July 1 for the previous calendar year (January through December). The written annual document log shall be maintained at each facility for at least 3 years after the facility is no longer used for the storage or disposal of PCBs and PCB Items except that, in the case of chemical waste landfills, the annual document log shall be maintained at least 20 years after the chemical waste landfill is no longer used for the disposal of PCBs and PCB Items. The annual records shall be maintained for the same period. The annual records and written annual document log shall be available at the facility for inspection by authorized representatives of the EPA. All records and annual documents required to be prepared and maintained by this section prior to February 5, 1990 shall continue to be maintained at the facility for the same time as the annual records and the annual document log. The annual document for 1989 shall cover the period from January 1, 1989 to February 5, 1990. From the written annual document log the owner or operator of a facility must prepare the annual report containing the information required by paragraphs (b)(3)(i) through (b)(3)(vi) of this section for PCBs and PCB Items that were handled as PCB waste at the facility during the previous calendar year (January through December). The annual report must be submitted by July 15 of each year for the preceding calendar year. If the facility ceases commercial PCB storage or disposal operations, the owner or operator of the facility shall provide at least 60 days advance written notice to the Regional Administrator for the region in which the facility is located of the date the facility intends to begin closure.

(1) The annual records shall include the following:

## Environmental Protection Agency

(1) All signed manifests generated or received at the facility during the calendar year.

(ii) All Certificates of Disposal that have been generated or received by the facility during the calendar year.

(2) The written annual document log shall include the following:

(i) The name, address, and EPA identification number of the storage or disposal facility covered by the annual document log and the calendar year covered by the annual document log.

(ii) For each manifest generated or received by the facility during the calendar year, the unique manifest number and the name and address of the facility that generated the manifest and the following information:

(A) For bulk PCB waste (e.g., in a tanker or truck), its weight in kilograms, the first date PCB waste placed in the tanker or truck was removed from service for disposal, the date it was received at the facility, the date it was placed in transport for off-site disposal (if applicable), and the date of disposal, (if known).

(B) The serial number or other means of identifying each PCB Article, not in a PCB Container or PCB Article Container, the weight in kilograms of the PCB waste in the PCB Article, the date it was removed from service for disposal, the date it was received at the facility, the date it was placed in transport for off-site disposal (if applicable), and the date of disposal (if known).

(C) The unique number assigned by the generator identifying each PCB Container, a description of the contents of each PCB Container, such as liquid, soil, cleanup debris, etc., including the total weight of the PCB waste in kilograms in each PCB Container, the first date PCB waste placed in each PCB Container was removed from service for disposal, the date it was received at the facility, the date each PCB Container was placed in transport for off-site storage or disposal (as applicable), and the date the PCB Container was disposed of (if known).

(D) The unique number assigned by the generator identifying each PCB Article Container, a description of the

contents of each PCB Article Container, such as pipes, capacitors, electric motors, pumps, etc., including the total weight in kilograms of the PCB waste in each PCB Article Container, the first date a PCB Article placed in each PCB Article Container was removed from service for disposal, the date it was received at the facility, the date each PCB Article Container was placed in transport for off-site storage or disposal (as applicable), and the date the PCB Article Container was disposed of (if known).

(E) Disposers of PCB waste shall include the confirmed date of disposal for items in paragraphs (b)(2)(ii)(A) through (b)(2)(ii)(D) of this section.

(iii) For any PCB waste disposed at a facility that generated the PCB waste or any PCB waste that was not manifested to the facility, the information required under paragraph (b)(2)(ii)(A) through (b)(2)(ii)(E) of this section.

(3) The owner or operator of a PCB disposal or commercial storage facility shall submit an annual report, which briefly summarizes the records and annual document log required to be maintained and prepared under paragraphs (b)(1) and (b)(2) of this section, to the Regional Administrator of the EPA region in which the facility is located by July 15 of each year, beginning with July 15, 1991. The first annual report submitted on July 15, 1991, shall be for the period starting February 5, 1990 and ending December 31, 1990. The annual report shall contain no confidential business information. The annual report shall consist of the information listed in paragraphs (b)(3)(i) through (b)(3)(vi) of this section.

(i) The name, address, and EPA identification number of the facility covered by the annual report for the calendar year.

(ii) A list of the numbers of all signed manifests of PCB waste initiated or received by the facility during that year.

(iii) The total weight in kilograms of bulk PCB waste, PCB waste in PCB Transformers, PCB waste in PCB Large High or Low Voltage Capacitors, PCB waste in PCB Article Containers, and PCB waste in PCB Containers in storage at the facility at the beginning

of the calendar year, received or generated at the facility, transferred to another facility, or disposed of at the facility during the calendar year. The information must be provided for each of these categories, as appropriate.

(iv) The total number of PCB Transformers, the total number of PCB Large High or Low Voltage Capacitors, the total number of PCB Article Containers, and the total number of PCB Containers in storage at the facility at the beginning of the calendar year, received or generated at the facility, transferred to another facility, or disposed of at the facility during the calendar year. The information must be provided for each of these categories, as appropriate.

(v) The total weight in kilograms of each of the following PCB categories: bulk PCB waste, PCB waste in PCB Transformers, PCB waste in PCB Large High or Low Voltage Capacitors, PCB waste in PCB Article Containers, and PCB waste in PCB Containers remaining in storage for disposal at the facility at the end of the calendar year.

(vi) The total number of PCB Transformers, the total number of PCB Large High or Low Voltage Capacitors, the total number of PCB Article Containers, and the total number of PCB Containers remaining in storage for disposal at the facility at the end of the calendar year.

(vii) The requirement to submit annual reports to the Regional Administrator continues until the submission of the annual report for the calendar year during which the facility ceases PCB storage or disposal operations. Storage operations have not ceased until all PCB waste, including any PCB waste generated during closure, has been removed from the facility.

(4) Whenever a commercial storer of PCB waste accepts PCBs or PCB Items at his storage facility and transfers the PCB waste off-site to another facility for storage or disposal, the commercial storer of PCB waste shall initiate a manifest under subpart K of this part for the transfer of PCBs or PCB Items to the next storage or disposal facility.

NOTE: Any requirements for weights in kilograms of PCBs may be calculated values

If the internal volume of PCBs in containers and transformers is known and included in the reports, together with any assumptions on the density of the PCBs contained in the containers or transformers. If the internal volume of PCBs is not known, a best estimate may be used.

(c) *Incineration facilities.* Each owner or operator of a PCB incinerator facility shall collect and maintain for a period of 5 years from the date of collection the following information, in addition to the information required in paragraph (b) of this section:

(1) When PCBs are being incinerated, the following continuous and short-interval data:

(i) Rate and quantity of PCBs fed to the combustion system as required in § 761.70(a)(3);

(ii) Temperature of the combustion process as required in § 761.70(a)(4); and

(iii) Stack emission product to include O<sub>2</sub>, CO, and CO<sub>2</sub>, as required in § 761.70(a)(7).

(2) When PCBs are being incinerated, data and records on the monitoring of stack emissions as required in § 761.70(a)(6).

(3) Total weight in kilograms of any solid residues generated by the incineration of PCBs and PCB Items during the calendar year, the total weight in kilograms of any solid residues disposed of by the facility in chemical waste landfills, and the total weight in kilograms of any solid residues remaining on the facility site.

(4) When PCBs and PCB Items are being incinerated, additional periodic data shall be collected and maintained as specified by the Regional Administrator pursuant to § 761.70(d)(4).

(5) Upon any suspension of the operation of any incinerator pursuant to § 761.70(a)(8), the owner or operator of such an incinerator shall prepare a document. The document shall, at a minimum, include the date and time of the suspension and an explanation of the circumstances causing the suspension of operation. The document shall be sent to the appropriate Regional Administrator within 30 days of any such suspension.

(d) *Chemical waste landfill facilities.* Each owner or operator of a PCB chemical waste landfill facility shall

collect and maintain until at least 20 years after the chemical waste landfill is no longer used for the disposal of PCBs the following information in addition to the information required in paragraph (b) of this section:

(1) Any water analysis obtained in compliance with § 761.75(b)(6)(iii); and

(2) Any operations records including burial coordinates of wastes obtained in compliance with § 761.75(b)(8)(ii).

(e) *High efficiency boiler facilities.* Each owner or operator of a high efficiency boiler used for the disposal of liquids between 50 and 500 ppm PCB shall collect and maintain for a period of 5 years the following information, in addition to the information required in paragraph (b) of this section:

(1) For each month PCBs are burned in the boiler the carbon monoxide and excess oxygen data required in § 761.60(a)(2)(iii)(A)(8) and § 761.60(a)(3)(iii)(A)(8);

(2) The quantity of PCBs burned each month as required in § 761.60(a)(2)(iii)(A)(7) and § 761.60(a)(3)(iii)(A)(7); and

(3) For each month PCBs (other than mineral oil dielectric fluid) are burned, chemical analysis data of the waste as required in § 761.60(a)(3)(iii)(B)(6).

(f) *Retention of special records by storage and disposal facilities.* In addition to the information required to be maintained under paragraphs (b), (c), (d) and (e) of this section, each owner or operator of a PCB storage or disposal facility (including high efficiency boiler operations) shall collect and maintain for the time period specified in paragraph (b) of this section the following data:

(1) All documents, correspondence, and data that have been provided to the owner or operator of the facility by any State or local government agency and that pertain to the storage or disposal of PCBs and PCB Items at the facility.

(2) All documents, correspondence, and data that have been provided by the owner or operator of the facility to any State or local government agency and that pertain to the storage or disposal of PCBs and PCB Items at the facility.

(3) Any applications and related correspondence sent by the owner or operator of the facility to any local, State, or Federal authorities in regard to waste water discharge permits, solid waste permits, building permits, or other permits or authorizations such as those required by §§ 761.70(d) and 761.75(c).

(Approved by the Office of Management and Budget under control numbers 2070-0061 and 2070-0112)

(Sec. 6, Pub. L. 94-469, 90 Stat. 2020 (15 U.S.C. 2605))

[44 FR 31542, May 31, 1979. Redesignated at 47 FR 19527, May 6, 1982, and further redesignated at 47 FR 37360, Aug. 25, 1982; 49 FR 28191, July 10, 1984; 53 FR 12524, Apr. 15, 1988; 54 FR 52750, Dec. 21, 1989; 55 FR 26205, June 27, 1990]

§ 761.185 Certification program and retention of records by importers and persons generating PCBs in excluded manufacturing processes.

(a) In addition to meeting the basic requirements of § 761.1(f) and the definition of excluded manufacturing processes at § 761.3, manufacturers with processes inadvertently generating PCBs and importers of products containing inadvertently generated PCBs must report to EPA any excluded manufacturing process or imports for which the concentration of PCBs in products leaving the manufacturing site or imported is greater than 2 micrograms per gram (2 µg/g, roughly 2 ppm) for any resolvable gas chromatographic peak. Such reports must be filed by October 1, 1984 or, if no processes or imports require reports at the time, within 90 days of having processes or imports for which such reports are required.

(b) Manufacturers required to report by paragraph (a) of this section must transmit a letter notifying EPA of the number, the type, and the location of excluded manufacturing processes in which PCBs are generated when the PCB level in products leaving any manufacturing site is greater than 2 µg/g for any resolvable gas chromatographic peak. Importers required to report by paragraph (a) of this section must transmit a letter notifying EPA of the concentration of PCBs in imported products when the PCB con-

centration of products being imported is greater than 2 µg/g for any resolvable gas chromatographic peak. Persons must also certify the following:

(1) Their compliance with all applicable requirements of § 761.1(f), including any applicable requirements for air and water releases and process waste disposal.

(2) Whether determinations of compliance are based on actual monitoring of PCB levels or on theoretical assessments.

(3) That such determinations of compliance are being maintained.

(4) If the determination of compliance is based on a theoretical assessment, the letter must also notify EPA of the estimated PCB concentration levels generated and released.

(c) Any person who reports pursuant to paragraph (a) of this section:

(1) Must have performed either a theoretical analysis or actual monitoring of PCB concentrations.

(2) Must maintain for a period of three years after ceasing process operations or importation, or for seven years, whichever is shorter, records containing the following information:

(i) *Theoretical analysis.* Manufacturers records must include: the reaction or reactions believed to be generating PCBs; the levels of PCBs generated; and the levels of PCBs released. Importers records must include: the reaction or reactions believed to be generating PCBs and the levels of PCBs generated; the basis for all estimations of PCB concentrations; and the name and qualifications of the person or persons performing the theoretical analysis; or

(ii) *Actual monitoring.* (A) The method of analysis.

(B) The results of the analysis, including data from the Quality Assurance Plan.

(C) Description of the sample matrix.

(D) The name of the analyst or analysts.

(E) The date and time of the analysis.

(F) Numbers for the lots from which the samples are taken.

(d) The certification required by paragraph (b) of this section must be signed by a responsible corporate offi-

cer. This certification must be maintained by each facility or importer for a period of three years after ceasing process operation or importation, or for seven years, whichever is shorter, and must be made available to EPA upon request. For the purpose of this section, a responsible corporate officer means:

(1) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation.

(2) The manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25,000,000 (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(e) Any person signing a document under paragraph (d) of this section shall also make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate information. Based on my inquiry of the person or persons directly responsible for gathering information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for falsifying information, including the possibility of fines and imprisonment for knowing violations.

Dated: \_\_\_\_\_  
Signature: \_\_\_\_\_

(f) This report must be submitted to the TSCA Document Processing Center (TS-790), Rm. L-100, Office of Toxic Substances, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460, ATTN: PCB Notification. This report must be submitted by October 1, 1984 or within 90 days of starting up processes or commencing importation of PCBs.

(g) This certification process must be repeated whenever process conditions are significantly modified to make the previous certification no longer valid.

(Approved by the Office of Management and Budget under control number 2070-0008)

(Sec. 6, Pub. L. 94-489, 90 Stat. 2020 (15 U.S.C. 2605)

[49 FR 28191, July 10, 1984; 49 FR 33019, Aug. 20, 1984, as amended at 53 FR 12524, Apr. 15, 1988]

§ 761.187 Reporting importers and by persons generating PCBs in excluded manufacturing processes.

In addition to meeting the basic requirements of § 761.1(f) and the definition of excluded manufacturing process at § 761.3, PCB-generating manufacturing processes or importers of PCB-containing products shall be considered "excluded manufacturing processes" only when the following conditions are met:

(a) Data are reported to the EPA by the owner/operator or importer concerning the total quantity of PCBs in product from excluded manufacturing processes leaving any manufacturing site in any calendar year when such quantity exceeds 0.0025 percent of that site's rated capacity for such manufacturing processes as of October 1, 1984; or the total quantity of PCBs imported in any calendar year when such quantity exceeds 0.0025 percent of the average total quantity of such product containing PCBs imported by such importer during the years 1978, 1979, 1980, 1981 and 1982.

(b) Data are reported to the EPA by the owner/operator concerning the total quantity of inadvertently generated PCBs released to the air from excluded manufacturing processes at any manufacturing site in any calendar year when such quantity exceeds 10 pounds.

(c) Data are reported to the EPA by the owner/operator concerning the total quantity of inadvertently generated PCBs released to water from excluded manufacturing processes from any manufacturing site in any calendar year when such quantity exceeds 10 pounds.

(d) These reports must be submitted to the TSCA Document Processing Center (TS-790), Rm. L-100, Office of Toxic Substances, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460, ATTN: PCB Notification.

(Approved by the Office of Management and Budget under control number 2070-0008)

(Sec. 6, Pub. L. 94-489, 90 Stat. 2020 (15 U.S.C. 2605)

[49 FR 28192, July 10, 1984, as amended at 53 FR 12524, Apr. 15, 1988]

§ 761.193 Maintenance of monitoring records by persons who import, manufacture, process, distribute in commerce, or use chemicals containing inadvertently generated PCBs.

(a) Persons who import, manufacture, process, distribute in commerce, or use chemicals containing PCBs present as a result of inadvertent generation or recycling who perform any actual monitoring of PCB concentrations must maintain records of any such monitoring for a period of three years after a process ceases operation or importing ceases, or for seven years, whichever is shorter.

(b) Monitoring records maintained pursuant to paragraph (a) of this section must contain:

(1) The method of analysis.  
(2) The results of the analysis, including data from the Quality Assurance Plan.

(3) Description of the sample matrix.  
(4) The name of the analyst or analysts.

(5) The date and time of the analysis.

(6) Numbers for the lots from which the samples are taken.

(Approved by the Office of Management and Budget under control number 2070-0008)

(Sec. 6, Pub. L. 94-489, 90 Stat. 2020 (15 U.S.C. 2605)

[49 FR 28193, July 10, 1984]

### Subpart K—PCB Waste Disposal Records and Reports

SOURCE: 54 FR 52752, Dec. 21, 1989, unless otherwise noted.

§ 761.202 EPA identification numbers.

(a) *General.* Any generator, commercial storer, transporter, or disposer of PCB waste who is required to have an EPA identification number under this subpart must notify EPA of his/her PCB waste handling activities, using

the notification procedures and form described in § 761.205. EPA will confirm the EPA identification number of facilities already assigned one, and will assign an EPA identification number to facilities that do not have one.

(b) *Prohibitions.* After June 4, 1990:

(1) A generator of PCB waste shall not:

(i) Process, store, dispose of, transport, or offer for transportation PCB waste without having received an EPA identification number from the Agency. A generator of PCB waste who is exempted from notification under § 761.205(c)(1) or who notifies EPA in a timely manner under § 761.205(c)(2)(i), but has not yet received a unique identification number, shall be regarded as having received from EPA the identification number "40 CFR PART 761."

(ii) Offer the PCB waste to transporters, disposers, or commercial storers of PCB waste who have not received an EPA identification number.

(2) A transporter of PCB waste shall not:

(i) Transport PCB waste without having received an EPA identification number from EPA.

(ii) Deliver PCB waste to transporters, disposers, or commercial storers of PCB waste that have not received an EPA identification number.

(3) A commercial storer of PCB waste shall not accept any PCB waste for storage without having received an EPA identification number from EPA.

(4) A disposer of PCB waste shall not accept any PCB waste for disposal without having received an EPA identification number from EPA. A disposer of PCB waste who owns more than one disposal facility or mobile treatment unit shall not accept waste unless the disposer has received an EPA identification number for each facility or mobile unit.

(c) *PCB waste handled prior to effective date of this subpart.* Generators (other than generators exempt from notification under § 761.205(c)(1)), commercial storers, transporters, and disposers of PCB waste who are required to have EPA identification numbers under this subpart, and who were engaged in PCB waste handling activities on or prior to February 5,

1990, are not subject to the prohibitions of paragraph (b) of this section if they have applied for an EPA identification number in accordance with the applicable notification procedures of § 761.205. Such persons shall use the EPA identification number "40 CFR PART 761," or a number assigned to the persons by EPA or a State under RCRA, until EPA issues to such persons a specific identification number under § 761.205(a), (b), or (c).

(d) *PCB waste first handled after effective date of this subpart.* Generators (other than generators exempt from notification under § 761.205(c)(1)), commercial storers, transporters, and disposers of PCB waste who are required to have EPA identification numbers under this subpart, and who first engage in PCB waste activities after February 5, 1990, are subject to the prohibitions in paragraph (b) of this section.

#### § 761.205 Notification of PCB waste activity (EPA Form 7710-53).

(a)(1) All commercial storers, transporters, and disposers of PCB waste who were engaged in PCB waste handling activities on or prior to February 5, 1990 shall notify EPA of their PCB waste activities by filing EPA Form 7710-53 with EPA by no later than April 4, 1990. Upon receiving the notification form, EPA will assign an EPA identification number to each entity that notifies.

(2) All generators (other than generators exempt from notification under paragraph (c)(1) of this section), commercial storers, transporters, and disposers of PCB waste who first engage in PCB waste handling activities after February 5, 1990, shall notify EPA of their PCB waste activities by filing EPA Form 7710-53 with EPA prior to engaging in PCB waste handling activities.

(3) Any person required to notify EPA under this section shall file with EPA Form 7710-53. Copies of EPA Form 7710-53 are available from the Chemical Regulation Branch (TS-798), Office of Toxic Substances, Environmental Protection Agency, 401 M St. SW, Washington, DC 20460. Descriptive information and instructions

for filling in the form are included in paragraphs (a)(4)(i) through (vii) of this section.

(4) All of the following information shall be provided to EPA on Form 7710-53:

(i) The name of the facility, and the name of the owner or operator of the facility.

(ii) EPA identification number, if any, previously issued to the facility.

(iii) The facility's mailing address.

(iv) The location of the facility.

(v) The facility's installation contact and telephone number.

(vi) The type of PCB waste activity engaged in at the facility.

(vii) Signature of the signer of the certification statement, typed or printed name and official title of signer, and date signed.

(viii) EPA has determined that the information in paragraphs (a)(4)(i) through (a)(4)(vii) of this section shall not be treated as confidential business information. This information will be disclosed to the public without further notice to the submitter unless the submitter provides a written justification (submitted with the notification form) which demonstrates extraordinary reasons why the information should be entitled to confidential treatment.

(b) Generators (other than those generators exempt from notification under paragraph (c)(1) of this section), commercial storers, transporters, and disposers of PCB waste who have previously notified EPA or a State of hazardous waste activities under RCRA shall notify EPA of their PCB waste activities under this part by filing EPA Form 7710-53 with EPA by no later than April 4, 1990. The notification shall include the EPA identification number previously issued by EPA or the State and upon receipt of the notification, EPA shall verify and authorize the use of the previously issued identification number for PCB waste activities.

(c)(1) Generators of PCB waste need not notify EPA and receive unique EPA identification numbers under this section, unless their PCB waste activities are described in paragraph (c)(2) of this section. Generators exempted from notifying EPA under this paragraph shall use the generic identifica-

tion number "40 CFR PART 761" on the manifests, records, and reports which they shall prepare under this subpart, unless such generators elect to use a unique EPA identification number previously assigned to them under RCRA by EPA or a State.

(2) Generators of PCB waste who use, own, service, or process PCBs or PCB items shall notify EPA of their PCB waste activities only if they own or operate PCB storage facilities subject to the storage requirements of § 761.65 (b) or (c)(7). Such generators shall notify EPA in the following manner:

(i) Generators storing PCB waste subject to the storage requirements of § 761.65 (b) or (c)(7) shall notify EPA by filing EPA Form 7710-53 with EPA by no later than April 4, 1990.

(ii) Generators who desire to commence storage of PCB waste after February 5, 1990 shall notify EPA and receive an EPA identification number before they may commence storage of PCBs at their facilities established under § 761.65 (b) or (c)(7).

(iii) A separate notification shall be submitted to EPA for each PCB storage facility owned or operated by generators of PCB waste. Upon receiving these notifications, EPA will assign generators unique EPA identification numbers for each storage facility notifying EPA under this section.

(d) Persons required to notify under this section shall file EPA Form 7710-53 with EPA by mailing the form to the following address: Chief, Chemical Regulation Branch (TS-798), Office of Toxic Substances, Environmental Protection Agency, Rm. NE-117, 401 M St., SW, Washington, DC 20460.

(e) The requirements under this section to notify EPA and obtain EPA identification numbers shall in no case excuse compliance by any person subject to the 1-year limit on storage prior to disposal under § 761.65(a).

(Approved by the Office of Management and Budget under control number 2070-0112)

#### § 761.207 The manifest—general requirements.

(a) A generator who relinquishes control over PCB wastes by transport-

ing, or offering for transport by his own vehicle or by a vehicle owned by another person, PCB waste for commercial off-site storage or off-site disposal shall prepare a manifest on EPA Form 8700-22, and if necessary, a continuation sheet. The generator shall specify:

(1) For each bulk load of PCBs, the identity of the PCB waste, the earliest date of removal from service for disposal, and the weight in kilograms of the PCB waste.

(2) For each PCB Article Container or PCB Container, the unique identifying number, type of PCB waste (e.g., soil, debris, small capacitors), earliest date of removal from service for disposal, and weight in kilograms of the PCB waste contained.

(3) For each PCB Article not in a PCB Container or PCB Article Container, the serial number if available, or other identification if there is no serial number, the date of removal from service for disposal, and weight in kilograms of the PCB waste in each PCB Article.

(b) EPA does not maintain supplies of printed copies of Form 8700-22 for public use, although printed copies of the manifest may be available from State offices. Camera-ready copies of the form are available for printing purposes from State offices, EPA Regional Offices, and EPA Headquarters.

(c) If the State to which the shipment is manifested (i.e., consignment State) supplies the manifest and requires its use, then the generator must use that manifest.

(d) If the consignment State does not supply the manifest, but the State in which the generator is located (i.e., generator State) supplies the manifest and requires its use, then the generator must use that State's manifest.

(e) If both the consignment State and the generator State supply manifests and require their use, the generator must use the consignment State's manifest.

(f) If neither the generator State nor the consignment State supplies the manifest, the generator may obtain the manifest from any source.

(g) A generator shall designate on the manifest one off-site commercial storage or disposal facility approved

under this part for the commercial storage or disposal of the PCBs and PCB Items described on the manifest.

(h) If the transporter is unable to deliver the PCB waste to the designated disposer or commercial storer, the transporter must contact the generator of the PCB waste for instructions. The generator shall either designate another approved disposer or commercial storer, or instruct the transporter to return the PCB waste back to the generator.

(i) The manifest which accompanies the PCB waste shall consist of at a minimum the number of copies required to provide the generator, the initial transporter, each subsequent transporter, and the owner or operator of the designated commercial storage or disposal facility with one legible copy each for their records, and one additional copy to be returned to the generator by the owner or operator of the first designated commercial storage or disposal facility.

(j) The requirements of this section apply only to PCB wastes as defined in § 761.3. This includes PCB wastes with PCB concentrations below 50 ppm where the PCB concentration below 50 ppm was the result of dilution; these PCB wastes are required, under § 761.1(b), to be managed as if they contained PCB concentrations greater than 50 ppm. An example of such a PCB waste is spill cleanup material containing less than 50 ppm PCBs when the spill involved material containing greater than 50 ppm.

#### § 761.208 Use of the manifest.

(a)(1) The generator of PCB waste shall:

(i) Sign the manifest certification by hand.

(ii) Obtain the handwritten signature of the initial transporter and date of acceptance on the manifest.

(iii) Retain one copy among its records in accordance with § 761.209(a).

(iv) Give to the transporter the remaining copies of the manifest that will accompany the shipment of PCB waste.

(2) For bulk shipments of PCB waste within the United States transported

solely by water, the generator shall send three copies of the manifest dated and signed in accordance with this section directly to the owner or operator of the designated commercial storage or disposal facility. Copies of the manifest are not required for each transporter.

(3) For rail shipments of PCB waste within the United States which originate at the site of generation, the generator shall send at least three copies of the manifest dated and signed in accordance with this section to:

(i) The next non-rail transporter, if any.

(ii) The designated commercial storage or disposal facility if transported solely by rail.

(4) When a generator has employed an independent transporter to transport the PCB waste to a commercial storer or disposer, the generator shall confirm by telephone, or by other means of confirmation agreed to by both parties, that the commercial storer or disposer actually received the manifested waste. The generator shall confirm receipt of the waste by close of business the day after he receives the manifest hand-signed by the commercial storer or disposer, in accordance with paragraph (c)(1)(iv) of this section. If the generator has not received the hand-signed manifest within 35 days after the independent transporter accepted the PCB waste, the generator shall telephone, or communicate with by some other agreed-upon means, the disposer or commercial storer to determine whether the PCB waste has actually been received. If the PCB waste has not been received, the generator shall contact the independent transporter to determine the disposition of the PCB waste. If the generator has not received a hand-signed manifest from an EPA-approved facility within 10 days from the date of the telephone call or other agreed upon means of communication, to the independent transporter, the generator shall submit an exception report to the EPA Regional Administrator for the Region in which the generator is located, as specified in § 761.215. The generator shall retain a written record of all telephone or other confirmations to be included in

the annual document log, in accordance with § 761.180.

(b)(1) A transporter shall not accept PCB waste from a generator unless it is accompanied by a manifest signed by the generator in accordance with paragraph (a)(1) of this section, except that a manifest is not required if any one of the following conditions exists:

(i) The shipment of PCB waste consists solely of PCB wastes with PCB concentrations below 50 ppm, unless the PCB concentration below 50 ppm was the result of dilution, in which case § 761.1(b) requires that the waste be managed as if it contained PCBs at the concentration prior to dilution.

(ii) The PCB waste is accepted by the transporter for transport only to a storage or disposal facility owned or operated by the generator of the PCB waste.

(2) Before transporting the PCB waste, the transporter shall sign and date the manifest acknowledging acceptance of the PCB waste from the generator. The transporter shall return a signed copy to the generator before leaving the generator's facility.

(3) The transporter shall ensure that the manifest accompanies the PCB waste.

(4) A transporter who delivers PCB waste to another transporter, or to the designated commercial storer or disposer of PCB waste, shall:

(i) Obtain the date of delivery and the handwritten signature of the subsequent transporter of PCB waste, or of the owner or operator of the designated commercial storage or disposal facility on the manifest.

(ii) Retain one copy of the manifest in accordance with § 761.209(b).

(iii) Give the remaining copies of the manifest to the accepting transporter of PCB waste, or to the designated commercial storage or disposal facility.

(5) The requirements of paragraphs (b) (3) and (4) of this section shall not apply to transporters of bulk shipments by water if all of the following conditions are met:

(i) The PCB waste is delivered by water (bulk shipment) to the designated commercial storage or disposal facility.

(ii) A shipping paper containing all the information required on the manifest (excluding EPA identification number, generator certification, and signatures) accompanies the PCB waste.

(iii) The transporter delivering the PCB waste obtains the date of delivery and handwritten signature of the owner or operator of the designated commercial storage or disposal facility on either the manifest or the shipping paper.

(iv) The person delivering the PCB waste to the initial water (bulk shipment) transporter obtains the date of delivery and signature of the water (bulk shipment) transporter on the manifest and forwards it to the designated facility.

(v) A copy of the shipping paper or manifest is retained by each water (bulk shipment) transporter in accordance with § 761.209(b).

(6) For shipments involving rail transportation, the requirements of paragraphs (v) (3) and (b)(4) of this section shall not apply. Instead, the requirements described at § 263.20(f) of this chapter for the rail transportation of hazardous waste apply to such shipments. The rail transporter shall retain one copy of the manifest or rail shipping paper in accordance with § 761.209(b).

(7) The transporter shall deliver the entire quantity of PCB waste accepted from a generator or transporter to either of the following destinations:

(i) The designated commercial storage or disposal facility listed on the manifest.

(ii) The next designated transporter of PCB waste.

(8) If the PCB waste cannot be delivered in accordance with paragraph (b)(7) of this section, the transporter shall contact the generator for further directions and shall revise the manifest and/or return the PCB waste according to the generator's instructions.

(9) No provision of this section shall be construed to affect or limit the applicability of any requirement applicable to transporters of PCB waste under regulations issued by the Department of Transportation (DOT) and set forth at 49 CFR part 171.

(c)(1) If a commercial storage or disposal facility receives an off-site shipment of PCB waste accompanied by a manifest, the owner or operator, or his agent, shall:

(i) Sign and date each copy of the manifest to certify that the PCB waste covered by the manifest was received.

(ii) Note any significant discrepancies in the manifest (as defined in § 761.210(a)(1)) on each copy of the manifest.

(iii) Immediately give the transporter at least one copy of the signed manifest.

(iv) Within 30 days after the delivery, send a copy of the manifest to the generator.

(v) Retain a copy of each manifest among the facility's records in accordance with § 761.209(d).

(2) If a commercial storage or disposal facility receives PCB waste from a rail or water (bulk shipment) transporter accompanied by a shipping paper containing all the information required on the manifest except the EPA identification numbers, generator's certification, and signatures, the owner or operator, or his agent, shall:

(i) Sign and date each copy of the manifest or shipping paper to certify that the PCB waste covered by the manifest or shipping paper was received.

(ii) Note any significant discrepancies in the manifest or shipping paper on each copy of the manifest or shipping paper.

(iii) Immediately give the rail or water transporter at least one copy of the manifest or shipping paper, if applicable.

(iv) Within 30 days after the delivery, send a copy of the signed and dated manifest to the generator; however, if the manifest has not been received within 30 days after delivery, the owner or operator shall send a copy of the shipping paper signed and dated to the generator.

(v) Retain at the commercial storage or disposal facility a copy of the manifest and shipping paper, if signed in lieu of the manifest, in accordance with § 761.209(d).

(3) Whenever an off-site shipment of PCB waste is initiated from a commercial storage or disposal facility, the

owner or operator of the commercial storage or disposal facility shall comply with the manifest requirements that apply to generators of PCB waste.

#### § 761.209 Retention of manifest records.

(a) A generator of PCB waste shall keep a copy of each manifest signed in accordance with § 761.208(a)(1) until the generator receives a signed copy from the designated commercial storage or disposal facility which received the PCB waste. The copy signed by the commercial storer or disposer shall be retained for at least 3 years from the date the PCB waste was accepted by the initial transporter. A generator subject to annual document requirements under § 761.180 shall retain copies of each manifest for the period required by § 761.180(a).

(b)(1) A transporter of PCB waste shall keep a copy of the manifest signed by the generator, transporter, and the next designated transporter, if applicable, or the owner or operator of the designated commercial storage or disposal facility. This copy shall be retained for a period of at least 3 years from the date the PCB waste was accepted by the initial transporter.

(2) For shipments of PCB waste delivered to the designated commercial storage or disposal facility by water (bulk shipment), each water (bulk shipment) transporter shall retain a copy of the shipping paper described in § 761.208(b)(5)(ii) for a period of at least 3 years from the date the PCB waste was accepted by the initial transporter.

(3) For shipments of PCB waste by rail within the United States:

(i) The initial rail transporter shall keep a copy of the manifest and the shipping paper required to accompany the PCB waste for a period of at least 3 years from the date the PCB waste was accepted by the initial transporter.

(ii) The final rail transporter shall keep a copy of the signed manifest, or the required shipping paper if signed by the designated facility in lieu of the manifest, for a period of at least 3 years from the date the PCB waste was accepted by the initial transporter.

(c) The owner or operator of a PCB commercial storage or disposal facility that receives off-site shipments of PCB waste shall retain at the facility for at least 3 years a copy of each manifest or shipping paper that the owner or operator signs in accordance with § 761.208(c)(1) or (c)(3).

(d) The periods of record retention required by this section shall be extended automatically during the course of any outstanding enforcement action regarding the regulated activity.

(Approved by the Office of Management and Budget under control number 2070-0112)

#### § 761.210 Manifest discrepancies.

(a) Manifest discrepancies are differences between the quantity or type of PCB waste designated on the manifest or shipping paper and the quantity or type of PCB waste actually delivered to and received by a designated facility.

(1) Significant discrepancies in quantity are:

(i) Variations greater than 10 percent in weight of PCB waste in containers.

(ii) Any variation in piece count, such as a discrepancy of one PCB Transformer or PCB Container or PCB Article Container in a truckload.

(2) Significant discrepancies in type of PCB waste are obvious differences which may be discovered by inspection or waste analysis, such as the substitution of solids for liquids or the substitution of high concentration PCBs (above 500 ppm) with lower concentration materials.

(b) Upon discovering a significant discrepancy, the owner or operator of the designated commercial storage or disposal facility shall attempt to reconcile the discrepancy with the waste generator or transporter. If the discrepancy is not resolved within 15 days after receiving the PCB waste, such owner or operator shall immediately submit to the Regional Administrator for the Region in which the designated facility is located a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest or shipping paper at issue.

(Approved by the Office of Management and Budget under control number 2070-0112)

#### § 761.211 Unmanifested waste report.

(a) After April 4, 1990, if a PCB commercial storage or disposal facility receives any shipment of PCB waste from an off-site source without an accompanying manifest or shipping paper (where required in place of a manifest), and any part of the shipment consists of any PCB waste regulated for disposal, then the owner or operator of the commercial storage or disposal facility shall attempt to contact the generator, using information supplied by the transporter, to obtain a manifest or to return the PCB waste.

(b) If the owner or operator of the commercial storage or disposal facility cannot contact the generator of the PCB waste, he shall notify the Regional Administrator of the EPA region in which his facility is located of the unmanifested PCB waste so that the Regional Administrator can determine whether further actions are required before the owner or operator may store or dispose of the unmanifested PCB waste.

(c) Within 15 days after receiving the unmanifested PCB waste, the owner or operator shall prepare and submit a report to the Regional Administrator for the Region in which the commercial storage or disposal facility is located and to the Regional Administrator for the Region in which the PCB waste originated, if known. The report may be submitted on EPA Form 8700-13B, or by a written letter designated "Unmanifested Waste Report." The report shall include the following information:

(1) The EPA identification number, name, and address of the PCB commercial storage or disposal facility.

(2) The date the commercial storage or disposal facility received the unmanifested PCB waste.

(3) The EPA identification number, name, and address of the generator and transporter, if available.

(4) A description of the type and quantity of the unmanifested PCB waste received at the facility.

(5) A brief explanation of why the waste was unmanifested, if known.

(6) The disposition made of the unmanifested waste by the commercial storage or disposal facility, including:

(i) If the waste was stored or disposed by that facility, was the generator identified and was a manifest subsequently supplied.

(ii) If the waste was sent back to the generator, why and when.

(Approved by the Office of Management and Budget under control number 2070-0112)

#### § 761.215 Exception reporting.

(a) A generator of PCB waste, who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated PCB commercial storage or disposal facility within 35 days of the date the waste was accepted by the initial transporter, shall immediately contact the transporter and/or the owner or operator of the designated facility to determine the status of the PCB waste.

(b) A generator of PCB waste shall submit an Exception Report to the Regional Administrator for the Region in which the generator is located if the generator has not received a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 45 days of the date the waste was accepted by the initial transporter. The Exception Report shall include the following:

(1) A legible copy of the manifest for which the generator does not have confirmation of delivery.

(2) A cover letter signed by the generator or his authorized representative explaining the efforts taken to locate the PCB waste and the results of those efforts.

(c) A disposer of PCB waste shall submit a One-year Exception Report to the Regional Administrator for the Region in which the disposal facility is located whenever the following occurs:

(1) The disposal facility receives PCBs or PCB Items on a date more than 9 months from the date the PCBs or PCB Items were removed from service for disposal, as indicated on the manifest or continuation sheet; and

#### Environmental Protection Agency

(2) Because of contractual commitments or other factors affecting the facility's disposal capacity, the disposer of PCB waste could not dispose of the affected PCBs or PCB Items within 1 year of the date of removal from service for disposal.

(d) A generator or commercial storer of PCB waste who manifests PCBs or PCB Items to a disposer of PCB waste shall submit a One-year Exception Report to the Regional Administrator for the Region in which the generator or commercial storer is located whenever the following occurs:

(1) The generator or commercial storer transferred the PCBs or PCB Items to the disposer of PCB waste on a date within 9 months from the date of removal from service for disposal of the affected PCBs or PCB Items, as indicated on the manifest or continuation sheet; and

(2) The generator or commercial storer either has not received within 13 months from the date of removal from service for disposal a Certificate of Disposal confirming the disposal of the affected PCBs or PCB Items, or the generator or commercial storer receives a Certificate of Disposal confirming disposal of the affected PCBs or PCB Items on a date more than 1 year after the date of removal from service.

(e) The One-year Exception Report shall include:

(1) A legible copy of any manifest or other written communication relevant to the transfer and disposal of the affected PCBs or PCB Items.

(2) A cover letter signed by the submitter or an authorized representative explaining:

(i) The date(s) when the PCBs or PCB Items were removed from service for disposal.

(ii) The date(s) when the PCBs or PCB Items were received by the submitter of the report, if applicable.

(iii) The date(s) when the affected PCBs or PCB Items were transferred to a designated disposal facility.

(iv) The identity of the transporters, commercial storers, or disposers known to be involved with the transaction.

(v) The reason, if known, for the delay in bringing about the disposal of

the affected PCBs or PCB Items within 1 year from the date of removal from service for disposal.

(Approved by the Office of Management and Budget under control number 2070-0112)

[54 FR 52752, Dec. 21, 1989, as amended at 55 FR 26205, June 27, 1990]

#### § 761.218 Certificate of disposal.

(a) For each shipment of manifested PCB waste that the owner or operator of a disposal facility accepts by signing the manifest, the owner or operator of the disposal facility shall prepare a Certificate of Disposal for the PCBs and PCB Items disposed of at the facility, which shall include:

(1) The identity of the disposal facility, by name, address, and EPA identification number.

(2) The identity of the PCB waste affected by the Certificate of Disposal including reference to the manifest number for the shipment.

(3) A statement certifying the fact of disposal of the identified PCB waste, including the date(s) of disposal, and identifying the disposal process used.

(4) A certification as defined in § 761.3.

(b) The Certificate of Disposal shall be sent to the generator identified on the manifest which accompanied the shipment of PCB waste within 30 days of the date that disposal of the PCB waste identified on the manifest was completed.

(c) The disposal facility shall keep a copy of each Certificate of Disposal among the records that it retains under § 761.180(b).

(d)(1) Generators of PCB waste shall keep a copy of each Certificate of Disposal that they receive from disposers of PCB waste among the records they retain under § 761.180(a).

(2) Commercial storers of PCB waste shall keep a copy of each Certificate of Disposal that they receive from disposers of PCB waste among the records they retain under § 761.180(b).



EXAMPLE #2. A transformer containing 300 gallons of fluid with a PCB concentration of 25,000 ppm PCB has spilled its entire contents. Is this a reportable quantity?

"X" = 25,000 ppm (mg/kg) PCB

"Q" = 300 gallons

"D" not given so assume 10 pounds/gallon

$$\text{"Z"} = \frac{(25,000) (300) (10)}{10^6} = 75 \text{ pounds PCB spilled}$$

\*\*\*\*\*This is a reportable quantity spill\*\*\*\*\*

## APPENDIX D

### PCB COMPUTERIZED INVENTORY FORMS AND INSTRUCTIONS

Note: The material contained in this appendix originally appeared as Appendix P from the PCB Program Management Guide, October 1989

APPENDIX D  
PCB COMPUTERIZED INVENTORY FORMS AND INSTRUCTIONS

General Information

The PCB Inventory, the main data base for the Navy-wide PCB Program, is maintained by NEESA on an IBM-compatible Personal Computer. Questions concerning the PCB Computerized Inventory should be addressed to the Naval Energy and Environmental Support Activity, Code 112F2, Port Hueneme, CA 93043.

The PCB Inventory Form is in 3 parts. Part 1 of the report lists the type of PCB items at your activity and PCB removal programs. Part 2 lists the status of the PCB items. Part 3 lists the name and location of the disposal facilities that PCB items are sent to for disposal. Example printouts are found in Figures P-1, P-2, and P-3.

Part 1 (See Figure P-1)

- 1.1 UIC - Provide the UIC number of the reporting activity.
- 1.2 CONTACT - Provide the name of the person completing the report.
- 1.3 PHONE - Provide the phone number for the contact and indicate if it is Autovon or commercial.
- 1.4 ID NUMBER/LOCATION - For each item, enter an identification or serial number which is unique to that item. Also enter the location of each item. "Building" should be abbreviated as "B", "Pole" as "P".
- 1.5 NO. OF ITEMS - enter the number of items being reported on the line of data: for example, 9 drums of liquid. All transformers and capacitors are to be listed individually. Items can be grouped only if they will be handled, stored, and disposed of at the same time and location.
- 1.6 T, C, D, O - Enter the category of PCB item; T for transformer; C for capacitor; D for drum or can; O for other, such as rectifier, swith, filter, or truckload.
- 1.7 TYPE - When the container is listed as "D" (drums) or "O" (other), specify whether it contains liquid (L) or solid (S) PCB material. Transformers are assumed to contain liquid and capacitors to contain solids.
- 1.8 TESTED PPM - Enter the concentration of PCBs contained in the item, expressed in parts per million (PPM) as determined from testing. If the fluid is a known PCB trade name (i.e. Askarel, Pyranol) the concentration may be listed as " 500" ppm. Untested transformers are to be reported as "UNTESTED".

NOTE: For each PCB item it is mandatory to provide one of the three following values. A volume or weight in kilograms must be provided. The only exception is items on inactive ships.

1.9 KILOGRAMS - Enter the amount of liquid contained in the item, expressed in kilograms. If more than one item is reported on a line, report the total for all items.

1.10 GALLONS - Enter the amount of liquid contained in the item, expressed in gallons. If more than one item is reported on a line, report the total for all items. Transformers are assumed to contain liquid.

1.11 CUBIC FT (SOLIDS) - Enter the amount of solids contained in the item, expressed in cubic feet. If more than one item is reported on a line, report the total for all items. Capacitors are assumed to contain solids.

1.12 XFRMR KVA - Enter the transformer KVA. If the item is not a transformer leave it blank.

1.13 LOCATION CODE - Enter one of the following location codes for each item. A "critical facility or building" includes places that would have direct impact on the activity mission if the facility was shut down.

- IC - Located inside of a critical facility or building.
- NC - Located within 30 meters of a critical facility or building.
- IN - Located inside of a non-critical facility or building.
- NN - Located within 30 meters of a non-critical facility or building.
- NA - Not located within 30 meters of any facility or building.

1.14 REG/PROJ CODE - Enter one of the following regulatory restriction/project information codes for each item.

- RD - A mandatory removal date or other regulatory restriction exists but no project is in place to resolve the regulatory restriction.
- RP - A regulatory restriction exists and a project is in place but unfunded to resolve the regulatory restriction.
- RF - A regulatory restriction exists and a project is in place and funded to resolve the regulatory restriction.
- PN - A project is in place to replace the item which has no existing regulatory restriction.
- XX - No project is in place to replace the item and there is no existing regulatory restriction.

1.15 DISP COST - Enter the total cost for disposal of the item. This cost includes purchase of a replacement item or the cost of retrofill, if applicable.

1.16 RESPONSIBLE UIC - Enter the UIC number of the activity that is responsible for paying for the replacement and/or disposal of the PCB item if other than the reporting UIC.

Part 2 (See Figure P-2)

- 2.1 UIC - Provide the UIC number of the reporting activity.
- 2.2 CONTACT - Provide the name of the person completing the report.
- 2.3 PHONE - Provide the phone number for the contact and indicate if it is Autovon or commercial.
- 2.4 ID NUMBER/LOCATION - For each item, enter the same identification number as used in Part 1-2.
- 2.5 UNIT IN SERVICE - Enter "YES" or "Y" if the item is in service.
- 2.6 DATE REMOVED - If the item was removed from service enter the date (month, day, year in numerical form, ie 042589).
- 2.7 STORED FOR REUSE - If the item is in storage for future use, enter "YES". All items on ships in the inactive fleets are to be listed as stored for reuse until removed from the ships.
- 2.8 STORED FOR DISPOSAL - If the item is in storage for disposal, enter "YES".
- 2.9 DATE STORED - Enter the date the item was placed in storage for reuse or disposal.
- 2.10 DISPOSED OF - If the item has been disposed of, enter "YES".
- 2.11 DATE TO HAULER - If the item was sent to disposal (Part 3-8 is "D") enter the date (month, day, year) when the PCB item was hauled off-base.
- 2.12 DRMO A, C, D - If the item is in storage for disposal or was sent to disposal, specify whether the item has been turned in to DRMO or disposed using the codes below.
  - A - Items accountable to DRMO (Turn-in Document DD 1348-1 accepted by DRMO)
  - C - Item accountable and in is being stored in a DRMO storage facility.
  - D - Item has been disposed of.
- 2.13 COMPANY CODE: LIQUID - If the item was sent to disposal (Part 2.11 is "YES") enter the code number for the disposal company where the liquid material was sent. The code is found in Part 3 of this inventory.
- 2.14 COMPANY CODE: SOLID - If the item was sent to disposal (Part 2.11 is "YES") enter the code number for the disposal company where the solid material was sent. Solid material includes transformer carcasses. Transformers may have both a solid and a liquid COMPANY CODE if the liquid and carcass are sent to different locations.
- 2.15 RETROFILLED - If a transformer is retrofilled, enter "YES".
- 2.16 DATE RETROFILLED - If a transformer is retrofilled, enter the date (month, day, year) the transformer retrofill was completed.

PART 3 (See Fig P-3)

3.1 UIC - Provide the UIC number of the reporting activity.

3.2 COMPANY CODE - Number the Companies starting with 1. This code will be used for Parts 2.13 and 2.14.

3.3 COMPANY NAME, OWNER, ADDRESS - Provide the company name, the owner, and the address of any disposal company receiving any PCBs from your activity for disposal this year.

FIGURE P-1

1- UIC: N0537A  
2- CONTACT:  
3- PHONE:

1989 PCB INVENTORY

PART 1 OF 3

PAGE NO.  
09/28/89

PLEASE VERIFY AND UPDATE THIS INFORMATION.  
THIS INFORMATION MUST BE RETURNED TO NEESA NO LATER THAN 1 FEBRUARY 1990  
NEESA CONTACT: CATHERINE RYAN, CODE 112F2, A/V: 551-2632

(4) ID NUMBER/LOCATION	(5) QTY	(6) T/C D/O	(7) TYPE S/L	(8) TESTED PPM	(9) XFRMR KVA	(10) KG	(11) GALLONS	(12) CUBIC FT (SOLIDS)	(13) LOCATION CODE	(14) REG/PROJ CODE	(15) DISP COST (\$000)	(16) RESPONSIBLE UIC
2344567 B 344 REAR	3	D	L	600		899.3	165.0	0.0	NA	XX	0	
12345 B 835 W2 N	1	T	L	720		835.0	152.8	0.0	NC	RF	5	
123558 B 112 N	1	T	S	84		1229.5	225.0	0.0	IC	FN	0	N00011

FIGURE P-2

1- UIC: N0537A  
2- CONTACT:  
3- PHONE:

1989 PCB INVENTORY

PART 2 OF 3

PAGE NO.  
09/28/89

PLEASE VERIFY AND UPDATE THIS INFORMATION.  
THIS INFORMATION MUST BE RETURNED TO NEESA NO LATER THAN 1 FEBRUARY 1990  
NEESA CONTACT: CATHERINE RYAN, CODE 112F2, A/V: 551-2632

(4) ID NUMBER/LOCATION	(5) UNIT IN SERVICE	(6) DATE REMOVED	(7) STORED FOR: REUSE /	(8) DISPOSAL	(9) DATE STORED	(10) DISPOSED OF	(11) DATE TO HAULER	(12) DRHO A/C/D	(13) COMPANY LIQUID /	(14) CODE SOLID	(15) RETROFILLED Y/N	(16) DATE
2344567 B 344 REAR					071489			C				
12345 B 835 W2 N		71588			71588	YES	41089	D	1	2		
123558 B 112 N		100189	YES		100189			A				

FIGURE P-3

(1)

UIC: N0537A

1989 PCB INVENTORY

PART 3 OF 3

PAGE NO. 1

PLEASE VERIFY AND UPDATE THIS INFORMATION  
THIS INFORMATION MUST BE RETURNED TO NEESA NO LATER THAN 1 FEB 90  
NEESA CONTACT: CATHERINE RYAN, CODE 112F2, A/V: 551-2632

(2)

(3)

COMPANY      DISPOSAL COMPANY  
CODE        COMPANY NAME, OWNER, ADDRESS

1            CHEMCHECK  
             JOHN DOE  
             ROUTE 44  
             DAVISVILLE, LA    22222

2            EMELLE LANDFILL  
             JANE DOE  
             12345 WAYBACK LANE  
             CALLENS, AL 11111

## **APPENDIX E**

### **RECOMMENDED SAMPLING PROCEDURES**

Note: The material contained in this appendix originally appeared as Appendix O from the PCB Program Management Guide, October 1989

APPENDIX E  
RECOMMENDED SAMPLING PROCEDURES

I. INTRODUCTION. Sampling is conducted to get information required to meet labeling, inspection and turn-in requirements when such information is not available from the manufacturer's nameplate or activity records. Sampling is also conducted to determine the degree of contamination present after a spill.

To reduce the number of samples requiring expensive laboratory analysis, it is recommended that those items suspected of containing PCBs be screened using one of the PCB field test kits. Screening procedures for identifying PCB items are detailed in Appendix J. A summary of current PCB field test kits are detailed in Appendix K. Sampling procedures for water, soil, oil and other waste forms are detailed in EPA SW\_846, "Test Methods for Evaluating Solid Waste." The sampling procedures paraphrased below are intended as a guide for the sampling most commonly done at Navy activities.

Naval policy requires testing of PCB equipment, but testing is not required by federal regulation.

II. PRECAUTIONS. The precautions provided herein are general in nature and should be supplemented with information and advice from the activity's Safety office. Chapter 15 of this Guide contains more detailed safety information. When testing must be done on energized equipment, it should be performed by trained and experienced personnel such as an electrician or electrical engineering technician with sampling knowledge. The following safety equipment should be used to protect against skin absorption, inhalation, and cross contamination during sampling:

- Viton elastomer gloves
- Shoulder-length polyethylene gloves (to be worn over Viton)
- Standard Tyvek total body coveralls
- Disposable chemical-resistant boot covers
- Respirators:full-face, both cartridge and SCBA types

III. SAMPLING EQUIPMENT. The following equipment is required to safely and effectively sample PCB items and soil:

- Sample bottles, glass, 1 oz. (liquid samples)
- Sample Jars, glass, 1 qt. (soil samples)
- Aluminum foil
- Tube sampler, 1-inch diameter
- Sieve, 0.25-inch or 2-mm
- Oil absorbent
- Rags or paper towels
- Plastic bags, small, whirl-pack or zip-lock
- Disposable pipettes and bulb
- Spoons, stainless steel
- Permanent marker, fine-line
- Self-adhesive labels
- Drip pan, stainless steel
- Assorted hand tools (wrenches, screwdrivers, e.g.)
- Open-top drum,, DOT 17C (for disposal of solid contaminated material)
- Metal cans and cardboard boxes (for shipping)

Additional equipment may be required for air, water or surface sampling. Consult SW-846 or Methods for Air Sampling and Analysis, APHA Intersociety Committee.

IV. SAMPLING PROCEDURES. The following items are most commonly sampled for PCBs:

- Transformers
- Industrial Plant Equipment (IPE)
- Soil

Sampling air, water and some surface may be beyond the capabilities of activities. Activities should contact the cognizant EFD and MEDCOM for assistance in sampling. The following section discusses each sampling procedure in detail.

A. Transformers. Energized transformers should be sampled only by trained and experienced personnel such as an electrician or electrical engineering technician with sampling knowledge and only when it is not feasible to de-energize prior to sampling. On-line transformers generally do not require sampling unless they are leaking. Specialized knowledge of electrical system designs, transformer gauges and valving is essential. Similar safety equipment and procedures should be used as specified for sampling off-line transformers. The additional hazard of working around high-voltage equipment must be recognized. Sampling of on-line transformers by other than specially trained personnel is not recommended.

Non-energized transformers can be sampled using basic safety precautions with minimum difficulty. When sampling either oil-filled or suspected PCB transformers, safety equipment must be used, because many transformers are contaminated with PCBs. It is critical that a qualified electrician ensure the transformer is de-energized prior to sampling by a non-electrician.

The following are general procedures to be followed when sampling dielectric fluids in off-line transformers. However, depending on the type of transformer and the specific manufacturer's design, modifications to these procedures may be necessary. Judgement should be exercised in sampling pole-mounted transformers.

1. Transformers with petcocks.

Don proper safety equipment (as listed in Section II of this Appendix). Also check with your safety office.

Have an electrician check all transformer gauges and switches to ensure that the transformer is off-line. If it is hot or under negative pressure, do not sample. Fluid level indicators and ground wires should also be checked prior to sampling.

Place drip pan under petcock.

Place plastic bag with absorbent towel in drip pan to contain small spills or drips that may occur during sampling.

Open master valve slightly. If sucking sound is noted, close valve and contact electrician immediately.

Slowly open petcock and allow one ounce of dielectric fluid to be collected in sample bottle.

Close petcock and master valve.

Label sample bottle with transformer identification number.

Place sample bottle in sealed plastic bag and then place the bag inside a one-quart or one-pint metal can with absorbent. Place metal can inside a small box with more absorbent. Use proper DOT containers.

Properly label box in accordance with DOT requirements.

Properly label and dispose of any contaminated sampling materials by placing in open top drum. Dispose of drum in a disposal site approved for PCBs.

2. Transformers requiring removal of lid.

Don proper equipment (as listed in Section II of this Appendix).

Have an electrician check all transformer gauges and switches to ensure that transformer is off-line. Fluid level indicators and ground wires should also be checked prior to sampling. If hot or under negative pressure, do not sample.

Secure transformer.

Open lid slowly using wrench.

If transformer dielectric fluid is thin (low viscosity), use a pipette or glass tube to transfer a representative sample of the fluid to sample bottle. Collect one ounce.

Being careful not to tilt transformer, replace the lid.

Place contaminated spoon or pipette into plastic bag, label and dispose of by placing in open top drum. Dispose of drum in an EPA-approved PCB disposal site.

Spills should be cleaned up using absorbent materials. Refer to Chapter 13 and Appendix N for information about spill cleanup procedures and supplies.

Label sample bottle, and package for shipment to laboratory as described in Section A.1. above.

B. Industrial Plant Equipment (IPE).

1. Obtain working copies of machine shop layout of all IPE.
2. Review plant equipment records for each machine in shop layout which was installed prior to 1980 to determine the number of reservoirs, the size of these reservoirs (in gallons) and their locations. Document the information.

3. Request Safety and Industrial Hygiene division review sampling plans and procedures, make recommendations and verify that the proper personal protective equipment is being used.
4. Develop a spill contingency plan to be used during sampling. Refer to Chapter 12 for information on contingency plans.
5. Review procedures with sample takers, insuring that they know exactly what to do, how to do it and what to wear.
6. Develop a spread sheet to collect data and include the following headings:
  - a. Plant account number of machine
  - b. Manufacturer of machine and type
  - c. Weight of machine
  - d. Location IPE (building and shop)
  - e. Sample number
  - f. Date of sampling
  - g. Size of reservoir in gallons
  - h. Screening data
  - i. Date analysis completed
  - k. Date labeled and type of label
  - l. Weekly inspection of PCB items and date
  - m. Inspector's name
  - n. Corrective measures
  - o. Number of drums
7. Ensure required personal protective equipment is worn. This must include the equipment listed in Section III of this Appendix.
8. Conduct a visual inspection of each IPE for sample ports and locate each sample port on machine shop layout drawing with an arrow. Number these ports with the sample number.

NOTE: Some IPE may have 6 or more reservoirs. Each reservoir must be sampled. There is no need to sample reservoirs that are not recirculated, for example, some lubricants and grinding fluids are closed loop systems or are hermetically sealed.

9. Label sample bottles with the following information:
  - a. Sample number
  - b. IPE plant account number
  - c. Date sampled
10. Samples may have to be suctioned out using a pipette or spoon or may be simply removed by opening a petcock in the filtering ine. Collect one ounce.
11. Package the samples for shipping as listed in Section A.1 of this Appendix.
12. Properly label and dispose of any solid contaminated sampling materials by placing in an open top drum. Dispose of drum in a disposal site approved for PCB.

C. Soil. Before beginning sampling, attempt to determine the boundaries of contamination. Refer to SW-846 for detailed or specialized soil sampling procedures.

1. To prepare sample containers (1-qt mason jars), wash the jars with water and then alcohol, hexane, or other suitable non-halogenated solvent and allow to dry. Jars can also be washed in a lab dishwashing machine with a suitable solvent rinse. This can be done before going out to the sampling site. The metal jar lids must be lined on the inside with aluminum foil (shiny side concealed) or with teflon so that the lids do not come into contact with the soil specimen.
2. Locating sites. Sampling sites should be allocated in accordance with the survey design, or as randomly as conditions will allow. The construction of a square grid and the random selection of grids as locations for sampling sites (again, randomly, within the selected grid) is one method of selection.
3. Check to be sure that sampling equipment is clean. If any appears dusty or dirty, wash with water and shake off the excess before beginning to sample. (Equipment should be rinsed with water and alcohol or other solvent before its first use each day.)
4. Establish a sampling area of 2,500 square feet. A 50 foot X 50 foot site is preferred, but other dimensions which include 2,500 ft<sup>2</sup> can be used to fit the sample site. Determine 16 core locations on an evenly-spaced grid (4 X 4) over the site. Pacing or using a tape measure and markers are ways of accomplishing this.
5. At each of the 16 core locations in the grid, take four cores (using a 1-inch tube sampler) at 90° angles a few inches from the core location mark. Take each core at the same depth, depending on the survey requirement.
6. Sieving. The 64 cores from each sampling site should be composited and sifted three times through a 1/4-inch mesh sieve (2-mm is also acceptable). Discard stones, roots, twigs, grass, and other debris that will not pass through the screen unless these will be analyzed separately. Sampling personnel should be aware that the surface layers of soils in urban or industrialized sites often contain foreign contaminants such as broken glass, nails, brick shards, and so forth. Because of this added hazard, hand protection such as gloves must be worn during sieving. If the soil sample is too wet to pass through the screen, spread it out on new, heavy-gauge aluminum foil (dull side exposed) to air-dry just enough so it can pass through the sieve. Do not allow soil to dry in direct sunlight and do not allow it to become "bone dry". If samples are to be analyzed for volatile organic compounds, the entire specimen should be sent to the lab and sieving or drying should not be performed in the field. All work areas where soil samples are handled must be covered with heavy-gauge aluminum foil (dull side up). The shiny side has additional chemicals on the surface which should not contact the soil specimen.
7. After the sample of 64 cores has been sieved and mixed three times, take subsample of the soil (randomly or with a sample splitter) large enough to fill the sample jar. Place foil or teflon-liner over the top and put on the cover.

8. Fill out the appropriate forms for the sample and attach identifying labels to the jar. Specimen jars then should be put in boxes, coolers, or chilled according to the predetermined specimen stabilization procedures for the survey. Refer to SW-846 for specific procedures.

9. Clean all equipment thoroughly (including gloves, pail, corer, etc.) with a wire brush and water to remove all traces of soil, and then rinse well with alcohol or other appropriate solvent before proceeding to the next site. Keep all equipment covered while in transit to the next site so that dust does not contaminate it.

10. Packing samples for shipment. The need for adequate protection for specimen jars during shipment from the field cannot be stressed too strongly. When a specimen container is broken or otherwise compromised, the sample cannot be used for trace organic residue analysis. Styrofoam beads, bubble wrap, excelsior or even newsprint paper may be used. Each container should be individually wrapped and put into a strong box or insulated shipping container. The containers should be well protected from banging into each other and from external bumps during handling and shipping.

V. GENERAL SAMPLE SHIPPING INFORMATION. When samples for PCB analysis are shipped to a laboratory, they must be packaged in a manner which will prevent leakage from the package if the bottle breaks. The glass sample should be packed in plastic and absorbent to prevent leakage of sample. The DOT E-7909 container or UPS #38 packaging authorized for ORM-E materials are acceptable for both unidentified dielectric fluid samples and samples of known PCBs.

The U.S. Postal Service accepts samples of dielectric fluids shipped for PCB testing; they accept no suspected or known hazardous materials. Whenever there is reason to suspect the samples are PCB or PCB-contaminated, they must be shipped via UPS, Federal Express or other freight carriers authorized to ship hazardous materials. The local shipping office (UPS, etc.) will assist with determining proper labeling and provide other information concerning shipping of samples.

## APPENDIX F

### PCB SPILL KIT EQUIPMENT LIST

Note: The material contained in this appendix originally appeared as Appendix N from the PCB Program Management Guide, October 1989

## APPENDIX F. PCB SPILL KIT EQUIPMENT LIST

### I. PCB SPILL KIT CONTENTS AND EQUIPMENT SOURCES

Proper handling of PCB spills requires prior preparation of a spill kit containing direction for use in case a spill emergency should occur. The kit should be labeled and designated for use in handling PCB spills only, and should be strategically placed in the electrical shop, or other locations where spills are most likely to occur. The label should list the contents, and the kit should be sealed to inhibit pilferage.

Spill kits may be assembled by procuring items through the Federal Supply System, or from commercial sources. A list of additional suppliers may be obtained by contacting the EFD Environmental Branch Contract.

The following is a list of equipment required for shop or vehicle spill kits:

<u>Shop Kit</u>	<u>Vehicle Kits</u>
1 55-gallon open-head drum or 85 gallon recovery drum (may be used to hold equipment)	*1 instruction sheet
*1 instruction sheet	1 5-gallon open-head drum
4 pairs of Neoprene gloves	2 pairs of Neoprene gloves
2 respirators & cartridges	1 respirator & cartridges
2 aprons (chemical resistant)	1 impermeable suit (coverall)
2 pairs Neoprene boots covers	1 dustpan
2 impermeable suits (coveralls)	1 shop brush
1 dustpan	10-30 lbs absorbent material
1 shop brush	1 pint liquid detergent
1 square-point "D" handle shovel	6 polyethylene bags w/ties
1 round-point "D" handle shovel	1 portable eyewash
1 dozen polyethylene bags w/ties	1 first-aid kit (in truck)
1 18" pushbroom, synthetic fibers	blank labels and standard PCB labels
1 gallon liquid detergent	1 package drip pan
2 self-contained or air-supplied breathing apparatus (identify location of nearest available units)	1 package of absorbent paper towels or rags
80 lbs absorbent material including high capacity absorbent	
1 stainless steel sprayer	
1 bung wrench	
1 drum spigot	
1 1-3/8" open-end wrench	
1 drum pump (manual)	
30 ft 1/2" Tygon tubing	
5 blank labels and PCB labels	
1 first aid kit (identify location of nearest unit)	
1 packages of absorbent paper towels or rags	
1 plastic drip pan	
1 polyethylene tarpaulin	

\*NOTE: Include a local source for a suitable solvent.

Most equipment and materials needed for PCB spill emergency response and for maintaining spill kits can be obtained through the activity's Serv-Mart Store, the GSA Federal Supply System, or local manufacturing companies. Major kit components and sources for this equipment are listed below. Spill kits should also contain all required safety equipment.

ABSORBENTS: Sweeping compound 50 lb bag, absorbent NSN 7930-00-269-1271.  
Source: GSA catalog, Servmart.

HIGH CAPACITY ABSORBENTS:

Safe Step (absorbent) NSN 7930-01-145-5797. Source: Servmart or Andesit of California, Inc. 1260 S. Goodrich Blvd., Los Angeles, CA 90022. Telephone (213) 726-7602.

Imbiber beads. Source: EMCO 1015 Louisiana St., Suite 208, Little Rock, Arkansas 72202. Telephone (501) 374-7878.

APRON: Disposable polyethylene or spun bonded olefin for protection against damaging chemicals and acids. NSN 8415-00-222-8074. Source: GSA Catalog.

BUNG WRENCH: Multiple size Non-Sparking NSN 5100-00-244-4389. Source: GSA Catalog.

BROOMS:

Brush, floor-sweeping (without handle 18" long) NSN 7920-00-243-3407.  
Source: Servmart, GSA Catalog.

Brush handle NSN 7920-00-263-0328. Source: Servmart, GSA Catalog.

DECONTAMINATING SOLVENTS:

Deodorized kerosene (Flash Point (F.P.)—100°F) NSN 9140-00-242-6749, 9140-00-242-6751, 9140-00-286-5298, Source: GSA Catalog.

VERSOL #18 Trichloroethane (F.P. 90°F) Trichlorobenzene (F.P. 222°F)  
Source: EXXON CORP. This solvent has a high flash point and is compatible with PCBs. Note: This solvent contains chlorine and will affect field test results.

Power Cleaner 115 GSA FSC Class 7930 Contract #GS-005-400029 special item number NIS-G-5381. Source: Penetone Corp., 74 Hudson Ave., Tenafly, NJ 07670. Telephone (213) 263-4105.

DETERGENT:

General liquid (1 gallon) NSN 7930-00-282-9699. Source: GSA Catalog. If Power Cleaner 155 is used as the solvent, it may be used as the detergent also.

DUST PAN: Metal household NSN 7290-00-8308. Source: GSA Catalog.

DRUMS:

(for additional information on Department of Transportation (DOT) shipping requirements, refer to 49 CFR 173-195).

DOT drums approved for PCB storage or disposal in accordance with 40 CFR 761.42.

DRUMS:

FOR LIQUID PCBs -

<u>DOT #</u>	<u>Description</u>	<u>Mil. Spec.</u>
5	(without removable head)	PPP-P-704, Type I, Class 8 and 12
5B	(without removable head)	PPP-D-729, Type I; PPP-D-705, Type I; Class 8 and 12
6D	(overpack with 25 25L polyethylene containers)	-None- (Obtain from outside source on contract)
17E		PPP-D-729; PPP-D-705, Type I and II; PPP-P-704, Type I, Class 3 and 9

FOR SOLID PCBs (SOIL, RAGS, ETC.) -

<u>DOT #</u>	<u>Description</u>	<u>Mil. Spec.</u>
5	(removable head)	PPP-P-704, Type I, Class 8 and 12
5B	(removable head)	PPP-D-729, Type I; PPP-D-705, Type I; Class 8 and 12
17C		PPP-P-704; Type I, Class 4 and 11

85-gallon drum for overpacking 55-gallon ruptured or damaged drums: NSN 8110-01-101-4056 (Recovery Drum Model #100). Source: Clearing Container, Inc., 5100 West 67th St., Chicago, Illinois 60638. Telephone (213) 767-2990. Container Corp., 525 Fruitland Ave., Los Angeles, CA 90058. Telephone (213) 581-7127.

DOT-approved drums for all uses: (all sizes not in the GSA Supply Catalogs.) Sources: United Molded/United Utensils, 2 Yennicock Ave., Port Washington, NY 11050. Telephone 800-645-1248.

Abby Drum Co., 1900 Benhill Ave., Baltimore, MD 21276. Telephone (301) 355-3111.

(For other drum sources, refer to local phone directory.)

FIRST-AID KITS:

General purpose for easy installation on trucks NSN 6545-01-067-8923 Source: GAS Catalog.

Large size kit for shops NSN 6545-00-656-1093 Source: GSA Catalog.

FIRE EXTINGUISHER: A fire extinguisher should be kept on hand when using any solvents. The extinguisher should be rated for use on chemical fires.

FUNNELS: General purpose, 1 gallon size NSN 7240-00-223-4482. Source: GSA Catalog.

LABELS: PCB Labels, PCB Shipping Labels. Source: Label Master, 7525 N. Walcott Ave., Chicago, Illinois 60626 Telephone (312) 973-5100.

PLASTIC BAGS:

Waste receptacle, interlocking seal closure, 500 per box, 12"x12", NSN 8105-00-837-7757. Source: Servmart.

Liners, Plastic NSN 8105-00-655-8286. Source: Servmart.

Waste receptacle, polyethylene, 36"x54", flat wire tie closure, 1.5 mil thick NSN 8105-00-848-9631. Source: GSA Catalog.

PUMPS: Drum pump for 30-55 gallon drums and 5-gallon cans, stainless steel type #304 for use with chemicals, alkalis, acids, and solvents. Source: Baldwin Mfg. Co., 6130 American Rd., Toledo, Ohio 43612. Telephone (419) 729-3747.

SHOVELS: "D" handle square point NSN 5100-00-224-9326. Source: GSA Catalog  
"D" handle round point NSN 5120-00-293-3336. Source: GSA Catalog.

SCRUB BRUSHES: Household type NSN 7920-00-282-2470. Source: GSA Catalog.

SOLVENT: See Decontaminating Solvents.

SPRAYER: Sprayer, . hand-held stainless steel provides a mist spray, 2-pint capacity. Source: GSA Catalog NSN 3740-00-720-0465.

TAUPAULIN: Tarp, 6'x10', plastic NSN 8340-00-582-0521. Source: GSA Catalog.

NOTE: Some equipment required for PCB spill cleanup and containment is already available at most electrical shops. Therefore, procurement sources are not listed for every spill kit item needed.

## II. PCB SAFETY EQUIPMENT

The following safety equipment must be worn when sampling oil-filled or PCB transformer dielectric fluid or when cleaning up PCB spills:

RESPIRATORS AND CARTRIDGES (for sampling oil-filled transformers).

RESPIRATORS: MSA Ultra-twin dual respirators, full face. Part #460560.  
Sources: Mine Safety Appliance Co., Pittsburgh, PA 15208. Telephone (412) 273-5000.

### CARTRIDGES:

MSA Combination Cartridge GMP-Pesticides or chlorinated organic compounds Part #448847. Sources: Mine Safety Appliance Co., Pittsburgh, PA 15208.

Other local suppliers may be more readily available. Contact activity safety office for further information and additional supplies.

SELF-CONTAINED BREATHING APPARATUS (for use in cleaning up PCB spill or when working around damaged PCB transformers in enclosed areas):

SCOTT AIR PACKS or other appropriate supplied air units. Check with local safety office for suppliers or location of existing units.

GLOVES:

VITON. Source: North Hand Protection, 4090 Azalea Dr., P.O. Box 70729, Charleston, SC 29405. Telephone (803) 554-0660.

Neoprene or Neoprene-coated canvas NSN 8415-00-753-6553 (medium), 8415-00-753-6554 (large). Source: GSA Catalog.

FOOT COVERINGS: Neoprene boot or shoe covers. Sources: Tingley Rubber Co., South Ave., South Plainfield, NJ 07080. Bennet-Bowen Co. Inc., 3023 Las Hermonas St., Rancho Dominguez, CA 90221.

IMPERMEABLE SUIT (Coveralls): (Contact nearest Safety Office for local supplier).

SARANEX R Laminated Tyvek spun bonded olefin disposable coveralls rated for PCB use.

PCB EMERGENCY SPILL KIT: (others may be available).

This kit can be used for small spills or to supplement larger spill kits. It contains enough safety equipment to outfit two workers. Source: Carey Machinery and Supply Co., 3501 Brehms Lane, Baltimore, MD 21213. Telephone (800) 638-5422, (east coast states only), (301) 485-2323.

This kit is available in various sizes. Item: Sarspac E, PCB spill kit. Source: SED Inc., Box 1306, Waukesha, Wisconsin 53187. Telephone (414) 784-3740.

HARD HAT: Bullard Model #3000 (All plastic) Sources: E.D. Bullard Co., 5586 E. Imperial Hwy., South Gate, CA 90280; NSN 8415-00-884-3767 GSA Catalog.

III. SAMPLING EQUIPMENT

A. LIQUID SAMPLING: (The following additional equipment is required when transformer dielectric fluid samples are to be taken.)

ABSORBENT: Paper towels NSN 7920-00-823-9773 Source: Servmart.

BOTTLES: Glass with Teflon sealed plastic cap, size 1 oz. Sources: Fisher Scientific or Cole Parmer Instrument Co., 7425 North Oak Park Ave., Chicago, IL 60648; Pierce Chemical Company, Rockford, IL 61105.

BAGS: Whirl-pak sampling bags. Sources: Fisher Scientific or Cole-Parmer Instrument Co., 8425 North Park Ave., Chicago, IL 60648.

UTILITY PAN: Plastic drip pan. Source: NSN 7240-00-943-7105 GSA Catalog.

**LABELS AND SAMPLE SHIPPING CONTAINERS:**

DOT-E-7909 (label exempt) or UPS package No. 38 (Laboratory sample shipping package).

AUTHORIZED BY DOT EXEMPTION NO. E-7909 EFFECTIVE SEPTEMBER 22, 1978

This exemption permits the transportation of limited quantities of Poison B liquids and solids or ORM-E polychlorinated biphenyls on a cargo aircraft without the requirement of a POISON label. This same package has been accepted by the United Parcel Service for the same purpose. This package consists of a safety-plastic-coated glass bottle, or metal containers not exceeding one quart, which is in turn inserted in a pouch containing imbibers beads of other sorbent capable of absorbing the entire liquid contents of the container.

Source: Label Master 7527 N. Wolcott Ave., Chicago, IL 60626, Telephone (312) 973-5100.

SPOON: Stainless steel, flat-handle spoon, NSN 7340-00-205-3340.

PEN/MARKER: Any marker that will mark on glass or plastic can be used.

PIPETTE: 10 inch 1/10 ML Cat. #13-665M. Source: Fisher scientific Inc., 5401 Creek Rd., Cincinnati, OH 45242. Telephone (513) 743-5100.

TYGON TUBING: 50 Ft. Cat. #6408-72. Source: Cole Palmer Instrument Co., 7425 North Oak Park Ave., Chicago, IL 60648.

B. AIR SAMPLING: (The following item is used for sampling PCBs in air. The media is analyzed by gas chromatography.)

AIR SAMPLER: Item: Msa Model G Pump Kit, Catalog #456241. Source: Mine Safety Appliances, 600 Penn Center Blvd., Pittsburgh, PA 15235. Telephone (412) 273-5000. Ask for government sales.

**APPENDIX G**

**EL TORO 1992 PCB INVENTORY**

1993<sup>2</sup> PCB INVENTORY PART 1 OF 4

UIC: M60050  
 CONTACT: EDDIE BENAVENTE  
 TELEPHONE: 714-726-2772 2164  
 DSN: 997-2772  
 FAX:

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ID #/LOCATION	ADD A	DEL F/E	QTY	T/C D/O	TYPE S/L	TESTED PPM	XFRMR KVA	KG	GALLONS	CUBIC FT (SOLIDS)
5KL505 B12CS			1	C	S	500	60			
DRUM			1	T	L	500				
7093966P B120			1	T	L	80	15		10.0	
PAV 1646-01 B634			1	T	L	500	500	1071.0	60.0	
JNB341237			1	T	L	500				
7220241 B285			1	T	L	130	25		10.0	
793397 B687			1	T	L	110	15		10.0	
6900519 B687			1	T	L	120	15		10.0	
F606201-66P B185			1	T	L	331	5			
6224013 B285			1	T	L	130	25		10.0	
			1	T	L	500				
681549 P-B118			1	T	L	360				
WESTINGHOUSE B716			1	T	L	500	500			
6963930P B5201			1	T	L	500	38		10.0	
7093682 B285			1	T	L	180	25		10.0	
B335346 B359			1	T	L	76	113	357.0	40.0	
786787910 B692			1	T	L	120	38		10.0	
B684198 B383			1	T	L	350	3750	3870.0	840.0	
F604718466P B185			1	T	L	384	5			
F606207-66P B185			1	T	L	277	5			
SNB341239			1	T	L	500				
786787919 B692			1	T	L	120	38		10.0	
SNB741234			1	T	L	500				

UIC: M60050  
 CONTACT: EDDIE BENAVENTE  
 TELEPHONE: 714-726-2772  
 FAX: 997-2772

ID #/LOCATION	LOCAT CODE	REG/ PROJ CODE	DISP COST (\$000)	RESPON. UIC	ANTICIPATED REMOVAL DATE	FUNDING SOURCE	PRIORITY
5KL505 B12CS	NN	RF					
DRUM			45.5				
7093966P B120	NN	RF					
PAV 1646-01 B634	IC	RF					
JNB341237			740.1				
7220241 B285	NN	RF					
793397 B687	NA	RF					
6900519 B687	NA	RF					
F606201-66P B185							
'013 B285	NN	RF					
DRUM			193.7				
681549 P-B118	NN	RF					
WESTINGHOUSE B716NN		RF					
6963930P B5201	NN	RF					
7093682 B285	NN	RF					
8335346 B359	NN						
786787910 B692	NA	RF					
B684198 B383	NN	RF					
F604718466P B185							
F606207-66P B185							
SNB341239			734.9				
786787919 B692	NA	RF					
41234			739.5				

UIC: M60050  
 CONTACT: EDDIE BENAVENTE  
 TELEPHONE: 714-726-2772  
 DSN: 997-2772  
 FAX:

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ID #/LOCATION	STATUS	DATE REMOVED	DATE STORED	DATE HAULED	MANIFEST NUMBER	COMPANY CODE	RETROFILLED Y/N	DATE
5KL505 B12CS	I							
DRUM	I							
7093966P B120	I							
PAV 1646-01 B634	I							
JNB341237	I							
7220241 B285	I							
793397 B687	I							
6900519 B687	I							
F606201-66P B185	I							
6224013 B285	I							
	I							
681549 P-B118	I							
WESTINGHOUSE B716I								
6963930P B5201	I							
7093682 B285	I							
B335346 B359	I							
786787910 B692	I							
B684198 B383	I							
F604718466P B185	I							
F606207-66P B185	I							
SNB341239	I							
786787919 B692	I							
SNB341234	I							

*I = In Service*