

# PCB Inspection Manual





## **Disclaimer**

The purpose of this manual is to provide inspectors with an in-depth knowledge of the Toxic Substances Control Act (TSCA) Polychlorinated Biphenyl (PCB) inspection process. The mention of trade names, commercial products, or organizations does not imply endorsement by the U.S. Government.



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## Glossary of Terms

**Bushing:** a rigid conductor that is placed between the transformer-winding leads and the external conductor. Usually consists of a solid copper rod surrounded by porcelain.

**Destructive sample:** a discrete sample such as a piece of wood, paving, or brick (EPA Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup.)

**Destructive sampling:** using chisels, drills, and/or hole saws, to remove sufficient sample for analysis.

**High-concentration PCBs (as defined in §761.123):** 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.

**Investment Casting Wax:** wax used to either cast small models of precious metals (mostly jewelry) or larger parts of steel, titanium, or alloys (precision casting).

**Liquid PCBs (as defined in §761.3):** a homogenous flowable material containing PCBs and no more than 0.5 percent by weight non-dissolved material.

**Low-concentration PCBs (as defined in §761.123):** 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).

**NPCD:** National Program Chemicals Division.

**Network Transformer:** transformers hooked up in parallel systems so that if one transformer fails another one will pick up the load.

**Non-liquid PCBs (as defined in §761.3):** materials containing PCBs that by visual inspection do not flow at room temperature (25 °C or 77 °F) or from which no liquid passes when a 100 g or 100 ml representative sample is placed in a mesh number 60 ±5 percent paint filter and allowed to drain at room temperature for 5 minutes.

**PCB and PCBs (as defined in §761.3):** 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 (as defined in §761.3):** 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 (as defined in §761.3):** 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 bulk product waste (as defined in §761.3):** waste derived from manufactured products containing PCBs in a non-liquid state, at any concentration where the concentration at the time of designation for disposal was  $\geq 50$  ppm PCBs. PCB bulk product waste does not include PCBs or PCB Items regulated for disposal under §761.60(a) through (c), §761.61, §761.63, or §761.64. PCB bulk product waste includes, but is not limited to:

- (1) Non-liquid bulk wastes or debris from the demolition of buildings and other man-made structures manufactured, coated, or serviced with PCBs. PCB bulk product waste does not include debris from the demolition of buildings or other man-made structures that is contaminated by spills from regulated PCBs which have not been disposed of, decontaminated, or otherwise cleaned up in accordance with subpart D of this part.
- (2) PCB-containing wastes from the shredding of automobiles, household appliances, or industrial appliances. 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.
- (3) Plastics (such as plastic insulation from wire or cable; radio, television and computer casings; vehicle parts; or furniture laminates); preformed or molded rubber parts and components; applied dried paints, varnishes, waxes or other similar coatings or sealants; caulking; adhesives; paper; Galbestos; sound deadening or other types of insulation; and felt or fabric products such as gaskets.
- (4) Fluorescent light ballasts containing PCBs in the potting material.

**PCB Capacitor (as defined in §761.3):** any capacitor that contains  $\geq 500$  ppm PCB. Concentration assumptions applicable to capacitors appear under §761.2.

**PCB Container (as defined in §761.3):** 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 (as defined in §761.3):** 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 contains PCBs at concentrations of  $\geq 50$  ppm and  $< 500$  ppm in the contaminating fluid. In the absence of liquids, electrical equipment is PCB-Contaminated if it has PCBs at  $> 10 \mu\text{g}/100 \text{ cm}^2$  and  $< 100 \mu\text{g}/100 \text{ cm}^2$  as measured by a standard wipe test (as defined in § 761.123) of a non-porous surface.

**PCB Equipment (as defined in §761.3):** 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 Household Waste (as defined in §761.3):** PCB waste that is generated by residents on the premises of a temporary or permanent residence for individuals (including individually owned or rented units of a multi-unit construction), and that is composed primarily of materials found in wastes generated by consumers in their homes. PCB household waste includes unwanted or discarded non-commercial vehicles (prior to shredding), household items, and appliances or appliance parts and wastes generated on the premises of a residence for individuals as a result

of routine household maintenance by or on behalf of the resident. Bulk or commingled liquid PCB wastes at concentrations of  $\geq 50$  ppm, demolition and renovation wastes, and industrial or heavy duty equipment with PCBs are not household wastes.

**PCB Item (as defined in §761.3):** any PCB Article, PCB Article Container, PCB Container, PCB Equipment, or anything that deliberately or unintentionally contains or has as a part of it any PCB or PCBs.

**PCB Transformer (as defined in §761.3):** any transformer that contains  $\geq 500$  ppm PCBs. For PCB concentration assumptions applicable to transformers containing 1.36 kilograms (3 lbs.) or more of fluid other than mineral oil, see §761.2. For provisions permitting reclassification of electrical equipment, including PCB Transformers, containing  $\geq 500$  ppm PCBs to PCB-Contaminated Electrical Equipment, see § 761.30(a) and (h).

**PCB Waste(s) (as defined in §761.3):** those PCBs and PCB Items that are subject to the disposal requirements of subpart D of this part.

**Posing an Exposure Risk to Food/Feed (as defined in §761.3):** 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.

**Radial Transformer:** transformers hooked up in a single line method, and if the transformer fails, the load is not picked up by another transformer.

**Recloser:** circuit breakers with an automatic close feature, which are used to minimize outage time when temporary problems occur.

**Retrofill (as defined in §761.3):** to remove PCB or PCB-contaminated dielectric fluid and to replace it with either PCB, PCB-contaminated, or non-PCB dielectric fluid.

**Self-implementing Clean-up:** applicable for sites one acre or smaller (definition of moderately sized site). This method includes: site characterizations, notification to Regional Administrator or Director of State and/or local government environmental agency, and clean up levels have to be followed according to 40 CFR 761.61(a)(4).

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## Foreword

EPA developed this inspection manual to guide inspectors in conducting inspections to ensure compliance with regulations promulgated under section 6(e) of the Toxic Substances Control Act (TSCA) pertaining to polychlorinated biphenyls (PCBs). The pertinent regulations are found at Part 761 of Title 40 of the Code of Federal Regulations (CFR). This manual contains frequent citations to the regulations; all citations, unless otherwise noted, are to Title 40 of the CFR.

The manual gives inspectors an overview of the regulations they will use in determining compliance. EPA case development/enforcement personnel make the ultimate determination of where a violation has occurred.

Inspectors need to refer to the regulations as well as the manual. Appendices supplement information in the manual. The chapters and appendices of the manual are summarized below:

**Chapter One - PCBs: Facts** contains an introduction, including a brief discussion of PCBs and an overview of the PCB regulations.

**Chapter Two - Pre-Inspection Activities** contains general pre-inspection preparation procedures.

**Chapter Three - Inspection Procedures** contains general inspection procedures, entry and opening conference procedures, records assessment and verification, disposal provisions, storage assessment, and closing conference procedures. Inspectors should use this chapter in conjunction with Chapter Five, which covers specific regulatory requirements.

**Chapter Four - Equipment-Specific Information** presents an overview of PCB-containing equipment that an inspector is likely to encounter during a PCB inspection. This chapter includes general background information on the equipment, the locations of such items in the economic sector, and a partial list of manufacturers and trade names. Regulations applicable to such equipment are contained in Chapter Five.

**Chapter Five - Regulatory Requirements and Inspection Procedures** details the key general regulatory provisions that apply to PCBs, PCB Items, and facilities. Such provisions pertain to authorized activities (e.g., use and servicing), marking, decontamination, and general recordkeeping and reporting. In addition, this chapter contains inspection procedures for documenting compliance/noncompliance with such provisions. For provisions applicable to the commercial disposal and storage facilities (e.g., incinerators and chemical waste landfills), see the appendices.

**Chapter Six - Sampling** is necessary to supplement documented evidence of potential violations of the PCB regulations by determining the presence and concentration of PCBs. This chapter includes guidelines for sampling, priorities for sampling, and procedures for sample collection and documentation.

**Chapter Seven - Post-Inspection Activities** discusses the Inspection Report and provides guidance and tips for writing the report.

**Appendices.** There are 17 appendices. Appendix A contains blank forms for Notice of Inspection, TSCA Inspection Confidentiality Notice, and Declaration of Confidential Business Information. Appendix B is the “Role of the EPA Inspector in Providing Compliance Assistance During Inspections.” Appendix C is a large PCB mark at the actual size of six inches by six inches. Appendix D contains the Fiscal Year 2004 Inspection Conclusion Data Sheet Reporting Forms and an accompanying memorandum. Appendix E contains a comprehensive listing of PCB manufacturers and the trade names for PCB materials. Appendix F addresses the use and distribution of PCBs in underground mines and mine-specific training and safety considerations for inspectors. Appendix G discusses requirements pertaining to PCBs in natural gas pipelines. The inspector should refer to the appendix appropriate for the specific type of facility. Appendix H contains the manufacturer’s models and serial numbers of submersible pump units that contain PCBs. The next five appendices address specific disposal methods and storage facilities subject to the regulations:

- ! Appendix I: Incinerators,
- ! Appendix J: Chemical Waste Landfills,
- ! Appendix K: High-Efficiency Boilers,
- ! Appendix L: Alternative Disposal Methods (as authorized by EPA), and
- ! Appendix M: Scrap Metal Recovery Ovens and Smelters

Appendix N contains a table from Part 761 that outlines the procedures for reclassifying retrofilled PCB Transformers.

Appendix O includes blank sample seals and a blank chain-of-custody form.

Appendix P is Department of Transportation Hazardous Materials Training, which is applicable to the handling, packaging, and shipping of hazardous material samples.

Appendix Q provides guidance for inspectors in appearing as a witness in court.

# Chapter One

## PCBs: Facts

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## 1.0 PCBs: Facts

### 1.1 Background

Polychlorinated biphenyls (PCBs) are synthetic organic chemical compounds (aromatic hydrocarbons) produced by substituting chlorine atoms for the hydrogen atoms on a biphenyl molecule. PCBs have ideal properties for industrial applications. They are one of the most stable synthetic compounds known, are inflammable, are resistant to breakdown, and exhibit low electrical conductivity. PCBs can also extend the temperature range of operating fluid and can provide long-lasting heat at a consistent temperature. Accordingly, the majority of PCBs manufactured in the U.S. were used in electrical equipment because their properties made them ideal dielectric and heat transfer fluids. PCBs were used widely in transformers, transformer bushings, capacitors, voltage regulators, hydraulic systems, small capacitors in fluorescent light ballasts, and heat transfer systems. In addition, PCBs were sometimes used in electrical cable, switches, breakers, vacuum pumps, gas turbines, natural gas pipelines, carbonless copy paper, paints, adhesives, caulking compounds, and investment casting wax.

Extensive research has shown a link between PCBs and various human health effects (acute and chronic), including the formation of malignant and benign tumors, fetal deaths, reproductive abnormalities, mutations, liver damage, and skin irritation (chloracne). In addition, experiments have shown that PCBs attack the immunological system and affect the production of enzymes.

PCBs are pervasive throughout the environment. Measurable amounts of PCBs have been found in soils, water, fish, milk of nursing mothers, and human tissue. In addition to being a known hazard to humans, PCBs also present a serious threat to the environment. PCBs have an affinity to be adsorbed onto organic matter and sediments and have been found in significant concentrations in waterways and sediments throughout the world. They are widely spread contaminants of fish and wildlife resources because of their pronounced tendency to bioconcentrate in the tissues or lipids of living organisms. PCBs are highly toxic to aquatic organisms in relatively low concentrations. The following is a list of potential PCB contamination scenarios.

- ! Spills
  - Maintenance operations
  - Decontamination operations
  - Transport operations
  - Draining, refilling operations
  - Contamination of waste oil
  - Drainage systems, storm water systems, discharge points, sumps, and areas adjacent to surface waters
  - Disconnection/disassembly of railroad transformers
  - Lack of spill containment provisions in work pits/servicing areas

- Poor housekeeping practices.
- Improper storage.
  
- ! Leaks
  - Normal wear of equipment in service (e.g., valves, gaskets, and fittings)
  - Malfunctioning equipment
  - Dismantling/reassembly of equipment
  - Damaged equipment
  - Cracked or damaged transformer bushings
  - Containers used for storage and transport
  - Equipment stored for disposal or reuse.
  
- ! Improper storage of PCB-containing and/or PCB-contaminated equipment.
  
- ! Illegal importation of PCBs.
  
- ! Inadvertent manufacture of PCBs during chemical processing.
  
- ! Low Level of Worker Knowledge of Hazards
  - Spread of contamination through insufficient protective clothing and equipment
  - Improper handling techniques
  - Improper disposal of defective PCB-containing and/or PCB-contaminated equipment.
  
- ! Other
  - Contaminated waste liquids
  - Contaminated rags, filter media, and debris gathered during cleanup operations
  - Contaminated parts
  - Contaminated soil
  - PCBs discarded prior to TSCA regulations
  - Fires.

The number and location of the chlorine atoms attached to the biphenyl ring determine the physical properties and characteristics of the PCB congener. Generally, commercial PCBs tend to be viscous and heavy (11 to 13 pounds per gallon), but also may be solid and waxy. In the United States, the only large producer of PCBs was Monsanto Chemical Company, which manufactured them from 1929 to 1975 under the name Aroclor™. Monsanto Chemical Company assigned a four-digit number to each Aroclor PCB product. The last two numbers indicate the approximate percentage by weight of chlorine (for example, Aroclor 1260 is approximately 60 percent chlorine by weight).

## 1.2 Overview of TSCA Section 6

In recognition of the risks associated with PCBs and their spread throughout the environment, under section 6(e) of the Toxic Substances Control Act (TSCA) of 1976, it is the intent of Congress that EPA regulate the manufacturing, processing, distribution in commerce, use, and disposal of PCBs.<sup>1</sup>

Section 6 states that “no person may manufacture, process, or distribute in commerce or use any [PCB] in any manner other than in a totally enclosed manner” as of one year after the effective date of TSCA (i.e., as of January 1, 1978). However, the EPA Administrator “may by rule authorize the manufacture, processing, distribution in commerce or use (or any combination of such activities) of any [PCB] in a manner other than in a totally enclosed manner if the Administrator finds that such [activities] will not present an unreasonable risk of injury to health or the environment.” Under section 6, a “totally enclosed manner” means any manner that “will ensure that any exposure of human beings or the environment to a [PCB] will be insignificant as determined by the Administrator.”

Section 6 sets additional deadlines after which no person may manufacture, process or distribute in commerce PCBs, regardless of whether in a totally enclosed manner or not. Section 6 states that “no person may manufacture any polychlorinated biphenyl after two years after the effective date” of TSCA (i.e., after January 1, 1979), and that “no person may process or distribute in commerce any polychlorinated biphenyl after two and one-half years” after the effective date of TSCA (i.e., after July 1, 1979). However, “any person may petition the Administrator for an exemption from [the prohibitions above], and the Administrator may grant by rule such an exemption” if the Administrator finds that such an activity will not result in an unreasonable risk to human health or the environment and that good faith efforts have been made to develop a substitute chemical substance that does not pose an unreasonable risk to health and the environment. Section 6 states that such exemptions shall be in effect for a specified period not more than one year.

Under section 6, Congress required EPA to promulgate regulations prescribing methods for the disposal of PCBs. Congress also mandated that EPA require clear and adequate markings, warnings, and instructions with respect to the processing, distribution in commerce, use, and disposal of PCBs.

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<sup>1</sup> Polychlorinated terphenyls (PCTs) were also manufactured and are similar in properties to PCBs. Although PCTs are not covered by the regulations, most were contaminated with up to 10,000 ppm PCBs and, therefore, are regulated.

Regulations promulgated pursuant to section 6 of TSCA are summarized below. Guidance on conducting PCB inspections to ensure compliance with key provisions of the regulations is provided throughout the manual.

EPA regulations implementing section 6 of TSCA are found at 40 CFR Part 761. All citations to the regulations are to Title 40 unless otherwise noted. The following is a summary of regulatory actions concerning PCBs and a brief overview of major components of the regulations. For more detail on regulatory provisions, see Chapter Five.

Regulations concerning PCBs have evolved over a number of years. EPA promulgated its initial PCB rule under section 6(e) on February 17, 1978 (43 *Federal Register* 7150). This rule prohibited the manufacture, processing, distribution in commerce, or use of any substance containing intentionally manufactured PCBs with concentrations of 50 parts per million (ppm) or more, except in a manner that is "totally enclosed" or unless other uses are specifically authorized by the Administrator.

EPA has amended the PCB regulations several times, including:

- ! **Ban Rule:** On May 31, 1979, EPA promulgated Interim Procedural Rules for Exemptions from the PCB Processing and Distribution in Commerce Bans.
- ! **Electronic Equipment Rule:** On August 25, 1982, EPA promulgated this rule, addressing totally enclosed PCB use.
- ! **Fires Rule:** On July 19, 1988, EPA promulgated the PCBs in Electrical Transformers Rule.
- ! **Notification and Manifesting Rule:** On December 21, 1989, EPA promulgated this rule, requiring notification of PCB activity, manifesting, and other recordkeeping requirements.
- ! **Approval Criteria for Commercial Storage of PCBs for Disposal:** On November 9, 1993, EPA promulgated Criteria for Granting Approval for Commercial Storage of PCBs for Disposal.
- ! **Import Rule (overturned):** On March 18, 1996, EPA promulgated regulations allowing the importation of PCBs for disposal at 50 ppm or greater under certain circumstances. These regulations were superceded by the June 29, 1998 amendments, which removed the language allowing such imports.

- ! **Disposal of Polychlorinated Biphenyls (PCBs) or “Mega Rule”:** On June 29, 1998, EPA promulgated a major revision to the PCB regulations, often referred to as the Mega Rule. The revisions covered many aspects of PCB use and disposal, including revisions of:
- PCB Registration to EPA Headquarters
  - Prohibitions and exemptions
  - Marking requirements
  - Storage for disposal requirements
  - Disposal requirements
  - Transboundary (international) shipment of PCBs for disposal
  - Records and monitoring requirements
  - Certificate of Disposal deadlines
  - 30-day storage inspection.

The revisions included new requirements to address:

- The assumed concentration of PCBs where actual data are unavailable
- Storage for reuse
- Waste handling
- PCB spill cleanup requirements
- Sampling procedures for several types of projects
- Decontamination procedures.

- ! **Reclassification of PCB and PCB-Contaminated Electrical Equipment:** On April 2, 2001, EPA promulgated a rule regarding the reclassification of PCB and PCB-Contaminated electrical equipment.
- ! **Polychlorinated Biphenyls; Manufacturing (Import) Exemptions:** On January 31, 2003, EPA promulgated manufacturing (import) exemptions.
- ! **Polychlorinated Biphenyls (PCBs); Use of Porous Surfaces, Amendment in Response to Court Decision:** On June 20, 2003, EPA amended the regulations regarding the use of porous surfaces in response to a court decision that stated that the regulatory language was unclear.

In general, TSCA and the PCB regulations are designed to ban the manufacture of PCBs and ensure the proper disposal of PCBs and PCB Items, while minimizing the risk posed by the storage, use, and handling of the substance. The PCB regulations apply to any substance, mixture, or item with a concentration of 50 ppm PCBs or greater or with a concentration below 50 ppm that resulted from dilution. There are certain exceptions; for example, the regulations restrict the marketing and burning of used oil containing any quantifiable PCB level (2 ppm) and prohibit the use of waste oil that contains any detectible concentration of PCBs as a sealant, coating, or dust control agent. Some of the major provisions of the PCB regulations include:

- ! General (Subpart A). In addition to identifying who is regulated, establishing definitions, and listing reference documents, this subpart prescribes the assumed PCB

concentrations, for regulatory purposes, of various articles (such as oil filled capacitors) for which the actual PCB concentration is unknown.

- ! Prohibitions/Authorizations (Subpart B). There are numerous prohibitions on the use of PCBs or PCB Items in a manner other than in a totally enclosed manner; on the manufacture of PCBs for use within the United States or for export; and on the processing and distribution of PCBs and PCB Items for use within the United States or for export. However, the regulations also establish numerous exceptions and authorized activities (e.g., where "non-totally enclosed" activities may be conducted). Such authorizations pertain to the use of PCBs and servicing of PCBs in various PCB Equipment, such as transformers, capacitors, natural gas pipelines, and hydraulic systems; the manufacturing of certain products with inadvertent, low-concentration production of PCBs; and the use of sewage sludge with PCBs where such sludge use is regulated by other parts of 40 CFR. Owners of PCB Transformers must register the transformers with EPA. Owners of PCB Articles may store them for reuse subject to storage area specifications, maximum storage periods, and/or recordkeeping requirements.
- ! Marking (Subpart C). Specified items including PCB Equipment (e.g., heat transfer systems using PCBs, PCB large low voltage capacitors, and storage areas used to store PCBs/PCB Items) must bear markings warning of PCBs in accordance with prescribed formats. The regulation does not require PCB-contaminated electrical equipment to be marked.
- ! Storage and Disposal (Subpart D). Regulations govern storage (for reuse or disposal) and disposal of PCBs, PCB waste, and PCB Items, including PCB Articles (e.g., transformers, capacitors, and hydraulic machines) and PCB Containers. The subpart includes separate sections that set out disposal requirements and allowed disposal methods for PCB remediation waste, PCB bulk product waste, and PCB waste from research and development activities. The regulations exempt PCB household waste from regulatory requirements. The regulations also set out requirements applicable to PCB waste and PCB Items in storage for disposal and decontamination of various surfaces. Further regulatory sections specify requirements for each disposal method, including incineration, high-efficiency boilers, scrap metal recovery ovens and smelters, and chemical waste landfills. PCB disposal and PCB commercial storage facilities must obtain written final approval to operate facilities.
- ! Exemptions (Subpart E). This subpart grants exemptions to specific companies or groups of companies for the manufacture, processing, and distribution in commerce of PCBs for specified purposes, including microscopy, research and development, and laboratory sampling and analysis.
- ! Transboundary Shipments of PCBs for Disposal (Subpart F). EPA prohibits the importation of PCBs for disposal without an exemption issued under the authority of TSCA section 6(e)(3). EPA prohibits the exportation of PCBs for disposal at concentrations greater than or equal to 50 ppm. Shipments that leave the United States only as part of their transit from one part of the United States to another are not considered exports or imports. Shipments passing through from Canada to Mexico or vice versa are not considered exports or imports.

- ! Recordkeeping/Reporting (Subpart J). Owners and operators of facilities with PCBs and PCB Items in service or projected for disposal, commercial storage facilities of PCB waste, incineration facilities, chemical waste landfill facilities, high efficiency boiler facilities, importers, facilities generating PCBs in excluded manufacturing processes, and facilities that manufacture, import, process, distribute in commerce, or use chemicals containing inadvertently generated PCBs must comply with recordkeeping and reporting requirements. Some types of data for which records may be required to be kept include PCB weights; the identification and numbers of items; storage, transfer, and disposal dates; and the identification of shippers and receivers.
- ! PCB Waste Disposal Records and Reports (Subpart K). Some generators and all transporters, storers, and disposers of PCB wastes must notify EPA that they are engaging in such activity, and obtain an identification number from EPA. When a PCB waste generator sends such wastes offsite, the generator, transporter, and disposer must prepare and maintain manifests identifying the waste and tracking the dates and parties involved in the disposal process. The disposer must prepare a Certificate of Disposal and send it to the generator identified on the manifest. The subpart also includes recordkeeping requirements and procedures for cases in which manifests or Certificate of Disposal are not prepared by one of the parties in a transaction.
- ! Sampling and Decontamination Procedures for Wastes and Surfaces (Subparts M through T). These subparts set out recommended procedures for sampling PCBs in various wastes and surfaces, including sample site and size selection, sample collection, analytical requirements, and interpretation of results. The regulations also set out a method for decontaminating non-porous surfaces and requirements for studies of new decontamination solvents.

### 1.3 Overview of TSCA Confidential Business Information

During the course of TSCA PCB inspections, inspectors may encounter information which may be entitled to confidential treatment under TSCA Section 14 and EPA regulations (40 CFR Part 2). This section of the Statute and the regulations are designed to protect confidential business information (CBI) from unauthorized disclosure. CBI includes information considered to be trade secrets (including chemical identity, process, formulation, or production data) that could damage a company's competitive position if it became public. Inspectors must be cleared to handle CBI, however inspectors who have not been cleared to handle CBI can still inspect a facility. Many PCB facilities do not have any CBI information.

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# Chapter Two

## Pre-Inspection Activities

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## 2.0 Pre-Inspection Activities

The chapter includes general pre-inspection preparation procedures.

### 2.1 Inspection Authority

Section 11(a) of TSCA sets forth the authority for an inspector to enter and inspect a facility handling PCBs or PCB Items. Under section 11(a), "the Administrator and any duly designated representative of the Administrator" may inspect "any establishment, facility, or other premises in which chemical substances or mixtures are manufactured, processed, stored, or held before or after their distribution in commerce." The inspector also may inspect "any conveyance being used to transport chemical substances, mixtures, or such articles in connection with distribution in commerce." The Agency may designate EPA employees, state/tribe personnel, or contractors to conduct inspections.

Section 11(b) of TSCA addresses the scope of the inspection. It prohibits the inspection of the following unless described with reasonable specificity in the required written **Notice of Inspection** (see Section 2.4.2 and Appendix A):

- ! Financial data
- ! Sales data (other than shipment data)
- ! Pricing data
- ! Personnel data
- ! Research data (other than data required under TSCA or a rule promulgated under TSCA).

### 2.2 Preparation

To prepare, an inspector collects and analyzes background information such as address, parent company, and compliance history on the facility to be inspected. This background information enables the inspector to become familiar with facility operations and any previous legal issues *before* entry. This preparation phase enables the inspector to note areas that may need investigation during the inspection.

The inspector can obtain and review the following information for the facility, which may be on file in previous inspection reports/files with Regions and EPA Headquarters. Some of this information may also be available in the PCB Activity Database (PADS), which has information on facilities that generate, store, transport, or dispose of PCBs. Inspectors can access this database at <http://www.epa.gov/pcb/data.html>.

- ! **General facility information**, including the official name of the facility, exact physical location of the facility, facility type and size, industrial processes employed, and EPA identification number. EPA records or files on the particular facility (where a previous inspection was conducted) may contain such data as well as the company web site (if available). Inspectors may find enforcement and inspection data in the FIFRA/TSCA Tracking System (FTTS).
- ! **Facility offices or contacts**, including names, titles, and telephone numbers.
- ! **Previous inspection records and reports**. Note previous violations cited; target these areas to ensure or verify compliance. Identify any changes in facility conditions since previous inspection.
- ! **Compliance status**, including past, current, and pending litigation, deficiency notices issued to the facility, the status of administrative orders or consent decrees, penalties imposed against the facility, and citizen suits or complaints. Some of this information is found in EPA databases such as Enforcement and Compliance History Online (ECHO), Online Targeting Information System (OTIS), and FIFRA/TSCA Tracking System (FTTS).
- ! **Permits**, types of permits, and permit approvals (EPA and/or state). The main types of permitted facilities or activities that include permits are commercial storers, disposal facilities, and remediation/decontamination activities.
- ! **TSCA, PCB Exemptions** granted by EPA. Note specific exemption eligibility requirements listed (if any).
- ! **Reports of spills** or other environmental incidents.
- ! **Transformers**. Review the PCB Transformer Registration Database to find the number of PCB Transformers the facility registered.
- ! **Annual PCB Records, Annual PCB Document Log, and Annual Reports** for commercial storers and disposers. Note omissions/deficiencies for clarification during the inspection. Remember that the requirement to submit annual reports to EPA applies only to commercial storers and disposers. If EPA possesses annual PCB records for an owner/operator from a previous inspection, the inspector should review those records as well.
- ! **Facility location, 100-year floodplain evaluation** to verify that storage is not in a 100-year floodplain or determine whether a landfill is subject to flood protection provisions of the regulations. Consult U.S. Geological Survey topographic maps or Federal Flood Insurance maps at <http://www.usgs.gov/>.
- ! **PCB manifests**, exception reports, and unmanifested waste reports.
- ! **Correspondence** between the facility and EPA.

- ! **PCB Transformer Registration Database** at <http://www.epa.gov/pcb/data.html> for any information which might be useful for PCB inspections.
- ! **EPA's National Policy:** The Role of the EPA Inspector in Providing Compliance Assistance During Inspections (see Appendix B) and the Compliance Assistance Resources Guide. Inspectors should familiarize themselves with this policy.

### 2.2.1 Document Preparation

Before conducting an inspection, the inspector should obtain an adequate number of the following forms and documents to properly document all events that may take place during the inspection.

- ! Notice of Inspection
- ! TSCA Inspection Confidentiality Notice
- ! Receipt for Samples and Documents\*
- ! Declaration of Confidential Business Information\*
- ! PCB Inventory (part of the PCB Field Report: see Chapter Seven)
- ! Custody Seals\*
- ! Chain of Custody Record\*
- ! Sample Collection Report\*
- ! A copy of TSCA and a copy of PCB Regulations
- ! Related Information/Educational/Outreach Material to provide to the facility
- ! A copy of the Inspection Conclusion Data Sheet (ICDS) forms or if entering information directly into ICIS review the information that needs to be entered. Refer to Appendix D or to the EPA Inspector website at <http://intranet.epa.gov.oeca.oc.campd.inspector> for copies of the most recent ICDS forms.

\* These documents are required when documentary or sample evidence will be collected. For sample collection, the inspector should follow the regulations and the sampling quality assurance plan approved by the appropriate Region prior to the inspection.

### 2.3 Confidential Business Information (CBI) Clearance

U.S. EPA PCB inspectors must be cleared for TSCA CBI clearance before handling any information that is claimed as CBI by a facility. The CBI clearance process includes viewing a video, completing a TSCA CBI form, and gaining approval from the Regional Document Control Officer (DCO). Inspectors are required to view a video which covers the following topics:

- ! working with TSCA CBI on computers
- ! handling TSCA CBI
- ! storing CBI documents.

After viewing the video, inspectors need to fill out EPA Form 7740- 6: "TSCA CBI Access Request, Agreement and Approval", which they can obtain from their Regional DCO. The form

needs to be signed by the inspector's supervisor and submitted to the Regional DCO. The Regional DCO sends the completed Form 7740-6 to the Headquarters/ OPPT DCO for processing and approval. Once the form is submitted to the Headquarter's DCO, inspectors usually get CBI clearance within 24 hours.

Only EPA inspectors and government contractors working for EPA can obtain TSCA CBI clearance. EPA-cleared government contractors go through a different process to get CBI clearance including a published Federal Register Notice. It takes approximately 30 to 60 days for contractors to obtain TSCA CBI clearance. State inspectors, grantees (including Senior Environmental Employment (SEE) Program employees), and state inspectors working under a grant cannot get TSCA CBI clearance. For more detailed information on TSCA CBI, please refer to the TSCA CBI Security Manual that can be found at: <http://intranet.epa.gov/rmpolicy/ads/manuals/7700.pdf>.

### **2.3.1 CBI and Inspectors**

The PCB inspector must present the facility official with the TSCA Inspection Confidentiality Notice (Appendix A) at the start of the opening conference. This notice informs the facility representative of the right to claim any information (e.g., documents, records, physical samples, or other material) collected from the facility during the inspection as confidential. The facility may make CBI claims by completing the Declaration of Confidential Business Information form (Appendix A). The inspector should also have available, if possible, certification that he or she is authorized to have access to CBI.

The inspector should inform the facility official that an authorized facility official may declassify information claimed as CBI in the original submission of the Declaration of Confidential Business Information. However, the inspector must inform the facility official that the facility cannot make such a declassification verbally, but rather must make it through a letter waiving confidentiality sent to the EPA DCO for EPA's OPPT. The facility must send a separate letter for each item for which confidentiality is waived.

The inspector must determine whether the facility official to whom the Confidentiality Notice was given is authorized by the facility to make claims of confidentiality. The inspector should obtain the official's signature on the notice certifying that the person does or does not have such authority. The facility owner is assumed to have such authority. In most cases, it is expected that the agent designated by the owner will also have such authority. It is possible that the facility officials will want to consult with their attorneys concerning this issue.

If no one at the site has the authority to make business confidentiality claims, the notice and other inspection materials should be sent to the CEO of the company within two days of the inspection. The CEO will then have seven calendar days in which to make confidentiality claims. During this seven-day period, the inspector should follow routine security measures in the event that records taken during the inspection are subsequently claimed as CBI. For example, the inspector should file the records in a secured area instead of leaving them on his/her desk.

## **2.4 Equipment Preparation**

The inspector should assemble the equipment needed for the inspection. Table 2-1 lists the general equipment and documents the inspector will most likely need. Note that the specific equipment needed for an inspection varies, and the inspector should consider the equipment list on a case-by-case basis, taking into account important factors such as the physical conditions at the facility or whether sampling is likely.

Table 2-1. Types of Equipment Useful for an Inspection

General	Safety	Emergency	Sampling
<ul style="list-style-type: none"> <li>• Credentials</li> <li>• Camera</li> <li>• Film/memory card and flash equipment</li> <li>• Pocket calculator</li> <li>• Tape measure</li> <li>• Clipboard</li> <li>• Waterproof pens, pencils, and markers</li> <li>• Pre-addressed envelopes (e.g., to Document Control Officer)</li> <li>• Plastic covers</li> <li>• Plain envelopes</li> <li>• Polyethylene bags</li> <li>• Disposable towels or rags</li> <li>• Laptop computer or personal digital assistant (PDA)</li> <li>• Global Positioning System (GPS) equipment</li> <li>• Portable copying machine</li> <li>• Flashlight and batteries</li> <li>• Pocket knife</li> <li>• Locking briefcase (especially for CBI)</li> <li>• Binoculars</li> </ul>	<ul style="list-style-type: none"> <li>• Safety glasses or goggles</li> <li>• Face shield</li> <li>• Ear plugs</li> <li>• Rubber-soled, metal-toed, non-skid shoes</li> <li>• PCB-resistant gloves (disposable, if possible)</li> <li>• Coveralls, long-sleeved (disposable, if possible)</li> <li>• Long rubber apron</li> <li>• Hard hat</li> <li>• Disposable footwear covers</li> <li>• Respirators and cartridges</li> <li>• Self-contained breathing apparatus (may be required occasionally under certain circumstances)</li> <li>• Nitrile/butyl rubber gloves</li> <li>• Coated Tyvek</li> <li>• First-aid kit</li> </ul>	<ul style="list-style-type: none"> <li>• Emergency telephone numbers</li> <li>• First-aid kit with eyewash</li> <li>• Fire extinguisher</li> <li>• Soap and towels</li> <li>• Supply of clean water for washing</li> <li>• <b>Do not use waterless hand cleaner</b></li> </ul>	<ul style="list-style-type: none"> <li>• Crescent wrench, bung opener</li> <li>• Siphoning equipment</li> <li>• Weighted bottle sampler</li> <li>• Bottom sediment sampler</li> <li>• Liquid waste samplers (e.g., glass samplers)</li> <li>• Auger, trowel, or core sampler</li> <li>• Scoop sampler</li> <li>• Sample bottles/containers (certified clean bottles with teflon-lined lids)</li> <li>• Labeling tags, tape, chain-of-custody forms, waterproof permanent pen</li> <li>• Ice chest, ice (if required by the lab)</li> <li>• Container for contaminated material</li> <li>• Hazard labels for shipping samples</li> <li>• Ambient air monitor</li> <li>• Field document records</li> <li>• Department of Transportation (DOT) approved shipping containers</li> <li>• Thermometer</li> <li>• Colorimetric gas detection tubes</li> <li>• PCB labels</li> <li>• Custody seals</li> <li>• Wipe sample template</li> <li>• Gauze pads</li> </ul>

**Safety Note:** Some enclosed storage areas or transformer vaults may be in confined spaces that present health hazards because of dangerous levels of explosives or insufficient oxygen. The inspector should not enter a confined space unless properly trained and equipped.



# Chapter Three

## Inspection Procedures

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## 3.0 Inspection Procedures

This chapter includes general inspection procedures, entry and denial of entry, opening conference, compliance assessments, and closing conference.

### 3.1 Entry

Consent to inspect the premises must be given by the owner or operator at the time of the inspection. As long as the inspector is allowed to enter, entry is considered voluntary and consensual, unless the inspector is expressly told to leave the premises. Expressed consent is not necessary; absence of an expressed denial constitutes consent. See Sections 3.1.3-3.1.6 below for details on denials of entry and warrant and subpoena procedures to be followed when entry or access to records is denied.

Under section 11(a), the inspection team must start and complete the inspection with reasonable promptness and conduct it at reasonable times, within reasonable limits, and in a reasonable manner. When an inspection is likely to continue beyond the facility's customary close-of-business, EPA recommends that the inspection continue on the following business day. If facility officials do not object to the inspector working past regular working hours, the inspection can conclude the same day. In general, the inspector should arrive at the facility during regular working hours unless the inspection's purpose is to investigate special circumstances, such as suspected illegal activity at night.

Upon arrival at the facility, the inspector should locate the facility official or agent-in-charge (i.e., president, owner, or plant manager) and present his/her credentials, a written Notice of Inspection, and a TSCA Inspection Confidentiality Notice.

#### 3.1.1 Credentials

The inspector must present appropriate credentials whether identification is requested or not. Credentials are identifying documents that identify that the holder of the papers (i.e., the inspector) is a duly designated representative of the Administrator. A letter of authorization and photo identification or EPA-issued credentials may be used. The inspector should make a note in his/her field logbook of the fact that credentials and a Notice of Inspection were presented, the date and time of presentation, and the name and title of the facility official to whom they were presented. Credentials should never leave the possession of the inspector, nor should they be photocopied. Inspectors should safeguard where they store their credentials and should immediately report lost or stolen EPA credentials to their immediate supervisor. For more information on credentials, refer to the *Final Fact Sheet: The United States Environmental*

*Protection Agency Credentials Fact Sheet*, June 1, 2000. This document can be found in the inspector website at: <http://intranet.epa.gov/oeca/oc/campd/inspector>.

### **3.1.2 Notice of Inspection**

Section 11(a) of TSCA requires that the inspector present a written Notice of Inspection to the owner, operator, or agent-in-charge. The notice, EPA Form 7740-3, should include the date and time of inspection. A blank Notice of Inspection is presented in Appendix A.

### **3.1.3 Withdrawal of Consent and Denial of Access**

If the facility representative asks the inspector to leave the premises after the inspection has begun, the inspector should leave as quickly as possible following the procedures discussed previously for denial of entry. All activities and evidence obtained before the withdrawal of consent are valid. The inspector should ensure that all personal and government equipment is removed from the facility.

If, during the course of the inspection, access to some parts of the facility is denied, the inspector should make a notation of the circumstances surrounding the denial of access and of the portion of the inspection that could not be completed. He or she then should proceed with the rest of the inspection. After leaving the facility, the inspector should contact his or her supervisor or staff attorney at the Regional Office to determine whether a warrant should be obtained to complete the inspection.

### **3.1.4 TSCA Inspection Confidentiality Notice**

The EPA inspector may present the facility official with the TSCA Inspection Confidentiality Notice (Appendix A) at the start of the opening conference or during the closing conference and have the authorized facility official complete and sign the appropriate sections. This notice informs the facility representative of the right to claim any information (e.g., documents, records, physical samples, or other material) collected from the facility during the inspection as confidential. The facility makes confidential business information (CBI) claims by completing the Declaration of Confidential Business Information form (Appendix A). The notice informs the official of his/her right to claim as CBI any information (e.g., documents, photographs, physical samples) collected during the inspection.

The inspector should inform the facility official that an authorized facility official may declassify information claimed as CBI in the original submission of the Declaration of Confidential Business

Information. The facility must send a separate letter to the EPA Document Control Officer (DCO) for each item for which confidentiality is waived.

### **3.1.5 Problems with Entry or Initial Consent**

Because a facility may consider an inspection to be an adversarial proceeding, the legal authority, techniques, and competency of inspectors may be challenged. If explanations are not satisfactory or disagreements cannot be resolved, the inspectors should leave and obtain further direction from his EPA supervisor or legal staff. Professionalism and politeness must prevail at all times.

If entry is not granted, the inspector should ask why to see if obstacles (such as misunderstandings) can be removed. If resolution is beyond the authority of the inspector, he or she may suggest that the officials seek advice from their attorneys to clarify EPA's inspection authority under TSCA. If entry is still denied, the inspector should withdraw from the premises and contact his or her supervisor or Regional Counsel. Generally, the supervisor will confer with attorneys to discuss the desirability of obtaining an administrative warrant.

All observations pertaining to the denial are to be carefully noted in the field notebook and inspection report. The inspector should include such information as the facility name and exact address, name and title of person(s) approached, name and title of the person(s) who refused entry, date and time of denial, detailed reasons for denial, facility appearance, and any reasonable suspicions of regulatory violations. All such information will be important should a warrant be sought.

Under no circumstances should the inspector discuss potential penalties or do anything that may be construed as coercive or threatening.

Inspectors should use discretion and avoid potentially threatening or inflammatory situations. If a threatening confrontation occurs, the inspector should document it and then report it immediately to the supervisor or staff attorney. If feasible, statements from witnesses should be obtained and included in the documentation.

### **3.1.6 Warrants and Warrant Procedures**

A warrant is a judicial authorization for an appropriate official (e.g., EPA inspector, U.S. Marshal) to enter a specifically described location and perform specifically described functions. A magistrate at EPA issues an administrative warrant to enter and inspect a facility subject to

TSCA and the PCB regulations. EPA's authority to conduct inspections under section 11 of TSCA serves as the basis for requesting the issuance of an administrative warrant.

Once the inspector has contacted his/her supervisor about the circumstances surrounding the refusal of entry, the supervisor will contact the Regional Counsel (for the Region in which the facility is located), to decide whether to obtain a warrant.

In addition to the observations pertaining to the denial of consent, if applicable, the inspector should supply the supervisor/Regional Counsel with the following:

- ! Information specifically describing the premises to be searched
- ! Information specifically describing the items to be seized
- ! Identification of the particular regulatory provisions suspected of being violated (if any) or, in the alternative, the particular predetermined inspection schedule (i.e., the neutral scheme) upon which the inspection was to be based.

If the decision is to seek a warrant, the Regional Counsel will contact the U.S. Attorney's office for the district in which the facility to be inspected is located. The Regional Counsel will brief the U.S. Attorney (or Assistant U.S. Attorney) on the particular inspection, entry refusal, and apparent need for a warrant. Finally, the Regional Counsel should arrange for the U.S. Attorney (or Assistant U.S. Attorney) to meet with the inspector as soon as possible.

### **3.2 Opening Conference**

Once the PCB inspector has presented, upon entry, his/her credentials and the required Notice of Inspection (see Section 3.1.2 above), it is time for the opening conference. The inspector should request the use of a conference room or office to conduct the opening conference with a facility representative and review facility records with a facility representative.

The opening conference provides an opportunity for the inspector to strengthen EPA-industry relations. The inspector's role, in addition to that of determining compliance problems at subject facilities, can be that of an educator and EPA public relations representative. The inspector can serve in this role throughout the inspection, but especially during the opening and closing conferences (see Section 3.9).

It is important that the inspector have a thorough understanding of PCB regulations. This is because facility officials may have questions and will probably be familiar with the provisions of the regulations. The inspector should be at least as well informed as the regulated community

concerning TSCA's PCB provisions and the applicable regulations. For this reason, inspectors should have a copy of the regulation on hand.

The inspector should keep in mind the following objectives during the opening conference:

- ! Inform facility officials of the purpose and scope of the inspection.
- ! Conduct the meeting on a positive and professional note.
- ! Collect and document general facility information.
- ! Establish a rapport with facility officials.

The inspector should describe the planned inspection. By providing a general description of how the inspection will proceed, the inspector can foster an atmosphere of trust and cooperation between EPA and the facility. The following are topics that the inspector should address during the opening conference pertaining to the inspection:

- ! **General Information**
  - Information regarding facility official (e.g., position, length of time in position, familiarity with facility operations)
  - General operations conducted at the facility
  - General history of the company
  - History of the site
  - Ownership of the business
  - Ownership of the property
  - Corporate structure
  - Whether the company is a subsidiary.
- ! **PCB Activities at the Facility.** Discuss how and where the facility stores and uses PCBs. If the facility official is not familiar with PCBs or PCB regulations, questions about electrical equipment may provide enough information to locate PCBs in use or storage at the facility. Other questions may include the following:
  - Is the facility using or storing any of the liquid-filled equipment identified below?
    - Transformers
    - Railroad transformers
    - Capacitors
    - Containers of PCBs or PCB Items
    - Hydraulic equipment
    - Heat transfer systems
    - Mining equipment

- Electromagnets
  - Other electrical equipment (regulators, switches).
  - Are transformers serviced on the facility premises? If so, by whom?
  - Is the facility aware of any PCB spills on the premises?
  - Has the facility ever manufactured PCBs or PCB Items?
  - Does the site have a PCB storage area?
  - Does the facility produce PCBs as a by-product of any of its manufacturing processes?
- ! **Inspection Objectives.** After going over the inspection objectives, discuss the order in which the inspector will inspect activities at the facility.
- ! **Meeting Schedules.** If meetings with facility personnel are necessary, schedule them during this conference.
- ! **Access/Accompaniment.** Request access to all areas of the facility potentially involving PCB activities. Request that a facility official accompany you throughout the inspection.
- ! **Safety Requirements.** Determine what safety precautions (e.g., the use of protective clothing or hard hats) should be observed during the inspection. Some industries and facilities may have specific safety issues and requirements.
- ! **Photographs.** The inspector should advise facility officials that the inspector may use cameras or electronic recording devices to gather evidence of compliance/non-compliance. However, the inspector should also advise facility officials that the facility may claim as CBI photographs and other data gathered through such means. If a facility official forbids the inspector to take photographs, the inspector should continue to conduct the inspection without taking photographs, make sketches, if relevant, and, after leaving the premises, contact his/her supervisor to report the incident and determine next steps. Note: Inspectors should keep a log of the photographs taken with name of facility, date, time, and name of inspector taking the photographs.
- ! **Samples.** Inform facility officials that the inspection may require samples.
- ! **Records.** Identify records needed to review.

### 3.3 Records Assessment

The purpose of a records assessment is to develop an inventory of PCBs and PCB Items at the facility. The assessment also will help determine compliance with the recordkeeping provisions. The inspector should maintain a record of all discrepancies, such as missing or incomplete records, in the field notebook. The inspector should obtain copies of any records necessary.



### 3.3.1 Inventory

The inspector should develop a PCB Inventory, which will become part of the PCB Inspection Report (see Chapter Seven), that identifies the type, quantity, and status of PCBs and PCB Items at the facility from the facility's records. The inventory information will be the same type of information found in the annual document log required for certain facilities under §761.180. The inspector can use the facility's annual document log as a framework to develop the PCB Inventory.

### 3.3.2 Compliance Assessment

Based on the type of facility being inspected, the inspector should evaluate the records required by the regulations to determine compliance. (See Chapter Five for specific recordkeeping requirements.) In conducting this evaluation, the inspector should address the following considerations:

- ! Is the facility meeting all of the annual document requirements?
  - Does the facility meet the minimal threshold (a PCB Transformer, 50 PCB Capacitors, or 45 kilograms of PCB in a container) to be required to keep an annual document log? (see §761.180(a) for more detailed information).
  - Is the necessary information provided in the annual document log?
  - Are annual document logs available for the past three years?
  - Are copies of signed manifests maintained; do they match the annual document log?
  - Is the three-year retention requirement for manifests being met?
  - Are Certificates of Disposal maintained?
  
- ! Is the facility keeping PCB Transformer inspection records?
  
- ! Is the facility keeping transformer registration records?
  
- ! Have there been any spills? Are there any spill reports?
  
- ! If the facility conducted decontamination, are records of confirmatory sampling after decontamination available for the last three years?
  
- ! Are there any unmanifested waste reports that indicate that the disposer rejected waste sent offsite for disposal due to PCBs?
  
- ! Do the records (and/or correspondence file) indicate areas needing further investigation?
  
- ! Is the facility operating under a distribution-in-commerce authorization?
  - If so, is the facility meeting the specific requirements listed in the authorization?
  - If not, do the shipping records indicate transfer of PCBs to other than storage or disposal facilities?

- Is the facility using PCBs/PCB Items under use authorizations and if so, is it using them correctly?

**3.4 Records Verification**

The objective of records verification is to assess the accuracy of records by physically inspecting selected items listed in the records inventory. Although the facility records document the number of PCB items, the facility records may be incomplete, and the inspector should check for PCB Items that are not documented. The inspector should document in the field notebook any inaccuracies in the records. The inspector may need to take samples to establish PCB concentrations of any suspect substance or material. If the facility conducted laboratory testing of PCB concentrations, the inspector should obtain copies of the results. The inspector should also take photographs at appropriate locations to document observations.

**3.4.1 Selection of PCB Items for Verification**

From the PCB Inventory developed in the records assessment, the inspector should select a group of items (e.g., PCB Transformers, PCB containers, PCB large capacitors) to examine. (This will depend on the type of facility being inspected.) Chapter Four provides equipment-specific information, including background information, common locations, and maintenance and repair activities relating to the specific equipment types.

- ! If the items are grouped in the facility records by location, select one or more groups for examination.
- ! If records list only totals of each item, select a percentage of each total. Ascertain from facility officials the location(s) of the items.
- ! Consider the following in making the selection:
  - Practicality of inspection
  - Discrepancies indicated in the records assessment
  - Suspicions raised during the records assessment
  - Facility violation history, if any.

Presented below is a sample equipment inspection list. The inspector should refer to the following list to target specific areas of potential non-compliance with PCB regulations. The inspector should not rely on this list to determine compliance with all PCB regulatory provisions (see Chapter Five). Inspectors should check for:

- ! Condition of PCB-containing or PCB-contaminated equipment.

- ! Leaks and spills
  - Storage areas (particularly incoming storage site)
  - Maintenance operations sites
  - Floor drains that empty into a sewer or outfall to ditches or streams.
  - Facility drainage systems, storm water systems, discharge points, sumps, and areas adjacent to surface waters, which should be inspected and, if suspect, sampled for PCB contamination.
  - Transport vehicles
  - Nearby operating equipment.

If the inspector encounters a leak or spill, he/she should note the actual amounts of PCBs present in the ground. If the actual amounts are unknown, the inspector should provide a range (e.g., 25 to 125 kg). The inspector should also provide the approximate area of contamination.

- ! Compliance with marking requirements (§761.40).
- ! Enhanced electrical protection at the facility.
- ! Compliance with recordkeeping requirements (§761.180 - §761.218). Facilities must maintain the following records for at least three years (Note: Disposal facilities must keep records for at least three years after ceasing the use/storage of PCBs):
  - Annual Document Logs
  - Manifests
  - Maintenance records
  - Inspection records and frequency of inspections
  - Record of registration.
- ! Maintenance and repair operations of PCB-containing equipment.
- ! Compliance with storage regulations at sites storing PCB-containing equipment
  - Storage for reuse (§761.35)
  - Storage for disposal (bulk, long-term, temporary) (§761.65).
- ! Improper disposal of PCBs including:
  - Scrap areas and dumps
  - Abandoned buildings
  - Leachate from landfills
  - Maintenance areas.
- ! Compliance with PCB transport requirements (Department of Transportation requirements 49 CFR 171 through 180).
- ! Compliance with retrofilling requirements (i.e., fluid less than 50 ppm PCB).

### 3.4.2 Verification

The inspector should locate the group(s) of items selected for verification and compare information in the records with actual conditions, noting the following:

- ! Are items accurately described in the records?
  - Type (transformer, capacitor, etc.)
  - Status (in use, removed from service, stored for disposal)
  - PCB ppm content
  - PCB weight (if applicable).
  
- ! Is the number of items correct?

**Safety Note.** Inspectors should use extreme caution when in the vicinity of live electrical equipment. They should NOT sample live equipment.

### 3.5 Inspecting for Compliance with Disposal Requirements

The inspector should check for and evaluate the extent of improper disposal while conducting the physical assessment of the facility. The inspector should document in the field notebook all evidence of improper disposal and sample when necessary to establish PCB concentrations (see Chapter Six for guidance). Inspectors should note if the facility has or has had any PCB spills, since these constitute improper disposal. The inspector should photograph all sample locations and all suspected violations and obtain statements when possible to document where the disposal violation occurred. Drawings, sketches, diagrams, or maps can be helpful. The inspector should discuss prior spills and cleanup with the facility representatives and ask to examine spill cleanup reports.

#### 3.5.1 Indicators of Disposal Violations

A number of signs, including the following, may indicate disposal violations:

- ! Abandoned or discarded potential PCB-contaminated equipment, parts, or containers.
  - Transformers
  - Capacitors
  - Fluorescent light ballasts
  - Drums
  
- ! Obvious spills or leaks
  - Discoloration of the soil near PCB Items, in drainage systems, or on the banks of streams
  - Oil films on the surface of streams or standing water

- Highly saturated soils
- Oily rags, debris, or other material
- Puddles or drips on or near equipment, containers, drip pans, or floors
- Dead grass or other dead vegetation
- Odor of chlorinated solvents - especially of trichlorobenzene, the principal solvent for PCBs (the presence of detectible odor may indicate concentrations of PCBs over 5000 ppm)
- Stains on equipment near spigots, cooling tubes, ganges, or insulators. Older stains may have dust accumulations on them.

### **3.5.2 Sources of Potential Violations**

#### ***Housekeeping Practices***

Attitudes toward housekeeping may reflect attitudes toward compliance in general and may provide an indication of potential disposal violations. The questions listed below will be helpful in gauging these attitudes:

- ! Are PCB handling areas orderly and in good repair?
- ! How long has PCB waste (if any) been in storage? (A facility can store waste for no longer than one year unless EPA issues an extension.)
- ! Are cleanup materials disposed of properly?
- ! Are oily rags, debris, or other material stored near PCB Items?

#### ***Worker Knowledge***

A low level of worker knowledge of the hazards of PCBs may result in poor PCB handling practices. The inspector may uncover actual or potential disposal violations by asking managers and workers questions about PCBs. Questions to ask the managers include:

- ! Who deals with leaks and spills? Is training available to those employees?
- ! Who is responsible for conducting and recording required inspections of transformers and storage areas?

Questions to ask the workers include:

- ! Are you trained to deal with leaks and spills?
- ! If you are not trained, who is trained to deal with leaks and spills?

**Maintenance and Repair Operations**

Maintenance and repair operations may take place at various locations throughout the facility and will generate significant amounts of PCB waste. The inspector should consider the following in assessing their effectiveness:

- ! Does the facility have written maintenance and repair procedures?
- ! Are maintenance sites located, constructed, and maintained to minimize the risk of contamination of surrounding areas?
- ! Are there indications of leaks or spills at these sites?
- ! Are there provisions for spill containment (such as a copy of 40 CFR 761, Subpart G [PCB Spill Cleanup Policy] or any other written policies/materials governing spill cleanup and containment) at the facility? Do the procedures note the requirement to report spills of one pound or more of PCBs to the National Response Center? Has the facility in fact reported such spills? (Ask for records or interview responsible personnel.)
- ! Are draining/filling operations conducted in a manner to prevent spills?
- ! Are containers used in the maintenance process of adequate size and in good condition?
- ! Is maintenance equipment in good condition?
- ! Are waste PCBs, testing samples, filter media, and contaminated parts, among other substances, handled, stored, and disposed of properly?
- ! Are oily rags, debris, or other contaminated material handled, stored, and disposed of properly?

**Decontamination Operations**

Decontamination operations will often take place in conjunction with equipment maintenance and repair and involve extensive handling of PCBs. The following issues should be addressed during the inspection by referring to §761.79 (pertaining to decontamination generally):

- ! Does the facility have written decontamination procedures? (If so, the inspector should obtain a copy.) Do the procedures meet the requirements of §761.79?
- ! Are the solvents used among those listed in §761.79 or have they undergone the validation study set out in Subpart T of Part 761?
- ! Does the facility drain or clean PCB equipment prior to disposal?

- ! Is the site adequate to protect surrounding areas from leaks and spills?
- ! Does the facility properly store and dispose of drained substances and solvents?
- ! Does the facility properly decontaminate movable equipment?
- ! Does the facility properly decontaminate drums and pallets prior to reuse?

**Reclassification Operations**

PCB authorization regulations (§761.30) allow for reclassification of specific types of PCB equipment (e.g., transformers with a PCB concentration of greater than 500 ppm may be reclassified to a PCB-Contaminated Electrical Equipment or to a non-PCB Transformer). For reclassification in general, the inspector should ascertain compliance with regulations by ensuring that the facility:

- ! Follows applicable regulatory procedures governing reclassification
- ! Documents that adequate loading conditions occurred or that they used an EPA-approved alternative method to simulate loading
- ! Meets disposal requirements.

**Drainage Systems**

Contaminated drainage systems, which may include storm water systems, discharge points, sumps, and areas adjacent to surface waters, are a source of direct discharge of PCBs into the environment. Therefore, it is important to consider these issues:

- ! Is there evidence of leaks or spills near the systems?
- ! Are small spills washed into drainage systems by rain or by workers unaware of the contamination risks?
- ! Is any oil mixed with motor fuels, waste solvents, other waste oils, etc.?
- ! Are PCB Items located in or near drainage systems?

**Waste Oil Use**

The regulations specifically prohibit the use of waste oil containing any amount of PCBs for road oiling, dust control, pesticide carriers, sealant, or rust prevention. However, waste oil may be burned for energy recovery in accordance with §761.20(e). In general, when ensuring compliance with waste oil provisions, the inspector should ascertain the following:

- ! Does the facility use waste oil for any of these purposes?
- ! What is the source of the waste oil?
- ! Does the facility burn waste oil for energy recovery (e.g., space heaters, boilers, furnaces)? If so and the facility has a history of PCB spills and/or leaks, consider sampling the waste oil.

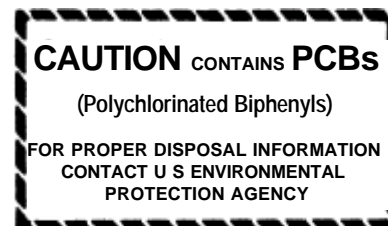
**Sites**

The inspector may find evidence of leaks, spills, and illegally discarded PCB Items at various sites throughout the facility:

- ! Scrap areas and/or dumps
- ! Abandoned buildings and vehicles
- ! Outbuildings
- ! Construction sites
- ! Warehouses
- ! Loading docks
- ! Basement sumps/underground tanks.

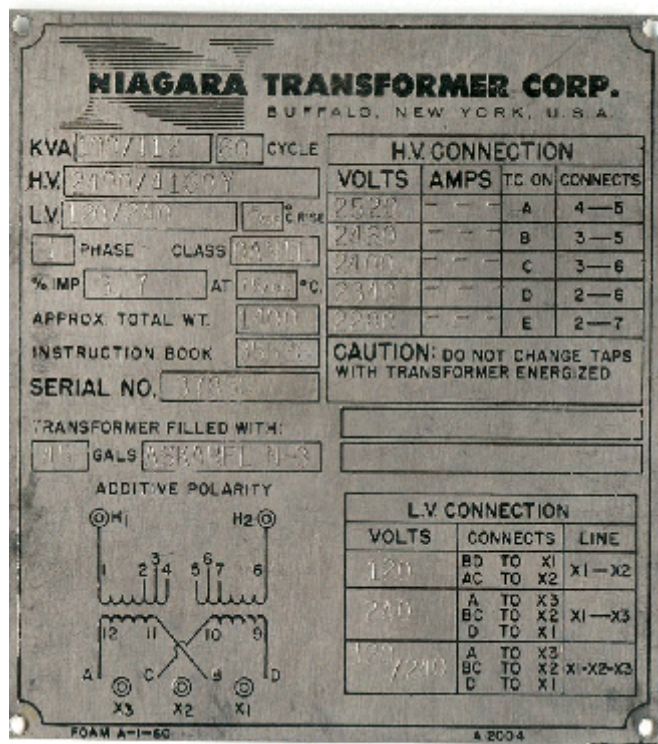
**3.6 Marking Assessment (§§ 761.40 and 761.45)**

The objective of the marking assessment is to determine that all items are marked in accordance with the regulations so that PCBs and PCB Items are clearly identified. The inspector should document in the field notebook all evidence of non-compliance and sample when necessary to establish the PCB level. The inspector should identify the exact location of each item in violation. The inspector should photograph the item and its nameplate and all sample locations and photograph suspected areas of non-compliance and document these areas in the field notebook. (See Chapter Five for regulatory requirements and inspection procedures pertaining to marking.)



**Figure 3-1.** Small PCB Mark, also referred to as M<sub>s</sub>. See Appendix C for a Large PCB Mark (M<sub>L</sub>) that is six inches by six inches, the size required by the regulations at §761.45(a).





Throughout the physical assessment, the inspector should check compliance with the marking requirements, giving particular attention to:

- ! How all required items, including the transformer, transformer accesses, capacitors, and PCB Containers are marked
- ! How transport vehicles are marked
- ! How storage areas, including temporary storage areas, are marked.

Figure 3-2. PCB Transformer nameplate.

### 3.7 Storage Assessment (§ 761.65)

The objective of the storage assessment is to determine whether the facility properly stores all PCBs and PCB Items. The inspector should check to see whether storage operations comply with the regulations, document all discrepancies in the field notebook, and sample when necessary to establish the PCB level. The inspector should identify the location of items suspected to be in violation and take photographs of these items when appropriate. In addition, the inspector should inspect the storage site(s) on the facility premises. If the site is not within the facility boundaries, the inspector should note the address and operator of the site. (See Chapter Five for specific requirements pertaining to storage.)

**Safety Note.** The inspector should exercise caution prior to entering a closed storage area or vault. The storage area should be ventilated sufficiently before entering because hazardous conditions may exist (e.g., low oxygen content, explosive vapors).

**3.7.1 Storage Facility**

In evaluating the storage facility, the inspector should consider:

- ! How is the facility marked for PCB?
- ! Does the facility have adequate roof and walls to prevent rain water from reaching the stored PCBs or PCB Items?
- ! Is the containment volume sufficient for quantity of PCBs stored?
- ! Is the containment area free of drains, valves, joints, or other openings?
- ! Are flooring and curbing requirements met?
- ! Is the site above the 100-year flood elevation?



**Figure 3-3.** PCB Transformers in storage.

**3.7.2 Storage Containers**

The inspector should determine the following when checking containers:

- ! Do containers meet DOT specifications 49 CFR Subchapter I?
  - For liquid PCBs:** Specification 5 container without removable head, Specification 5B container without removable head, Specification 6D over pack with specification 2S or 2SL polyethylene containers or specification 17E container.
  - For non-liquid PCBs:** Specification 5 container, Specification 5B container or Specification 17C container.
- ! Are storage containers dated and marked?
- ! Are other containers used?
  - If yes, have design review requirements been met? Has a Spill Prevention Control and Countermeasure (SPCC) Plan been prepared? Are required records being kept? Has a registered professional engineer certified the SPCC Plan?

### 3.7.3 Storage Facility Operation

A number of issues pertain to this area of the assessment:

- ! Does the facility have written storage procedures?
- ! Are articles and containers checked for leaks every 30 days?
- ! Are leaking articles and containers transferred to nonleaking containers?
- ! Is spilled or leaked material cleaned up immediately?
- ! Is movable equipment properly decontaminated prior to being removed from the facility?
- ! Are containers and articles handled in a manner that protects them from accidental damage or breakage?
- ! Are the containers/articles dated with the out-of-service date?
- ! Are the containers/articles carrying PCBs properly marked?
- ! Is the storage-for-disposal area properly marked?

### 3.7.4 Outside Storage

Outside storage is overflow from a permanent storage location. The inspector should make sure that outside storage areas meet all applicable regulations:

- ! Are large high voltage PCB Capacitors and PCB-Contaminated Electrical Equipment that have not been drained of free flowing dielectric fluid the only items stored outside the prescribed storage area?
  - Are they on pallets?
  - Are they structurally undamaged and free of leaks?
  - Are they checked weekly for leaks?
- ! Is the outside area adjacent to the prescribed storage area?
- ! Does the facility maintain immediately available space in the prescribed storage area to accommodate 10 percent of the volume of capacitors and transformers stored outside?

### 3.7.5 Temporary Storage

Temporary storage is any storage location used for less than 30 days. The use of temporary storage also raises a number of issues:

- ! Is the temporary storage area properly marked?
- ! Are only nonleaking articles and containers in temporary storage?
  - Have articles and containers been in the storage area less than 30 days?
  - Do they have attached notations indicating the date they were removed from service?
  - Are PCB liquids below 500 ppm being stored using a SPCC Plan? The inspector should keep in mind that liquid PCBs containing more than 500 ppm PCBs may not be temporarily stored.
  - Do containers of PCB-contaminated liquid bear notations of PCB content?

### 3.8 Closing Conference

The inspector should hold a closing conference with the facility officials. The inspector should limit the discussion to specific findings of the inspection. The inspector should note to the facility officials that the Regional Office, not the inspector, determines overall compliance upon final review of the report and other pertinent information. Therefore, the inspector should not discuss compliance status, legal effects, or enforcement consequences of non-compliance, unless this authority has been delegated to the inspector. Generally only the Division Director or whoever has been delegated authority may make compliance determinations after reviewing all of the evidence. The inspector may refer facility officials to approved compliance assistance sources and documents. At this meeting, an inspector may request additional data, ask questions, and secure necessary receipts (see Section 3.8.2).

#### 3.8.1 Discussions

The inspector should discuss and clarify any questions or problems relating to the inspection. The inspector should:

- ! Without using the term violation, inform facility officials of any leaks, spills, or other problems that may need immediate attention and relay information to the facility official concerning any conditions which may require corrective action.
- ! Respond to questions regarding TSCA and the PCB regulations and refer any questions that exceed his/her knowledge or authority to other EPA personnel.
- ! Ensure the EPA sample chain-of-custody form is completed and maintain sample integrity until the sample is delivered or shipped to laboratory.
- ! *Do not advise* that no violations were found (even if he/she believes this is the case) unless this authority has been delegated to him/her. The inspector should explain to facility official(s) that EPA makes compliance determinations after reviewing all of the evidence.

### 3.8.2 Required Receipts

Under TSCA, inspectors must give written receipts for samples and documents taken from the facility. These include the following:

- ! **Receipts for Samples and Documents.** Inspectors should list and describe all samples taken and all documents taken or copied during the inspection, sign the receipt, obtain facility official signatures, and distribute the appropriate copies to facility officials.
- ! **Declaration of Confidential Business Information.** Inspectors should list and describe all information the facility declares as confidential, sign the receipt, obtain facility official signatures, and distribute the appropriate copies to facility officials.

Note: Inspectors may not send any CBI documents via U.S. mail. Documents must be hand delivered to the DCO.

### 3.9 Compliance Assistance

Since inspectors are often the only contact between EPA and the regulated industries, they should be aware of opportunities to promote compliance with EPA regulations. After an inspection, the inspector will have first-hand knowledge of the inspection site, as well as knowledge of any specific questions or problems the site officials may have. The inspector can use this time to answer those questions and/or convey information that will move the site toward improving compliance and acting in an environmentally responsible manner. Please refer to the National Policy: The Role of the EPA Inspector in Providing Compliance Assistance During Inspections (Appendix B) for more information.

#### 3.9.1 General Outreach Activities

Since the purpose of the inspection process is to promote future compliance as well as to identify past and current violations, it is important for the inspector to help raise the level of a facility's awareness of both PCB regulations and other EPA regulations. The inspector may leave EPA listings of the names and telephone numbers of other media programs (i.e., air, water) to help promote compliance with other EPA programs.

Depending on the particular situation, specific EPA or State initiatives may be applicable to the facility. Examples of such initiatives include pollution prevention or EPA's Green Lights program. The inspector can give the facility contact names, brochures, publications, or other materials that address topics of concern to the site.

**3.9.2 Information Sources**

The inspector has a broad selection of information sources from which to obtain outreach/ educational materials. These sources include:

- ! EPA OECA Website. [www.epa.gov/oeca/monitoring/index.html](http://www.epa.gov/oeca/monitoring/index.html).
- ! EPA's PCB Home Page. EPA's internet site at <http://www.epa.gov/pcb/> includes links to statutory and regulatory language, question and answer documents, spill cleanup policy guidance, regional contact lists, and other information sources. Versions of the PCB Transformer Registration Database and the PCB Activity Database are available for download. The site also includes listings of approved commercial storers and disposers.
- ! Pollution Prevention Information Clearinghouse (PPIC). On EPA's internet site at <http://www.epa.gov/opptintr/library/ppicindex.htm>. PPIC is a free, nonregulatory clearinghouse focusing on source reduction and recycling of industrial wastes. It contains technical, policy, programmatic, legislative, and financial information.
- ! Inspectors Compliance Assistance Resources Guide. Located on EPA Inspector Website at <http://intranet.epa.gov/oeca/oc/campd/inspector>.

# Chapter Four

## Equipment-Specific Information

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## 4.0 Equipment-Specific Information

An inspector may encounter several types of PCB-containing equipment during a PCB inspection. This equipment consists chiefly of five major categories: transformers, capacitors, other electrical equipment, hydraulic systems, miscellaneous (e.g., fluorescent light ballasts, heat transfer systems), and other equipment. This chapter provides the inspector with general information on these major categories of regulated PCB equipment for which EPA authorizes certain activities (e.g., servicing and/or use), in accordance with Section 6(e) of TSCA.

For each type of PCB equipment discussed, this chapter provides information on the typical economic sectors using the equipment and a list of manufacturers and trade names. This chapter also includes information on inspections relating to specific equipment and the risk of contamination from exposure to such equipment.

The sections below summarize those regulations pertaining only to activities authorized for the specific equipment. Section 761.30, "Authorizations" describes these authorization provisions. General regulatory requirements (e.g., provisions concerning disposal and storage, marking, and recordkeeping) also apply to authorized uses of such equipment. Inspectors should refer to Chapters Three and Four as well as the regulations when preparing to conduct inspections.

Each section in this chapter contains a list of manufacturers and trade names used for PCBs or materials containing PCBs. Appendix E contains a comprehensive listing of PCB manufacturers and the trade names they used for PCB materials.

### 4.1 Transformers [§761.30(a) and (b)]

#### 4.1.1 Background

Transformers increase or decrease the voltage level of an electric current. Electrical transformers are often filled with a dielectric liquid that increases the resistance of the unit to arcing and acts as a heat transfer medium, helping to cool the coils. Today, most transformers are filled with mineral oil or silicone.

PCBs are chlorinated fire-resistant fluids that meet the definition established in the National Electrical Code (NEC) for askarel, the generic name for non-flammable synthetic chlorinated hydro-carbons used for insulating media.



Figure 4-1. Two PCB Transformers.

Askarel transformers, containing 40 to 60 percent PCBs, with the remainder of the fluid being chlorobenzenes, were manufactured in the United States from 1929 to 1978. Askarel transformers were made in a variety of sizes, containing from three to 3,000 gallons (average 235 gallons) of liquid. They were generally used in locations where flammability was a concern. Many mineral oil transformers may have been contaminated with PCBs through servicing or at the time of manufacturing. Figure 4-2 shows an oil filled transformer and a non-oil filled transformer.

The regulations define *PCB* and *PCBs* as 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 substances. The regulations define a *PCB Transformer* as any transformer containing 500 ppm PCBs or greater. *PCB-Contaminated Transformers* contain PCBs at concentrations greater than or equal to 50 ppm and less than 500 ppm. The inspector should be aware that the PCB concentration of transformer bushings may differ from the transformer.

The inspector should note that regulations pertaining to railroad transformers are separate from those relating to other transformers. Therefore, the information pertaining to railroad transformer regulations, as well as to maintenance, repair, and inspection of railroad transformers, is presented separately, later in this chapter.

#### 4.1.2 Transformer Locations

As of August 28, 1998, owners/operators of PCB Transformers in use, or in storage for reuse, must register those transformers with EPA. Owners/operators of a transformer who failed to register in 1998 are still required to register. This registration is a one-time requirement. When an owner/operator of a company removes PCB Transformers from service and disposes of them, it need not update its original registration. EPA has developed a database of the registered PCB Transformers (the PCB Transformer Registration Database) which can be accessed at [www.epa.gov/pcb/data.html](http://www.epa.gov/pcb/data.html). Based on a simple analysis of the company names in the October 2001 version of this database, the industries listed in the table below registered the most transformers. The inspector should use the information below only as a general guide to which industries commonly have PCB Transformers, as opposed to an exact count of the transformers in use. Some owners of PCB Transformers may not have registered, while others incorrectly registered.

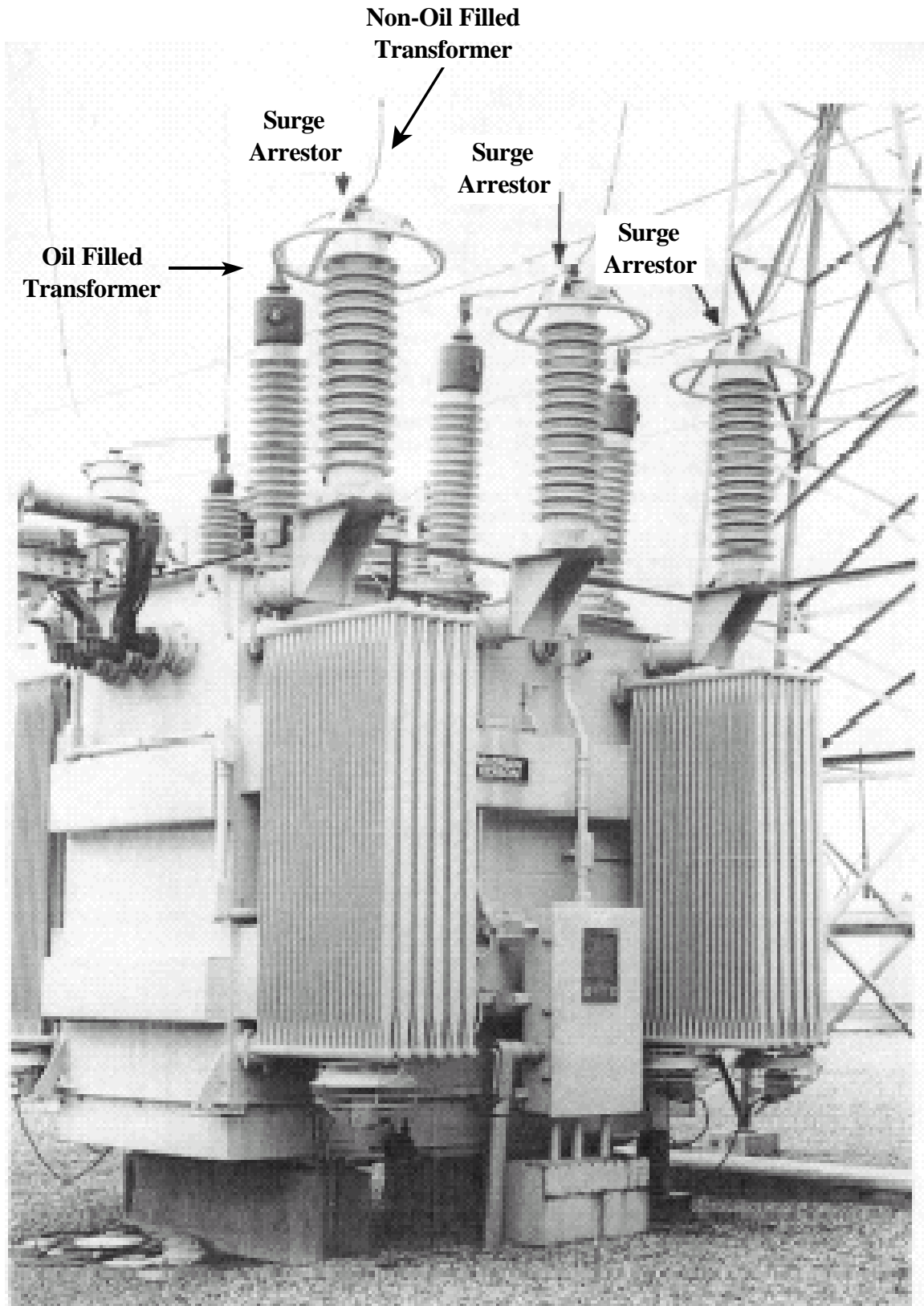


Figure 4-2. Oil filled and non-oil filled transformers.

**Table 4-1. Estimate of the Number of Registered Transformers by Industry Sector**

Industry Sector	Number of Registered Transformers
Utilities	10,644
Steel	1,968
Federal	1,805
Metal	1,292
Automotive	1,063
Paper and Paper Products	391
Tire and Rubber	344
Mining	340
Education	308
Transportation	287
Textiles	221
Durable Goods	215
Chemicals and Polymers	208
Cement and Concrete	179
Non-Federal Government	164
Fertilizer and Allied Products	150
Glass	135
Pharmaceutical	113
Oil/Gas/Refinery	111
Building Materials	102
Other	1,814
<b>Grand Total</b>	<b>21,854</b>

PCB Transformers are in use in a wide variety of locations, often including:

Utilities

- ! PCB Transformers can be found in:
  - Distribution substations
  - Generating facilities (including coal, gas, and nuclear facilities).

### Mines

- ! Transformers are usually located within the power substation that supplies electricity to the entire mine. (See Appendix F for more information regarding the use and distribution of PCBs in underground mines and training and safety issues for inspectors visiting mines.)

### Industrial and Other Sectors

- ! Industries with high-power requirements or equipment are likely to have PCB Transformers. Likely locations of PCB Transformers include:
  - In electrical substations
  - Inside, around, or on top of buildings
  - In powerhouses that generate and distribute electrical power throughout the facility
  - In underground vaults.
- ! Transformers can also be found in the broadcasting industry.

### Commercial Buildings

- ! PCB Transformers often are used inside commercial buildings to meet fire code restrictions or to reduce fire insurance premiums. Most commercial building owners contract the servicing of their transformers to transformer maintenance and repair companies. However, commercial building owners may not own PCB Transformers. The electric utility providing service to the building often owns such units. The inspector should determine who owns and is responsible for the unit.
- ! Neon signs may also contain PCB Transformers and may be found on old or abandoned commercial buildings or in scrap yards.

### Railroads and Subways

- ! Railroad companies used PCBs in on-board transformers in electric locomotives and self-propelled cars in service in the Northeast Corridor (Washington to Boston). The transformers reduce the high voltage current from overhead lines. Subway systems used PCB Transformers to distribute power to subway cars. Transformers are generally underground.

#### **4.1.3 Maintenance and Repair of PCB Transformers**

PCB Transformers (both railroad and others) require periodic maintenance and repair, which may be handled by facility staff or by independent contractors.

- ! Independent firms may contract to maintain and repair transformers for all types and sizes of industries, including small firms (e.g., commercial buildings).

- ! Maintenance divisions of larger industries may operate facilities to maintain and repair transformers. These divisions occasionally service transformers for other firms.

Maintenance operations take place both onsite (at the operating location of the equipment) and offsite (at a special shop or facility operated by the firm or by the contractor).

- ! Onsite maintenance and repair may involve considerable handling of PCBs, including:
  - Transport of items such as waste liquids and contaminated rags to storage or disposal.
- ! Offsite maintenance may occur in specific facilities used only for transformer maintenance or in shops that handle other maintenance as well. The handling includes:
  - Removal of the transformer from the operating site
  - Transport of damaged or leaking equipment
  - Transport of waste to storage or disposal site
  - Reinstallation of repaired equipment.

### ***PCB Transformer Maintenance***

PCB Transformers (excluding railroad transformers, which are discussed below) require service periodically and repair when out-of-order. Maintenance includes:

- ! Sampling fluid to test dielectric strength
- ! Topping off fluid (historically a source of PCB contamination)
- ! Replacing gaskets, bushings, insulators, etc., which may involve partial draining of the unit
- ! Removing and filtering the dielectric liquid and refilling the unit
- ! Removing PCB liquid and refilling with replacement dielectric fluid
- ! Generating waste liquid, contaminated rags, equipment, etc., which must be disposed of in accordance with the regulations.

### ***Railroad Transformer Maintenance***

Railroad transformers require additional and more frequent maintenance because of their unique installation and operating circumstances:

- ! On-board transformers are subject to severe conditions (high loads, cramped space) and require a high level of maintenance.
- ! Pumps circulate oil containing PCBs through the transformers, where the oil absorbs heat, to a series of finned radiators which dissipate the heat.

- ! Transformers and the cooling apparatus located in the undercarriage are subject to damage from objects dislodged from the roadbed. Inspectors should be aware that leaks can cause exterior surfaces to become contaminated.

Maintenance frequently takes place in repair pits, which can become severely contaminated with PCBs. Operations are similar to those listed for other PCB Transformers, but include additional activities, such as:

- ! Repairing/replacing circulating pumps and damaged, leaking cooling systems and radiators
- ! Dismantling/disconnecting cooling systems filled with PCB fluids
- ! Decontaminating the system and equipment surfaces.

#### **4.1.4 Manufacturers and Trade Names**

Many manufacturers of PCB askarel liquid identified the substance by a trade name. PCBs have been used since 1929, and many of the early manufacturers have gone out-of-business.

**Table 4-2. Transformer Manufacturers and  
PCB Fluid Trade Names**

Transformer Manufacturer	PCB Fluid Trade Name
Allis-Chalmers	Chlorextol
American Corporation	Asbestol
Cornell Dubilier	Dykanol
Electro Engineering Works	
Envirotech Buell	
ESCO Manufacturing Company	Askarel*
Ferranti-Packard Limited	Askarel*
General Electric	Pyranol
H.K. Porter	
Helena Corporation	
Hevi-Duty Electric	Askarel*
ITE Circuit Breaker Company	Non-flammable Liquid
Kuhlman Electric	Saf-T-Khul
Maloney Electric	
Mitsubishi	Kennechlor, Santotherm
Monsanto (fluid only)	Aroclor
Niagara Transformer Corporation	Askarel*, EEC-18
Power Zone Transformer	EEC-18
Research-Cottrell	Askarel*
Standard Transformer Corporation	
Uptegraff Manufacturing Company	
Van Tran Electric	
Wagner Electric	No-Flamol
Westinghouse	Inerteen
-----	Nepolin

\* Generic name for non-flammable insulating liquids.

Note: There may be other manufacturers and PCB fluid trade names that are not listed.



## 4.2 Capacitors [§761.30(l)]

### 4.2.1 Background

Capacitors regulate the flow of electric current. PCBs were the dielectric fluid used in approximately 95 percent of U.S.-produced, liquid-impregnated capacitors manufactured prior to 1978. The regulations require that all capacitors be disposed of as a PCB Capacitor except when a specific capacitor is known not to contain PCBs based on a label or nameplate, manufacturers' literature, or chemical analysis. To assist in this determination, EPA regulations required all non-PCB, large low voltage capacitors, small capacitors, and fluorescent light ballasts manufactured between July 1, 1978, and July 1, 1998, must bear a "No PCBs" label [§761.40(g)].

There are two general types of capacitors containing PCBs: (1) capacitors built into electrical equipment, such as fluorescent lights, televisions, and small motors, which are smaller in size; and (2) capacitors used as separate units in electrical power distribution systems, which are larger in size (see Figure 4-3).

The PCB regulatory program under TSCA defines three types of PCB Capacitors in 40 CFR 761.3:

- ! A small capacitor contains less than 1.36 kg (3 pounds) of dielectric fluid.
- ! A large high voltage capacitor contains 1.36 kg (3 pounds) or more of dielectric fluid and operates at 2,000 volts (AC or DC) or above.
- ! A large low voltage capacitor contains 1.36 kg (3 pounds) or more of dielectric fluid and operates below 2,000 volts AC or DC.

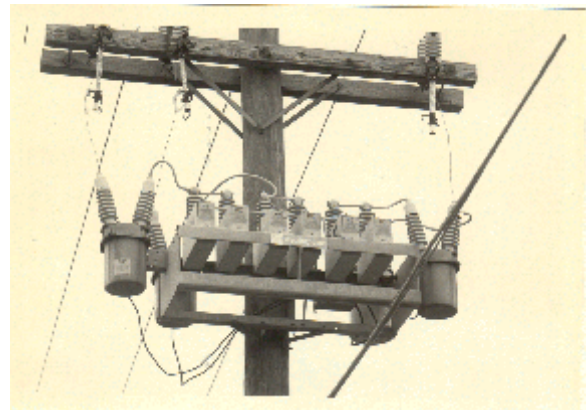


Figure 4-3. Six large high voltage capacitors.

## 4.2.2 Locations

The following is a list of likely locations, by economic sector, of capacitors. Within these sectors, the capacitors may be located almost anywhere.

### Electric Utilities

- ! Capacitors are usually located in distribution substations.

### Manufacturing

- ! Capacitors are:
  - Located in banks or individually.
  - Located in underground pump stations.
  - Used for power factor correction on motor control circuits and as part of the circuitry of electric induction furnaces.
  - Used for power correction or startups of large motors as used commonly with water pumps for large air conditioning systems or lift stations.
  - Used for startup of any large motor associated with manufacturing (e.g., drills, saws).

### Subway Systems

- ! Large capacitors are used:
  - In conjunction with underground transformers.
  - On subway cars.

### Mines

- ! Capacitors are:
  - Usually located within the power substation that supplies electricity to the entire mine
  - Located underground in skid-mounted or wheel-mounted power centers or individually
  - Often installed in control boxes for large electrical motors.

## 4.2.3 Maintenance and Repair

Facilities replace rather than repair non-functioning capacitors. Short-circuiting units can rupture and leak.

## 4.2.4 Manufacturers and Trade Names

Several companies manufactured PCB Capacitors in the United States from 1929 until 1978. Many of the manufacturers identified the PCB dielectric liquid by trade name. The following list of manufacturers and trade names is not necessarily complete and, therefore, should be used only as a guide.

**Table 4-3. Capacitor Manufacturers and PCB Fluid Trade Names**

Capacitor Manufacturer	PCB Fluid Trade Name
Aerovox	Hyvol
Axel Electronics	
Capacitor Specialists	
Cornell Dubilier	Dykanol
Electrical Utilities Corporation	Eucarel
Electromagnetic Filter Company	
Federal Pacific	Non-flammable liquid
General Electric	Pyranol
Jard Corporation	Clorphen
McGraw Edison	Elemex
Monsanto (fluid only)	Aroclor, Capacitor 21, MCS 1489
P.R. Mallory & Company	Arclor B
R.F. Interonics	
Sangamo Electric Company	Diaclor
Sprague Electric Company	Clorinol
Tobe Deutschmann Labs	
Universal Manufacturing Corporation	Askarel*
Westinghouse	Inerteen
York Electronics	

\* Generic name for non-flammable insulating liquids.

### 4.3 Other Electrical Equipment [§761.30(h) and (m)]

Other PCB-Contaminated Electrical Equipment includes circuit breakers, reclosers, voltage regulators, switches (including sectionalizers and motor starters), and electromagnets. The inspection guidelines are similar to those for capacitors. Figure 4-4 shows a circuit breaker system and location where PCB-contaminated oil may be found.

### 4.4 Hydraulic Systems [§761.30(e)]

#### 4.4.1 Background

Hydraulic systems are machines that operate by the force exerted by pressurized and confined liquid. Many steel manufacturing and die casting plants used PCBs in hydraulic systems to reduce fire hazards on machines that handled hot metals. These systems included hydraulic systems for metal dye casting equipment, trim presses, induction hardening machines, heat treating furnaces, forge furnaces, and forge presses. The PCB regulations authorize the use of hydraulic systems containing PCBs below 50 ppm. Owners drained and flushed hydraulic systems in an attempt to reduce PCB contamination. However, systems may still be contaminated with residual PCBs that remained after refilling with non-PCB fluid. Hydraulic systems normally leak several times their capacity each year because the fluid is often pressurized to several thousand pounds per square inch causing the system to leak at connection joints and piston rings.

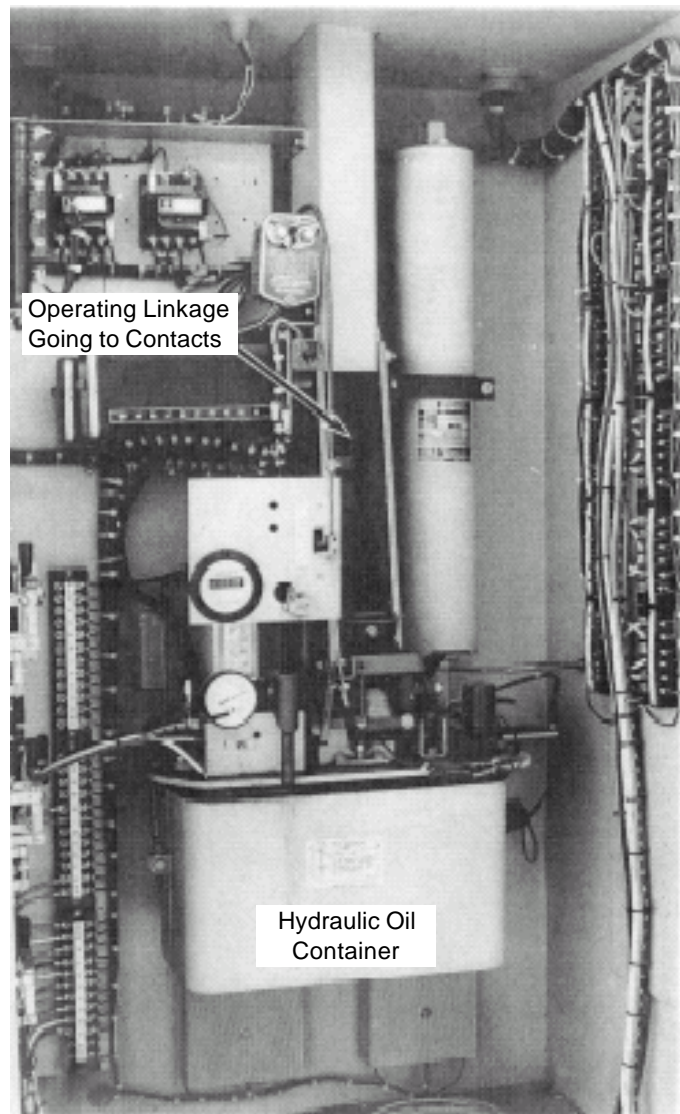


Figure 4-4. Hydraulic system for closing circuit breaker.

#### 4.4.2 Manufacturers and Trade Names

The following list of hydraulic fluid trade names may not contain all trade names. PCBs have been used since 1929, and many of the early manufacturers have gone out-of-business.

**Table 4-4. Hydraulic Fluid Manufacturers and Trade Names**

Manufacturer	Hydraulic Fluid Trade Names	
Monsanto	Pydraul A-200	Pydraul 230
	Pydraul A-200-B	Pydraul 230-A
	Pydraul AC*	Pydraul 280
	Pydraul AC-A*	Pydraul 312
	Pydraul AC-28	Pydraul 312-A
	Pydraul F-9	Pydraul 540
	Pydraul F-9-A	Pydraul 540-A
	Pydraul 135	Pydraul 540-B
	Pydraul 135-A	Pydraul 625
	Pydraul 150	Pydraul 625-A
	Pydraul 150-A	Turbinol 153
	Santovac 1	Santovac 2

\* These were reportedly used as lubricating fluids in some natural gas pipelines as well.

#### 4.5 Other PCB Equipment

##### 4.5.1 Fluorescent Light Ballasts

Light ballasts are the primary electric components of fluorescent light fixtures and are generally located within the fixture under a metal cover plate. The PCBs are located in the light ballasts' small capacitor or in the potting material, the insulating material inside the ballast. Since 1978, EPA has required manufacturers of fluorescent light ballasts to mark ballasts that do not contain PCBs with the statement "No PCBs." Inspectors should assume that light ballasts contain PCB small capacitors if they were manufactured before 1978 or do not have a "No PCBs" statement. Table 4-5 indicates the disposal requirements for fluorescent light ballasts. Please note that after July 1, 1998, fluorescent light ballast manufacturers are no longer required to mark fluorescent light ballasts with the statement "No PCBs."

Table 4-5. TSCA Disposal Requirements for Fluorescent Light Ballasts

PCB Capacitor	PCB Potting Material	Labeling, Transportation, and Manifesting for Disposal	Disposal Reference in §761	Disposal Options
"No PCBs" label		Not regulated under TSCA.	N/A	Not regulated under TSCA.
None*	< 50 ppm	Not regulated under TSCA.	N/A	Not regulated under TSCA.
Intact and non-leaking or none*	≥ 50 ppm	-Is a PCB bulk product waste. -No labeling is required. -Manifesting is required for disposal in accordance with §761.62(a); is not required under §761.62(b); may be required under §761.62(c).	.50(b)(2)(ii) .62(a)-(c)	-TSCA incinerator** -TSCA/RCRA landfill Alternate Destruction Method. -Decontamination (§761.65(d) storage may be required). -Coordinated approval. -State-approved landfill (leach test required). -Risk-based approval.
Intact and non-leaking	< 50 ppm	No labeling or manifesting required.	.50(b)(2)(i) .60(b)(2)(ii)	Dispose as municipal solid waste (§761 Subpart D options).
Leaking	< 50 ppm or ≥ 50 ppm	-Disposal as PCB bulk product waste. -No labeling is required. -Manifesting is required for disposal in accordance with §761.62(a); may be required under §761.62(c).	.62(a) or (c)	-TSCA incinerator* -TSCA/RCRA landfill Alternate Destruction Method- -Decontamination (§761.65(d) storage may be required). -Coordinated approval. -Risk-based approval.

\* "None" means that the capacitor contains no PCB's or was manufactured after 1978.

\*\* A TSCA incinerator is one approved by the Regional Administrator or by the Director of NPCD to handle TSCA waste.

Source: [www.epa.gov/pub/guidance.html](http://www.epa.gov/pub/guidance.html) (EPA PCB Website)

#### 4.5.2 Heat Transfer Systems [§761.30(d)]

Heat transfer systems use fluids of high heat capacity to remove unwanted heat or to transfer heat from one place to another within a system. They are commonly used to provide heat in chemical manufacturing where temperatures greater than that provided by steam are needed.

Heat transfer systems in certain applications used PCBs as a heat transfer fluid. Heat transfer systems that contained PCB fluid were refilled with non-PCB fluid approximately 90 percent of the time. Despite this refilling, most systems contained residual PCBs. Leaks usually occur through pump motor seals.

Inspectors of facilities using PCB heat transfer fluid should ensure that all systems are below the 50 ppm limit by checking records or sampling (if it is safe to sample). Inspectors should also review disposal records such as manifests for PCB-contaminated fluid drained from the systems to determine if the facility properly stored the fluids for disposal or disposed of the fluids by incineration and visually check for PCB contamination and current releases of PCBs on site due to prior spills or disposal of the PCB fluids.

The following is a list of heat transfer fluid manufacturers although it may not contain all trade names. PCBs have been used since 1929, and many of the early manufacturers have gone out-of-business.

**Table 4-6. Heat Transfer Fluid Manufacturers and Trade Names**

Manufacturer	Heat Transfer Fluid Trade Names	
Geneva Industries	Monsanto FR-1	
Monsanto	Therminol FR-0	Therminol FR-2
	Therminol FR-LO	Therminol FR-3
	Therminol FR-1	

#### 4.5.3 Natural Gas Pipelines [§761.30(i)]

A number of gas pipeline companies used PCBs as a working fluid in their compressors between 1950 and the early 1970's. There are several sources of PCBs associated with natural gas transmission pipelines. The use of PCBs in turbine compressors leaked PCBs (Aroclors 1221, 1242 and 1248) into the transmission pipelines and contaminated the existing natural gas pipeline liquids (water and condensate). The condensate fraction consists of heavier hydrocarbons that may be ignitable, BTEX (benzene, toluene, ethyl benzene and xylenes) and naphthalenes. The PCB contamination spread to other interconnected pipeline systems. The improper disposal of PCB contaminated condensate into open pits, via spills and venting caused significant contamination at natural gas companies such as Texas Eastern and Transwestern compressor stations. The historical use of waste oils, contaminated with PCBs, to "fog" or lubricate the old pipelines and use (probably minor) of a Rockwell plug valve sealant/grease containing PCBs (Aroclor 1268) also contaminated existing natural gas pipeline condensate. The use of PCBs (Aroclors 1221, 1242, 1248 and 1254) in reciprocating air compressors and associated blowdowns resulted in onsite surface soil and wastewater drainage system PCB

contamination. This use did not result in transmission pipeline PCB contamination. This occurred at Texas Eastern, Tenneco, Columbia Gas, Texas Gas and other companies.

Current regulations (761.30(i)) authorize the use of PCBs in natural gas pipelines at concentrations of less than and greater than 50 ppm PCBs under certain conditions. These (761.30(i)) are the rules that now govern the PCBs that still remain in the various natural gas transmission pipelines. The old PCB/Compliance Monitoring Program (CMP) was terminated when this rule was promulgated in 1998. Additional NGP information and details of the 1981 and 1996 PCB CMP are found in Appendix G of this manual.

#### 4.5.4 Electric Motors

In the late 1960s and early 1970s, Reliance Electric for Joy Manufacturing Company manufactured electric motors that contained PCBs. Liquid-filled motors were used because they were smaller and lighter than air-cooled motors. Manufacturers chose a PCB mixture for the liquid because it was non-flammable, provided adequate lubrication, and possessed the best overall combination of electrical properties, chemical stability, and cost.

Mining machine electric motors used on certain underground continuous loaders built by Joy contain PCBs as a coolant fluid in the large cutting head motors and traction motors. Previous versions of the regulations established a deadline of January 1, 1982, for phasing-out the use of these motors. The current regulations [§761.30(c)] allow the use of PCB-containing mining equipment only under 50 ppm.

Submersible well pump motors manufactured before 1979 may contain up to five ounces of PCB dielectric fluid in their capacitors. PCBs may leak out of these submersible well pump motors during normal wear-and-tear or when the pump suddenly fails due to lightening strikes or electrical failures or shorts. Appendix H contains the manufacturer's models and serial numbers of some of the submersible pump units that contain PCBs.

#### 4.5.5 Electromagnets [§761.30(h)]

Regulations prohibit servicing, including rebuilding, of PCB electromagnets with a PCB concentration of 500 ppm or greater that requires the removal of internal components.

#### 4.5.6 Products Containing PCBs

Other products that may contain PCBs include:

- ! Investment casting wax
- ! Carbonless copy paper
- ! Resins
- ! General sealants and coatings, including windshield sealant and silo sealant



- ! Lubricants, including bridge bearings and additives to transmission fluids
- ! Paint, including marine paint
- ! Electrical cable insulation
- ! Gaskets
- ! Roofing materials.

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# Chapter Five

## Regulatory Requirements and Inspection Procedures

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## 5.0 Regulatory Requirements and Inspection Procedures

This chapter presents the key regulatory provisions applicable to PCBs and inspection procedures for the major regulatory provisions. The summary addresses authorized activities pertaining to PCBs and PCB Items: marking; disposal; storage for disposal; and recordkeeping and reporting. Appendices I through M contain operating and reporting requirements applicable to the following *specific facilities*: incinerators, chemical waste landfills, high efficiency boilers, alternative disposal facilities, and scrap metal recovery ovens and smelters. Inspectors should follow the procedures listed below when conducting an inspection.

### 5.1 Authorizations

#### 5.1.1 Transformer Use Conditions

Regulation Reference: §761.30

Regulatory Requirements	Inspection Procedures
<b>Transformer Use Conditions</b>	
<p>Transformers, except railroad transformers, may contain PCBs at any concentration for the remainder of their useful lives (including servicing and rebuilding) subject to the following <i>use</i> conditions:</p> <p>§761.30(a)</p> <ul style="list-style-type: none"> <li>• As of 10/1/85, a person may not use or store for use PCB Transformers in such a manner that they pose an exposure risk to food or feed. §761.30(a)(1)(i)</li> <li>• As of 10/1/90, a person may not use network PCB Transformers with higher secondary voltages (i.e., voltage <math>\geq</math> 480 volts, including 480/277 volt systems) in or near commercial buildings. §761.30(a)(1)(ii)</li> </ul>	<p>Determine whether facility location of transformers is near food or feed posing an "exposure risk to food or feed." Remind operator/owner of the definition of "exposure."</p> <p>Determine whether transformer is a "network" or "radial" transformer by asking responsible facility official. Then review transformer repair, maintenance, and rebuilding procedures at the facility:</p> <ul style="list-style-type: none"> <li>• Ask company.</li> <li>• Ask utility.</li> <li>• Review/obtain electrical schematic.</li> </ul>

Regulatory Requirements	Inspection Procedures
<b>Transformer Use Conditions</b>	
<ul style="list-style-type: none"> <li>• A person who removes from service a network PCB Transformer with higher secondary voltages in accordance with this requirement must either reclassify the transformer to PCB-contaminated or non-PCB status, place it into storage for disposal, or dispose of it. §761.30(a)(1)(ii)</li> <li>• As of 10/1/85, no person may install PCB Transformers which have been placed into storage for reuse or which have been removed from another location in or near a commercial building. §761.30(a)(1)(iii) <ul style="list-style-type: none"> <li>- EPA indefinitely permits the installation of a retrofilled mineral oil PCB Transformer for reclassification purposes. §761.30(a)(1)(iii)(A)</li> </ul> </li> </ul>	<p>Check PCB nameplates of transformers installed in or near commercial buildings. If any are PCB Transformers, check to see whether service records show that (1) such units have been placed into storage or (2) relocated from another location.</p>

Regulatory Requirements	Inspection Procedures
<b>Transformer Use Conditions</b>	
<p>-- A person installing a retrofilled transformer for reclassification purposes must test the PCB concentration 3 months after installation. Classification from the testing results is as follows: §761.30(a)(1)(iii)(B)</p> <ul style="list-style-type: none"> <li>* &lt;50 ppm PCB= non-PCB transformer</li> <li>* 50-500 ppm PCB= PCB-Contaminated Transformer, and</li> <li>* ≥500ppm= repeat the reclassification process until the transformer can be classified as to non-PCB or a PCB-contaminated status; or remove the transformer from service.</li> </ul> <p>• In order to avoid transformer ruptures from high current faults, all radial PCB Transformers and lower secondary voltage network PCB Transformers not located in sidewalk vaults (i.e., network transformers with secondary voltages &lt;480 volts) must have electrical protection if they are located in or near commercial buildings. §761.30(a)(1)(iv)</p>	<p>Request and review reclassification PCB testing data. Ensure reclassification procedures and testing data are in compliance with regulations. Proper procedures include:</p> <ul style="list-style-type: none"> <li>• owner/operator assumption that transformer contains &gt;1000 ppm of PCBs.</li> <li>• owner/operator retrofills transformer with fluid containing &lt;50 ppm of PCBs and assumes transformer is a PCB-Contaminated Transformer (50 ppm - 500 ppm).</li> <li>• or use appropriate testing methods such as those listed under 40 CFR 760(g)(1)(iii): Gas Chromatography methods: <ul style="list-style-type: none"> <li>- EPA Method 608 "organochlorine Pesticide and PCBs found at 40 CFR part 136, Appendix A</li> <li>- EPA Method 8082 - PCB by Capillary Column Gas Chromatography, SW-846, available from NTIS</li> </ul> </li> </ul> <p>Obtain copies of documentation for reclassification procedures.</p> <p>Conduct visual inspection and check facility records for existence of such units at the facility and determine whether electrical protection has been installed and the date of installation.</p>

Regulatory Requirements	Inspection Procedures
<b>Transformer Use Conditions</b>	
<ul style="list-style-type: none"> <li>• As of 10/1/90, PCB Transformers must have protective equipment, such as current-limiting fuses or other equally effective methods, to detect sustained high current faults and de-energize the transformer before transformer rupture occurs. The owner of the transformer must install, set, and maintain the protective equipment in accordance with good engineering practices. §761.30(a)(1)(iv)(A)</li> <li>• As of 10/1/93, lower secondary voltage network PCB Transformers located in or near commercial buildings (not located in sidewalk vaults) must have protective equipment. §761.30(a)(1)(iv)(B)</li> <li>• The owner must register the PCB Transformer with the EPA Regional Administrator (RA) by 10/1/90. The registration must include §761.30(a)(1)(iv)(C): <ul style="list-style-type: none"> <li>- Location of the PCB Transformer</li> <li>- Building address/building location of the transformer</li> <li>- Transformer identification number.</li> </ul> </li> <li>• As of 10/1/93, no lower secondary voltage network PCB Transformers located in sidewalk vaults in use near commercial buildings may be in service. §761.30(a)(1)(iv)(D)</li> <li>• As of 10/1/93, in order to avoid transformer ruptures from low current faults, all radial PCB Transformers with higher secondary voltages (i.e., <math>\geq 480</math> volts, including 480/277 volt systems) must have electrical protection if they are located in or near commercial buildings. §761.30(a)(1)(v)</li> <li>• Facilities must have detection equipment such as pressure and temperature sensors or other equivalent technology to detect sustained low current faults. §761.30(a)(1)(v)(A)</li> </ul>	<p>Document types of protective equipment via statements from responsible officials, photos, electrical drawings, and service records. Ask responsible official(s) to clarify any uncertainties.</p> <p>Determine from registration records whether any lower secondary voltage network transformers are PCB Transformers. If any are PCB Transformers, inspect for required protective equipment.</p> <p>Verify that the owner registered each PCB Transformer with EPA or Regional offices by comparing the PCB Transformer Registration Database (<a href="http://www.epa.gov/pcb/data.html">www.epa.gov/pcb/data.html</a>) with the identification number of each transformer in the facility.</p> <p>Explain to responsible official what a secondary voltage network transformer is and ask if there are any. Check facility records for dates removed from service, if such units exist at facility. Conduct visual inspections for operation of such units at facility and determine whether electrical protection has been installed and date of installation.</p> <p>If any, check facility records for use of such equipment. Ask facility official(s) for clarification if necessary and for locations of equipment. Ensure that applicable criteria are met.</p>



Regulatory Requirements	Inspection Procedures
<b>Transformer Use Conditions</b>	
<ul style="list-style-type: none"> <li>• Disconnect equipment must be provided to ensure complete de-energization of transformer in the event of abnormal conditions in accordance with §761.30(a)(1)(v)(B). Equipment must:               <ul style="list-style-type: none"> <li>- Operate automatically within 30 seconds to 1 minute of signaling a sustained low current fault (circuit breakers must also have the capacity to be opened manually if necessary); or</li> <li>- Allow for manual de-energization from a manned onsite control center after audio/visual signaling of a sustained low current fault. Such manual de-energization must occur within 1 minute of the audio/visual signal.</li> </ul> </li> <li>• The facility must properly install, maintain, and set sensitively enough electrical protection system to detect sustained low current faults such that de-energization occurs prior to transformer rupture and PCB release. §761.30(a)(1)(v)(C)</li> </ul>	<p>Review settings and maintenance records to verify that the electrical protection system works properly and detects sustained low current faults. Review facility procedures with facility officials and document the procedures to be implemented in case of sustained low current fault detection (i.e., who is responsible for de-energizing the PCB Transformer).</p>

Regulatory Requirements	Inspection Procedures
<b>Transformer Use Conditions</b>	
<ul style="list-style-type: none"> <li>• Owners of PCB Transformers (including PCB Transformers in storage for reuse) were required to register those transformers with EPA by 12/28/98. Persons taking possession of a registered PCB Transformer after 12/28/98 do not need to register. An owner, who discovers after 12/28/98 an unregistered PCB Transformer, must register within 30 days, unless the owner has already registered other PCB Transformers at the same location. The registration must include the following information §761.30(a)(1)(vi): <ul style="list-style-type: none"> <li>- Company name and address</li> <li>- Contact name and telephone number</li> <li>- Actual address of PCB Transformers</li> <li>- Number of PCB Transformers</li> <li>- Total kilograms of PCBs in transformers</li> <li>- Signature of authorized representative</li> </ul> </li> </ul> <p>The registration may optionally include information on whether any transformers have flammable dielectric fluid.</p> <p>The owner must keep records of the transformer registration with the transformer inspection and maintenance records for at least 3 years after disposal of the transformer.</p> <ul style="list-style-type: none"> <li>• As of 12/1/85, owners of PCB Transformers must register them with the building owner of record if they are located in commercial buildings and with all owners of buildings within 30 meters of the transformer if the PCB Transformer is located near commercial buildings. The registrations must include the following information §761.30(a)(1)(vii): <ul style="list-style-type: none"> <li>- The specific location of the PCB Transformer</li> <li>- The principal constituent of the transformer's dielectric fluid</li> <li>- The type of transformer installation</li> </ul> </li> </ul>	<p>Check the PCB Transformer Registration Database (<a href="http://www.epa.gov/pcb/data.html">www.epa.gov/pcb/data.html</a>) prior to the inspection to find registrations from the facility. During the inspection, review the inspection and maintenance records for PCB Transformers to locate registration records.</p> <p>Verify that the registration contains the required information (refer to left column).</p> <p>Ensure registration has all of the required information (refer to left column). Verify with commercial building owners if transformers are registered with them and surrounding commercial buildings.</p>

Regulatory Requirements	Inspection Procedures
<b>Transformer Use Conditions</b>	
<ul style="list-style-type: none"> <li>• Effective 12/1/85, no person may store combustibles within a PCB Transformer enclosure, within 5 meters of a PCB Transformer enclosure, or, if unenclosed, within 5 meters of an PCB Transformer. §761.30(a)(1)(viii)</li> <li>• Once every 3 months with at least 30 days between inspections, owners must visually inspect PCB Transformers in use or stored for reuse. Owners must inspect PCB Transformers for leaks of dielectric fluid on or around the transformer. The inspections should not require electrical shutdowns. §761.30(a)(1)(ix)</li> <li>• Owners must eliminate the source of any external PCB leaks from a PCB Transformer and follow proper cleanup and disposal requirements (§761.60) for PCBs resulting from a leak. Owners must initiate cleanup as soon as possible, but no longer than 48 hours after discovery of PCB releases. In addition, owners must contain PCBs from an active leak and inspect the containment daily to ensure that human or environmental exposures are prevented. §761.30(a)(1)(x)</li> </ul>	<p>Inspect several transformer enclosures to ensure that no combustibles are stored inappropriately.</p> <p>Explain requirement, ask for policy and procedures, review records, and obtain documentation.</p> <p>Explain requirement to facility officials. Ascertain what policy and practice the facility uses concerning leaks of PCBs and obtain documentation, if available. Review records to determine whether there has been a leak (or leaks) and how it was handled. Inspect units that leaked and containment area(s).</p>

Regulatory Requirements	Inspection Procedures
<b>Transformer Use Conditions</b>	
<ul style="list-style-type: none"> <li>• The owner of a PCB Transformer must report any fire-related incidents involving such equipment to the National Response Center (NRC) (toll free 1-800-424-8802; in Washington, DC 202-426-2675). The owner must supply the following information to the NRC: §761.30(a)(1)(xi)               <ul style="list-style-type: none"> <li>- The type of PCB Transformer installation involved.</li> <li>- The cause of the fire-related incident.</li> </ul> </li> </ul> <p>In addition, the owner of the PCB Transformer must seek to contain and control any potential releases of PCBs and incomplete combustion products as soon as is feasible/safely possible. The owner should:</p> <ul style="list-style-type: none"> <li>- Block all floor drains in the transformer's vicinity</li> <li>- Contain water runoff</li> <li>- Control/treat water used in cleanup processes prior to release.</li> </ul>	<p>Explain requirements to facility officials. Ascertain what policy and practice is at facility concerning fire-related incidents, and obtain documentation of such policy/practice. Obtain documentation of incident. Check both National Response Center and facility records. Through interviews with responsible facility officials, records review, and site observations, determine whether all requirements have been met. Inspect transformer/location involved in incident.</p> <p>Inspect the facility for proper containment and control for potential PCB releases. Ensure the areas comply with requirements (refer to left column).</p>

Regulatory Requirements	Inspection Procedures
<b>Transformer Use Conditions</b>	
<ul style="list-style-type: none"> <li>• Owners of PCB Transformers must keep inspection and maintenance records. They must maintain the records until at least 3 years after disposal of the PCB Transformer and make these records available for EPA inspection. The records must include the following §761.30(a)(1)(xii): <ul style="list-style-type: none"> <li>- The location of the PCB Transformer</li> <li>- Visual inspection dates and dates on which any leaks were discovered</li> <li>- Name of inspectors</li> <li>- Location of any leaks</li> <li>- Estimates of amounts of dielectric fluid released from leaks</li> <li>- Dates and descriptions of any cleanup, containment, repair, or replacement</li> <li>- Description of results of containment and daily inspection records for any uncorrected active leaks</li> <li>- Transformer registration records</li> <li>- Records of transfer of ownership [see §761.180(a)(2)(ix)]</li> </ul> </li> <li>• EPA requires visual inspections only once every 12 months if the PCB Transformer §761.30(a)(1)(xiii): <ul style="list-style-type: none"> <li>- (A) Has an impervious, undrained, secondary containment capacity of at least 100 percent of the total dielectric fluid volume, or</li> <li>- (B) Has a tested concentration of &lt;60,000 ppm PCBs (after 3 months use if the transformer was serviced to reduce the PCB concentration).</li> </ul> </li> </ul> <p>A minimum period of 180 days must occur between the annual inspections.</p>	<p>Review records and document missing information. If incomplete, request responsible official to provide missing information and/or clarify. Note what type and amount of incomplete information or missing records.</p> <p>Ask how inspections are conducted, who conducts them, and how often they are conducted. Review inspection records and document facility inspection practices.</p>

Regulatory Requirements	Inspection Procedures
<b>Transformer Use Conditions</b>	
<ul style="list-style-type: none"> <li>• If a PCB Transformer in use or stored for reuse constitutes an exposure risk to food or feed, it is subject to an increased visual inspection schedule of at least one inspection per week. The user of the PCB Transformer is responsible for inspection, recordkeeping, and maintenance until the user notifies the owner of the potential exposure risk. Once notified, the owner is responsible for determining the actual extent of the exposure risk. §761.30(a)(1)(xiv)</li> <li>• Mineral oil transformers tested and found to contain &gt;500 ppm PCBs are subject to all of the requirements of §761. The owner must implement the following steps immediately to bring the transformer into compliance §761.30(a)(1)(xv): <ul style="list-style-type: none"> <li>- Report fire-related incidents.</li> <li>- Mark the transformer within 7 days of discovery.</li> <li>- Mark the vault door, machinery room, fence, hallway, or other access ways within 7 days of discovery.</li> <li>- Register the transformer with the building owner within 30 days of discovery.</li> <li>- Install electrical protective equipment if a radial transformer/non-sidewalk vault lower secondary voltage network transformer is located in or near commercial buildings within 18 months of discovery or by 10/1/90 (whichever is later).</li> </ul> </li> </ul>	<p>Check facility inspection records of PCB Transformers in use or in storage for reuse.</p> <p>Inquire whether facility has PCB testing programs. Check records and obtain documentation. Determine compliance with conditions.</p> <p>Inspect the PCB Transformer for proper marking. If missing, photograph all sides of the PCB Transformer.</p> <p>Inspect vault doors, etc., for proper marking.</p> <p>Check and review facility owner's records for compliance with registration provisions.</p> <p>Review documentation as to whether the time frames are being met. Obtain photos, electrical schematics, policy statements. Obtain clarification from responsible officials if necessary.</p>

Regulatory Requirements	Inspection Procedures
<b>Transformer Use Conditions</b>	
<ul style="list-style-type: none"> <li>- Remove the transformer from service if electrical protective equipment is not installed on a non-sidewalk vault, or a lower secondary voltage network transformer within 18 months of discovery or by 10/1/93.</li> <li>- Remove lower secondary voltage network transformers from service if they are located in sidewalk vaults within 18 months of discovery or by 10/1/93.</li> <li>- Retrofill and reclassify radial PCB Transformers and lower/higher secondary voltage network PCB Transformers within 18 months or by 10/1/90 (whichever is later).</li> <li>- Retrofill and reclassify higher and lower secondary voltage network PCB Transformers which are located in sidewalk vaults within 18 months or by 10/1/90 (whichever is later).</li> </ul>	<p>Visually inspect the areas described in the left column.</p>

## 5.1.2 Transformer Servicing Conditions

Regulatory Requirements	Inspection Procedures
<b>Transformer Servicing Conditions</b>	
<ul style="list-style-type: none"> <li>• Owners of PCB-Contaminated Transformers (i.e., transformers that have less than 500 ppm PCBs) must service or rebuild them with dielectric fluids containing less than 500 ppm PCBs. §761.30(a)(2)(i)</li> <li>• No person may service a PCB Transformer by removing the transformer coil from the casing. §761.30(a)(2)(ii)</li> <li>• PCB Transformer owners/operators may service the transformers with dielectric fluid at any PCB concentration. §761.30(a)(2)(ii)</li> <li>• People servicing PCB Transformers must capture and reuse the PCBs as dielectric fluid or dispose of the PCBs in accordance with the disposal regulations. §761.30(a)(2)(iii)</li> <li>• Persons servicing PCB Transformers must not mix PCBs from PCB Transformers with dielectric fluid from PCB-Contaminated Transformers. §761.30(a)(2)(iii)</li> <li>• Electrical equipment may not contain dielectric fluid of less than 500 ppm PCBs that has been mixed with fluids of 500 ppm or greater. The entire mixture 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. §761.30(a)(2)(iv)</li> </ul>	<p>Ask facility owner/operator to see service records to assess if any transformers have been serviced or rebuilt in the facility.</p> <p>Ensure proper servicing procedures were followed, such as:</p> <ul style="list-style-type: none"> <li>• Using dielectric fluids containing &lt;500 ppm.</li> <li>• Not removing the transformer coil from the casing.</li> <li>• Not mixing PCBs from PCB Transformers with dielectric fluid from PCB-Contaminated Transformers.</li> <li>• Refer to retrofilling chart in 40 CFR 761.30(a)(2) located in Appendix N of this manual.</li> </ul>



Regulatory Requirements	Inspection Procedures
<b>Transformer Servicing Conditions</b>	
<ul style="list-style-type: none"> <li>• A person may reclassify a PCB Transformer as a PCB-Contaminated Transformer or non-PCB Transformer by draining, refilling, and servicing the transformer with non-PCB dielectric fluid. After 3 months, the dielectric fluid must contain 50 to 500 ppm PCBs (for PCB-contaminated reclassification) or less than 50 ppm (for non-PCB reclassification). §761.30(a)(2)(v) <ul style="list-style-type: none"> <li>- If an owner discovers after reclassification that the PCB concentration in the transformer has changed, the owner must follow the regulations based on its actual PCB content.</li> <li>- Owners must keep reclassification records in accordance with §761.180(g).</li> </ul> </li> <li>• Persons using dielectric fluid containing 50 ppm or greater PCB to service transformers must store the PCBs in accordance with the storage for disposal requirements of §761.65. §761.30(a)(2)(vi)</li> <li>• Only persons granted an exemption under TSCA may process or distribute PCBs for the purposes of servicing transformers. §761.30(a)(2)(vii)</li> </ul>	<p>Determine number of PCB Transformers reclassified as PCB-contaminated or non-PCB from records. Sample reclassified de-energized transformers if non-compliance is suspected. Check testing records.</p> <p>Obtain records of facility policy concerning storage and servicing. Inspect storage area for:</p> <ul style="list-style-type: none"> <li>• proper marking requirements,</li> <li>• reports of fire-related incidents, if any,</li> <li>• inspection requirements, and</li> <li>• recordkeeping requirements for storage areas.</li> </ul> <p>If there is evidence that the facility processed or distributed PCBs, determine whether the facility has an exemption.</p>

## 5.1.3 Railroad Transformers

Regulatory Requirements	Inspection Procedures
<b>Railroad Transformers</b>	
<ul style="list-style-type: none"> <li>• After 7/1/86, the regulations prohibit the use of railroad transformers that contain dielectric fluids with a PCB concentration greater than 1,000 ppm. §761.30(b)(1)</li> <li>• If the coil is removed from the casing of a railroad transformer after 1/1/82, the person servicing the transformer may not refill the transformer with dielectric fluid containing a PCB concentration greater than 50 ppm PCBs. §761.30(b)(2)(i)</li> <li>• After 1/1/84, persons may only service railroad transformers with dielectric fluid containing less than 1,000 ppm. §761.30(b)(2)(ii)</li> <li>• Dielectric fluid may be filtered through activated carbon or otherwise industrially processed to reduce the PCB concentration. §761.30(b)(2)(iii)</li> <li>• Persons servicing PCB railroad transformers must store PCB dielectric fluid in accordance with the storage for disposal requirements of §761.65. §761.30(b)(2)(iv)</li> <li>• Only those granted an exemption under TSCA may process and distribute PCBs for purposes of servicing railroad transformers. §761.30(b)(2)(v)</li> <li>• A person may reclassify a PCB Transformer as a PCB-Contaminated Transformer or non-PCB Transformer by draining, refilling, and servicing the transformer with non-PCB dielectric fluid so that after 3 months, the dielectric fluid contains 50 to 500 ppm PCBs (for PCB-contaminated reclassification) or less than 50 ppm (for non-PCB reclassification). §761.30(b)(2)(vi)</li> </ul>	<p>Conduct visual inspections and review records.</p> <p>Review rebuilding, repair, and maintenance records. Determine from written work procedures or interviews of workers/operators what these procedures are. Determine level of compliance with servicing restrictions.</p> <p>Obtain records of facility policy concerning storage and inspect storage areas.</p> <p>If there is evidence that the facility processed or distributed PCBs, determine whether the facility has an exemption</p> <p>Determine number of PCB Transformers reclassified as PCB-contaminated or non-PCB from records. Sample reclassified de-energized transformers if non-compliance is indicated. Check testing records.</p>

## 5.1.4 Mining Equipment

Regulatory Requirements	Inspection Procedures
<b>Mining Equipment</b>	
Mining equipment may only contain PCBs at concentrations less than 50 ppm. §761.30(c)	Check to determine whether PCBs are still in use. Sample fluid from suspected PCB motors when non-compliance is suspected.

## 5.1.5 Heat Transfer Systems

Regulatory Requirements	Inspection Procedures
<b>Heat Transfer Systems</b>	
Heat transfer systems may only contain PCBs at concentrations less than 50 ppm. Persons may service heat transfer systems in operation after 7/1/84 to maintain a PCB concentration less than 50 ppm. Persons may only service heat transfer systems with fluids containing less than 50 ppm PCBs. §761.30(d)	Check records for compliance. Take samples as necessary. Question facility officials regarding procedures for reducing PCB concentrations.

## 5.1.6 Hydraulic Systems

Regulatory Requirements	Inspection Procedures
<b>Hydraulic Systems</b>	
Hydraulic systems may only contain concentrations of less than 50 ppm. Persons may service hydraulic systems in operation after 7/1/84 to maintain a PCB concentration less than 50 ppm. Persons may only service hydraulic systems with fluids containing less than 50 ppm PCBs. §761.30(e)	Check records for compliance. Take samples as necessary. Question facility officials regarding procedures for reducing PCB concentrations.

## 5.1.7 Carbonless Copy Paper

Regulatory Requirements	Inspection Procedures
<b>Carbonless Copy Paper</b>	
Any person may use carbonless copy paper in a non-totally enclosed manner indefinitely. §761.30(f)	

## 5.1.8 Electromagnets, Switches, and Voltage Regulators

Regulatory Requirements	Inspection Procedures
<b>Electromagnets, Switches, and Voltage Regulators</b>	
<p>Persons may use PCBs to service or rebuild electromagnets, switches (sectionalizers and motor starters), and voltage regulators for the remainder of their useful lives subject to the following conditions: §761.30(h)</p> <ul style="list-style-type: none"> <li>• No one may use or store for service any electromagnet that poses an exposure risk to food or feed if it contains greater than 500 ppm PCBs. §761.30(h)(1)(i)</li> <li>• Voltage regulators with 1.36 kg (3 lbs.) or more of dielectric fluid with a PCB concentration of \$500 ppm are subject to the following regulations: §761.30(h)(1)(ii) <ul style="list-style-type: none"> <li>- The owner must mark the voltage regulator in accordance with §761.40.</li> <li>- The owner must immediately report any fire-related incident to the NRC.</li> <li>- The owner must inspect the voltage regulator according to the requirements of §761.30(a)(1)(ix), (xiii), and (xiv).</li> <li>- The owner must comply with the recordkeeping and reporting requirements at §761.180.</li> </ul> </li> <li>• If an owner discovers that a voltage regulator assumed to have &lt;500 ppm PCBs in fact has a concentration \$500 ppm, the owner must comply with marking requirements within 7 days, and with fire incident reporting, inspection, and recordkeeping/reporting requirements immediately. §761.30(h)(1)(iii)</li> <li>• No person may service or rebuild electromagnets, switches, or voltage regulators if the servicing requires the removal and rework of internal components and the use of PCBs with a concentration of <math>\geq</math> 500 ppm. §761.30(h)(2)(i)</li> </ul>	<p>Interview facility officials and review records to see whether such PCB use is taking place and to ensure that required conditions are being met.</p> <p>Review testing records. Locate electromagnet at the facility.</p> <p>Inspect the voltage regulator for proper marking. If missing, photograph all sides of the voltage regulator to document.</p> <p>Check that all requirements are being met by verifying that the owner/facility designated official complies with:</p> <ul style="list-style-type: none"> <li>• proper marking requirements,</li> <li>• reports of fire-related incidents, if any,</li> <li>• inspection requirements, and</li> <li>• recordkeeping requirements for storage areas.</li> </ul>

Regulatory Requirements	Inspection Procedures
<b>Electromagnets, Switches, and Voltage Regulators</b>	
<ul style="list-style-type: none"> <li>• Persons servicing or rebuilding electromagnets, switches, or voltage regulators that are classified as PCB-Contaminated Electrical Equipment may only use PCBs of less than 500 ppm. §761.30(h)(2)(ii)</li> <li>• Persons servicing or rebuilding electromagnets, switches, or voltage regulators must capture and either reuse as dielectric fluid or dispose of in accordance with §761.60 all PCBs removed during servicing. §761.30(h)(2)(iii)</li> <li>• No person may mix PCBs from electromagnets, switches, or voltage regulators with a concentration <math>\geq 500</math> ppm with the dielectric fluid from PCB-Contaminated Electrical Equipment. §761.30(h)(2)(iii)</li> <li>• No person may use dielectric fluid in electrical equipment that is a combination of fluid with a concentration of <math>&lt; 500</math> ppm PCBs and <math>\geq 500</math> ppm PCBs. The regulations require that the mixture be disposed of in an approved incinerator. §761.30(h)(2)(iv)</li> </ul>	<p>Interview service technicians and review servicing protocols to verify compliance with PCB concentration limits.</p> <p>Interview service technicians and review servicing protocols to verify compliance with dielectric fluid handling requirements.</p>



## 5.1.9 Natural Gas Pipeline Systems

Regulatory Requirements	Inspection Procedures
<b>Natural Gas Pipeline Systems</b>	
<ul style="list-style-type: none"> <li>• Natural gas pipeline systems may contain PCBs in concentrations of less than 50 ppm. §761.30(i)(1)(i)</li> <li>• An owner of a natural gas pipeline system who is not a seller or distributor of natural gas may use PCBs at or over 50 ppm in that system. §761.30(i)(1)(ii)</li> <li>• An owner of a natural gas pipeline system who is a seller or distributor of natural gas may use PCBs at or over 50 ppm in that system if §761.30(i)(1)(iii)(A): <ul style="list-style-type: none"> <li>- The owner submits to EPA upon request a written description of the nature and location of PCBs at or over 50 ppm within the pipeline system (this may include historical information)</li> <li>- The owner characterizes the extent of PCB contamination by sampling and analysis to determine the beginning and end points of the segment contaminated at 50 ppm or greater. The characterization must be complete by 12/28/98 or 120 days after discovering contamination of 50 ppm or greater, whichever date is later. This characterization may include historical information.</li> </ul> </li> </ul>	<p>Gather company information to determine ownership and business lines.</p> <p>Review the sampling and characterization report to verify that it was completed by 12/28/98 or 120 days after discovering the contamination.</p>

Regulatory Requirements	Inspection Procedures
<b>Natural Gas Pipeline Systems</b>	
<ul style="list-style-type: none"> <li>- The owner samples and analyzes for PCB concentration all potential sources of introduction of PCBs to the pipeline system, including compressors, scrubbers, filters, and interconnects. The sampling and analysis must be complete by 12/28/98 or 120 days after the characterization of the extent of PCB contamination, whichever date is later. These analyses may include historical data.</li> <li>- Within one year of characterization of the extent of PCB contamination, the owner:               <ul style="list-style-type: none"> <li>-- reduces all demonstrated sources of PCBs \$50 ppm to &lt;50 ppm, or</li> <li>-- removes the contaminating sources from the pipeline system, or</li> <li>-- implements other engineering measures or methods to reduce levels to under 50 ppm and prevent further introduction of PCBs over 50 ppm (e.g., pigging, decontamination, or in-line filtration).</li> </ul> </li> </ul> <p>Note: The owner may use documented historical actions to reduce PCB concentrations to meet this requirement.</p>	<p>Review the sampling and characterization report to verify that all potential sources of introduction of PCBs to the pipeline system were sampled and analyzed.</p> <p>Interview facility personnel and review records to verify that the owner completed one of the three possible actions.</p>
<ul style="list-style-type: none"> <li>- The owner must repeat sampling and analysis for PCBs at least annually until the pipeline segment or component is under 50 ppm PCBs in two successive samples with a minimum interval between samples of 180 days.</li> <li>- The owner must mark aboveground sources of PCB liquids \$50 ppm with the M<sub>1</sub> mark in accordance with §761.45(a).</li> </ul>	<p>Review sampling records to verify.</p> <p>Inspect aboveground sources for the M<sub>L</sub> mark. If missing, document through photography and field notes.</p>



Regulatory Requirements	Inspection Procedures
<b>Natural Gas Pipeline Systems</b>	
<ul style="list-style-type: none"> <li>• Owners or operators of systems without potential sources of PCB contamination need not complete characterization, sampling and analysis for potential sources, reduction of PCB concentration, or marking. They must comply with other parts of the regulations such as sampling and recordkeeping. §761.30(i)(1)(iii)(B)</li> <li>• The owner of a natural gas pipeline system must document in writing all data and actions (taken or not taken) pursuant to the requirements of §761.30(i)(1)(iii)(A). The owner must keep the records for at least 3 years after the pipeline segment's PCB concentration falls below 50 ppm. §761.30(i)(1)(iii)(C)</li> <li>• EPA may modify the requirements of §761.30(i)(1)(iii)(A). §761.30(i)(1)(iii)(D)</li> <li>• Any person may reuse PCB-contaminated natural gas pipe and appurtenances in a natural gas pipeline system, provided all free-flowing liquids have been removed. §761.30(i)(2)</li> <li>• Any person may use PCB-contaminated natural gas pipe, drained of all free-flowing liquids, in the transport of liquids (e.g., bulk hydrocarbons, chemicals, petroleum products, or coal slurry), as casing to provide secondary containment or protection (e.g., protection for electrical cable), as industrial structural material (e.g., fence posts, sign posts, or bridge supports), as temporary flume at construction sites, as equipment skids, as culverts under transportation systems in intermittent flow situations, for sewage service with written consent of the Publicly Owned Treatment Works (POTW), for steam service, as irrigation systems (&lt;20 inch diameter) of less than 200 miles in length, and in a totally enclosed compressed air system. §761.30(i)(3)</li> </ul>	<p>Inspect the area to verify that there are no potential sources of PCB contamination.</p> <p>Review records, if any, and ensure compliance with recordkeeping requirements.</p> <p>Ask if using PCB-contaminated natural gas pipeline drained of free-flowing liquids in the manner described on the left column. If so, verify facility owner/operator has written consent of the POTW.</p>

Regulatory Requirements	Inspection Procedures
<b>Natural Gas Pipeline Systems</b>	
<ul style="list-style-type: none"> <li>• Any person characterizing PCB contamination in natural gas pipe or natural gas pipeline systems must do so by analyzing organic liquids collected at existing condensate collection points in the pipe or pipeline system. The level of PCB contamination found at a collection point is assumed to extend to the next collection point downstream. Any person characterizing multi-phasic liquids must do so in accordance with §761.1(b)(4); if no liquids are present, they must use standard wipe samples in accordance with subpart M of this part. §761.30(i)(4)</li> <li>• Any person disposing of liquids containing PCBs \$50 ppm removed, spilled, or otherwise released from a natural gas pipeline system must do so in accordance with §761.61(a)(5)(iv) based on the PCB concentration at the time of removal from the system. Any person disposing of materials contaminated by spills or other releases of PCBs \$50 ppm from a natural gas pipeline systems, must do so in accordance with §§761.61 or 761.79, as applicable. §761.30(i)(5)(i)</li> <li>• Any person who markets or burns for energy recovery liquids containing PCBs at concentrations &lt;50 ppm PCBs at the time of removal from a natural gas pipeline system must do so in accordance with the provisions pertaining to used oil at § 761.20(e). No person may use liquid containing PCBs at concentrations above the quantifiable level/level of detection removed from a natural gas pipeline system in any other way. §761.30(i)(5)(ii)</li> </ul>	<p>Review sampling and disposal records to verify compliance with concentrations stated in §761.61(a)(5)(iv), 761.61, or 761.79 as applicable.</p>

## 5.1.10 Research and Development

Regulatory Requirements	Inspection Procedures
<b>Research and Development</b>	
<p>A person may use PCBs in a non-totally enclosed manner for research and development, subject to the following conditions: §761.30(j)</p> <ul style="list-style-type: none"> <li>• User obtains PCBs from sources authorized under §761.80 and the PCBs are packaged in compliance with the Hazardous Materials Regulations at 49 CFR Parts 171 through 180.</li> <li>• User stores all PCB wastes resulting from R&amp;D activities (e.g., spent laboratory samples, residuals, contaminated media such as clothing, etc.) in compliance with §761.65(b) and disposes of all PCB wastes in compliance with §761.64.</li> <li>• A person granted an exemption under §6(e)(3)(B) of TSCA may process and distribute PCBs for research and development. §761.30(j)(4)</li> </ul>	<p>Determine whether PCBs are still in use at the facility by reviewing records and interviewing facility personnel.</p> <p>Inspect area where PCB wastes are stored to verify compliance with §761.65(b). Review storage and disposal procedures and records.</p> <p>Verify that the facility has an exemption and check with Regional Office and National Program Chemicals Division.</p>

## 5.1.11 Scientific Instruments

Regulatory Requirements	Inspection Procedures
<b>Scientific Instruments</b>	
<ul style="list-style-type: none"> <li>• A person may use PCBs in a non-totally enclosed manner indefinitely in scientific instruments, e.g., in oscillatory flow birefringence and viscoelasticity instruments for the study of the physical properties of polymers, as microscopy mounting fluids, as microscopy immersion oil, and as optical liquids. §761.30(k)</li> <li>• Only persons granted an exemption under TSCA section 6(e)(3)(B) may manufacture, process, or distribute in commerce PCBs for use in scientific instruments. §761.30(k)</li> </ul>	<p>If PCBs are in use, determine if use is allowed.</p> <p>If the facility manufactures, processes, or distributes PCBs, determine if used in scientific instruments by checking to whom they ship.</p> <p>Check if facility has exemption from Administrator and check that it is current. Exemptions are only good for up to one year.</p>

## 5.1.12 Capacitors

Regulatory Requirements	Inspection Procedures
<b>Capacitors</b>	
<p>Capacitors may contain PCBs at any concentration subject to the following conditions: §761.30(l)</p> <ul style="list-style-type: none"> <li>• No person may use or store for reuse any large PCB High- and Low-Voltage Capacitors that pose an exposure risk to food or feed. §761.30(l)(1)(i)</li> <li>• No person may use large PCB High- and Low- Voltage Capacitors unless capacitors are within a restricted-access electrical substation or in a contained and restricted-access indoor installation. §761.30(l)(1)(ii)</li> <li>• A restricted-access electrical substation is an outdoor fenced or walled-in facility that restricts public access and is used for the transmission or distribution of electrical power. A contained and restricted-access indoor installation does not have public access and has a roof, wall, and floor that are adequate to contain the release of any PCBs. §761.30(l)(1)(ii)</li> </ul>	<p>Inspect area to determine whether capacitor is near food or feed and conditions that allow exposure can pose a threat.</p> <p>Inspect substation or installation to determine that it is</p> <ul style="list-style-type: none"> <li>• an outdoor fenced or walled-in facility that restricts public access, or</li> <li>• an indoor installation that has a roof, wall, and floor that are adequate to contain the release of PCBs and restricts public access.</li> </ul>

## 5.1.13 Circuit Breakers, Reclosers, and Cable

Regulatory Requirements	Inspection Procedures
<b>Circuit Breakers, Reclosers, and Cable</b>	
<p>A person servicing circuit breakers, reclosers, and cable may use PCBs of any concentration in and for the servicing subject to the following conditions: §761.30(m)</p> <ul style="list-style-type: none"> <li>• A person may service or rebuild with PCBs of less than 50 ppm. §761.30(m)(1)(i)</li> <li>• A person must service in accordance with §761.30(h)(2) "Use in and servicing of electromagnets..." where the PCBs are found to be at least 50 ppm. §761.30(m)(1)(ii)</li> </ul>	<p>Review facility records to determine compliance with servicing restrictions.</p>

## 5.1.14 Porous Surfaces Contaminated with PCBs

Regulatory Requirements	Inspection Procedures
<b>Porous Surfaces Contaminated with PCBs</b>	
<p>Any person may use porous surfaces contaminated by spills of liquid PCBs at concentrations &gt;10 µg/100 cm<sup>2</sup> for the remainder of the useful life of the surface and subsurface material if the following conditions are met: §761.30(p)</p> <ul style="list-style-type: none"> <li>• The source of PCB contamination is removed or contained to prevent further release to porous surfaces.</li> <li>• If the porous surface is accessible to superficial surface cleaning: <ul style="list-style-type: none"> <li>- The double wash rinse procedure in subpart S of this part is conducted on the surface to remove surface PCBs.</li> <li>- The treated surface is allowed to dry for 24 hours.</li> </ul> </li> <li>• After accessible surfaces have been cleaned according to paragraph (p)(1)(ii) of this section and for all surfaces inaccessible to cleanup: <ul style="list-style-type: none"> <li>- The surface is completely covered to prevent release of PCBs with: <ul style="list-style-type: none"> <li>-- Two solvent resistant and water repellent coatings of contrasting colors to allow for a visual indication of wear through or loss of outer coating integrity; or</li> <li>-- A solid barrier fastened to the surface and covering the contaminated area or all accessible parts of the contaminated area. Examples of inaccessible areas are underneath a floor mounted electrical transformer and in an impassible space between an electrical transformer and a vault wall.</li> </ul> </li> </ul> </li> </ul>	<p>Interview facility personnel and review records to verify that the conditions for using porous surfaces contaminated by spills of liquid PCBs were met.</p> <p>Note: Review 2003 Final Rulemaking “Polychlorinated Biphenyls (PCBs) - Use of Porous Surfaces, Amendment in Response to Court Decision.”</p> <p>Visually inspect the accessible area. Note and photograph wear of paint coatings, if applicable.</p>

Regulatory Requirements	Inspection Procedures
<b>Porous Surfaces Contaminated with PCBs</b>	
<p>- The surface is marked with the M<sub>L</sub> Mark in a location easily visible to individuals present in the area; the M<sub>L</sub> Mark shall be placed over the encapsulated area or the barrier to the encapsulated area. M<sub>L</sub> Marks shall be replaced when worn or illegible.</p> <p>A person may remove a porous surface contaminated with PCBs from its location or current use <i>only</i> for disposal in accordance with §761.61 or 761.79 for surfaces contaminated by spills, or §761.62 for manufactured porous surfaces.</p>	<p>Inspect the surface for proper marking. If missing, worn, illegible, or not easily visible, photograph to document.</p> <p>Verify compliance by reviewing records, if available.</p>

**5.1.15 Rectifiers**

Regulatory Requirements	Inspection Procedures
<b>Rectifiers</b>	
<p>Any person may use PCBs at any concentration in rectifiers for the remainder of the PCBs' useful life and may use PCBs &lt;50 ppm in servicing (including rebuilding) rectifiers. §761.30(r)</p>	<p>Review servicing records and protocols to verify that only PCBs &lt;50 ppm are used to service rectifiers.</p>

**5.1.16 Air Compressor Systems**

Regulatory Requirements	Inspection Procedures
<b>Air Compressor Systems</b>	
<p>Any person may use PCBs in air compressor systems at concentrations &lt;50 ppm. §761.30(s)(1)</p> <p>Any person may use PCBs in air compressor systems (or components thereof) at concentrations \$50 ppm provided that: §761.30(s)(2)</p>	<p>Verify that the PCB concentration in the air compressor system is &lt;50 ppm.</p> <p>Review operating records, if available, operating conditions, and other relevant information to verify compliance.</p>

Regulatory Requirements	Inspection Procedures
<b>Air Compressor Systems</b>	
<ul style="list-style-type: none"> <li>• All free-flowing liquids containing PCBs \$50 ppm are removed from the air compressor crankcase and the crankcase is refilled with non-PCB liquid.</li> <li>• Other air compressor system components contaminated with PCBs \$50 ppm, are decontaminated in accordance with §761.79 or disposed of in accordance with subpart D of this part.</li> <li>• Air compressor piping with a nominal inside diameter of less than 2 inches is decontaminated by continuous flushing for 4 hours, at no less than 300 gallons per hour (§761.79 contains solvent requirements).</li> <li>• These requirements must be completed by August 30, 1999 or within 1 yr of the date of discovery of PCBs at \$50 ppm in the air compressor system, whichever is later. The EPA may extend this deadline.</li> </ul>	

**5.1.17 Other Gas or Liquid Transmission Systems**

Regulatory Requirements	Inspection Procedures
<b>Other Gas or Liquid Transmission Systems</b>	
<ul style="list-style-type: none"> <li>• Intact and non-leaking gas or liquid transmission systems may contain PCBs at concentrations &lt;50 ppm. §761.30(t)(1)</li> <li>• Intact and non-leaking gas or liquid transmission systems not owned or operated by a seller or distributor of the gas or liquid transmitted in the system may contain PCBs at concentrations \$50 ppm. §761.30(t)(2)</li> <li>• Any person may use PCBs at concentrations \$50 ppm in intact and nonleaking gas or liquid transmission systems, with the written approval of EPA, subject to the requirements applicable to natural gas pipeline systems at paragraphs (i)(1)(iii)(A), (i)(1)(iii)(C) through (i)(1)(iii)(E), and (i)(2) through (i)(5) of this section. §761.30(t)(3)</li> </ul>	<p>Interview facility personnel and review records, such as operating records, written approval for operating system, if applicable, or any records indicating the system PCB concentration, to determine who owns or operates the system. If the owner or operator is a seller or distributor of the gas or liquid transmitted in the system, verify that the system does not contain PCBs at concentrations \$50 ppm unless the owner/operator has written EPA approval from the Director of EPA's National Program Chemicals Division.</p>



## 5.1.18 Decontaminated Materials

Regulatory Requirements	Inspection Procedures
<b>Decontaminated Materials</b>	
<ul style="list-style-type: none"> <li>• Any person may use equipment, structures, other non-liquid or liquid materials that were contaminated with PCBs during manufacture, use, servicing, or because of spills from, or proximity to, PCBs \$50 ppm, including those not otherwise authorized for use under this part, provided that the materials were decontaminated in accordance with:               <ul style="list-style-type: none"> <li>A. A TSCA PCB disposal approval issued under subpart D of this part;</li> <li>B. Section 761.79; or</li> <li>C. Applicable EPA PCB spill cleanup policies (e.g., TSCA, RCRA, CERCLA, EPA regional) in effect at the time of the decontamination.</li> </ul> </li> <li>• If not previously decontaminated, the materials now meet an applicable decontamination standard in §761.79(b). §761.30(u)(1)</li> <li>• No person shall use or reuse such decontaminated materials in direct contact with food, feed, or drinking water unless otherwise allowed under this section or this part. §761.30(u)(2)</li> <li>• Any person may use water containing PCBs at concentrations #0.5µg/ L PCBs without restriction. §761.30(u)(3)</li> <li>• Any person may use water containing PCBs at concentrations &lt;200 µg/ L (i.e., &lt; 200 ppb PCBs) for non-contact use in a closed system where there are no releases (e.g., as a non-contact cooling water). §761.30(u)(4)</li> </ul>	<p>Verify that proper decontamination procedures were followed by reviewing records and procedures.</p> <p>Verify that decontaminated materials are not in direct contact with food, feed, or drinking water.</p>

## 5.2 Storage for Reuse

Regulation Reference: §761.35

Regulatory Requirements	Inspection Procedures
<b>Storage for Reuse</b>	
<p>The owner or operator of a PCB Article may store it for reuse in an area which is not designed, constructed, and operated in compliance with §761.65(b), for no more than 5 years after the date the Article was originally removed from use (e.g., disconnected electrical equipment) or 5 years after August 28, 1998, whichever is later, if the owner or operator complies with the following conditions §761.35(a):</p> <ul style="list-style-type: none"> <li>• Follows all use requirements at §761.30 and marking requirements at subpart C of this part that are applicable to the PCB Article.</li> <li>• Maintains records starting at the time the PCB Article is removed from use or August 28, 1998. The records must indicate: <ul style="list-style-type: none"> <li>- The date the PCB Article was removed from use or August 28, 1998, if the removal date is not known.</li> <li>- The projected location and the future use of the PCB Article.</li> <li>- If applicable, the date the PCB Article is scheduled for repair or servicing.</li> </ul> </li> </ul>	<p>Some facilities applied for and received EPA approvals for their storage for reuse areas. The inspector should check for such EPA approvals prior to the inspection and should consult with the permit writer or the person responsible for the permit to determine if any critical areas of the facility need to be inspected or do not need to be inspected. Visually inspect and verify compliance with storage time limit by reviewing records and procedures.</p> <p>Review records to verify that they contain the required information.</p>

Regulatory Requirements	Inspection Procedures
<b>Storage for Reuse</b>	
<p>The owner or operator of a PCB Article may store it for reuse in an area that does not comply with §761.65(b) for a period longer than 5 years, provided that the owner or operator has received written approval from the EPA RA for the Region in which the PCB Article is stored. An owner or operator of a PCB Article seeking approval to extend the 5-year period must submit a request for extension to the EPA RA at least 6 months before the 5-year storage for reuse period expires and must include an item-by-item justification for the desired extension. The owner or operator of the PCB Article being stored for reuse must comply with the other applicable provisions of this part, including the record retention requirements at §761.180(a). §761.35(b)</p> <p>Any person may store a PCB Article for reuse indefinitely in: §761.35(c)</p> <ul style="list-style-type: none"> <li>• A unit in compliance with §761.65(b).</li> <li>• A unit permitted under section 3004 of RCRA to manage hazardous wastes in containers.</li> <li>• A unit permitted by a State authorized under section 3006 of RCRA to manage hazardous waste.</li> </ul>	<p>Review records to determine if the 5-year limit has expired. If so, check company records for EPA approval. If no records found, note what required records are missing. Note records may be checked at EPA prior to the inspection.</p>

5.3 Marking of PCBs and PCB Items

Regulation Reference: §§761.40 & 761.45

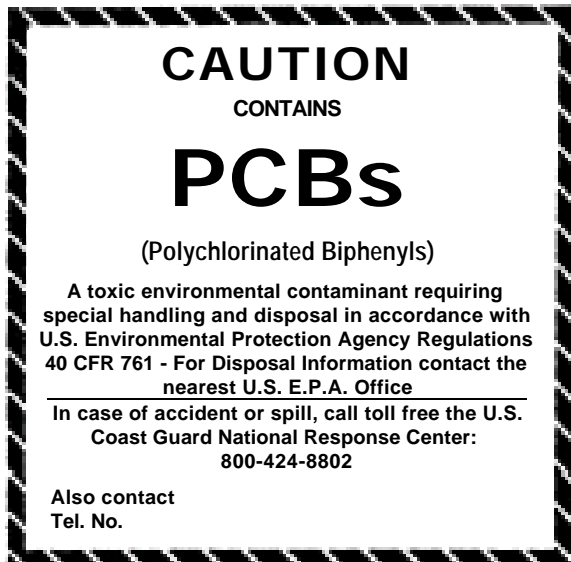


Figure 5-1. Large PCB Mark, also referred to as  $M_L$ . See Appendix C for a Large PCB mark ( $M_L$ ) that is six inches by six inches, the size required by the regulations at §761.45(a).



Figure 5-2. Small PCB Mark, also referred to as  $M_S$ . The size required by the regulations at §761.45(b) is 1 inch by 2 inches.

Regulatory Requirements	Inspection Procedures
<b>Marking Requirements</b>	
<p>Each of the following PCB Items in existence on or after July 1, 1978, shall be marked with the mark <math>M_L</math>: (1) PCB containers; (2) PCB Transformers; (3) Large High-Voltage Capacitors; (4) Large Low-Voltage Capacitors; (5) PCB Large Low Voltage Capacitors at the time of removal from use; (6) Electric motors using PCB coolants; (7) Hydraulic systems; (8) Heat transfer systems; (9) PCB Article Containers containing articles or equipment; (10) Each storage area used to store PCBs and PCB Items for disposal. §761.40(a)</p>	<p>Check for unmarked or improperly marked items. Note location and, if available, the serial or identification numbers of the equipment. Photograph items to document unmarked or improperly marked items.</p>

Regulatory Requirements	Inspection Procedures
<b>Marking Requirements</b>	
<p>The owner or operator of each transport vehicle loaded with PCB containers that contain more than 45 kg of liquid PCBs at concentrations of \$50 ppm or loaded with one or more PCB Transformer shall mark the vehicle on each end and each side with the M<sub>L</sub> mark. §761.40(b)</p> <p>If one or more PCB Large High Voltage Capacitors are installed in a protected location, such as on a power pole or behind a fence, the owner or operator of the location must mark the structure with the M<sub>L</sub> mark. The owner or operator of the protected location must maintain a record or procedure identifying the capacitors. §761.40(c)(2)(ii)</p> <p>After January 1, 1979, manufacturers of equipment containing a PCB Small Capacitor must mark the equipment with the statement, "This equipment contains PCB Capacitor(s)." This mark must be the same size as mark M<sub>L</sub>. §761.40(d)</p> <p>As of October 1, 1979, owners or operators of PCB containers, electric motors using PCB coolants, hydraulic systems, and heat transfer systems containing PCBs in concentrations of 50 to 500 ppm shall mark the items with the M<sub>L</sub> mark. §761.40(e)</p> <p>The manufacturer of large low voltage capacitors, small capacitors normally used in alternating current circuits, and fluorescent light ballasts between July 1, 1978, and July 1, 1998, must mark the items "No PCBs" if they contain none. Note: Requirement has expired. §761.40(g)</p> <p>Owners or operators must place all marks required in §761.40 in a position on the exterior of the PCB items, storage units, or transport vehicles so that persons inspecting or servicing the PCB items, storage units, or transport vehicles can easily read the mark. §761.40(h)</p>	<p>Inspect transport vehicles (including forklifts) for proper marking. Photograph unmarked or improperly marked PCB transport vehicles. Note the type of PCB material carried and the vehicle identification number. Sample PCB material to determine concentration if necessary.</p> <p>Inspect the structure for proper marking. Photograph unmarked or improperly marked structures. Ask to review the records or procedures that the owner or operator is required to maintain identifying the capacitors.</p> <p>Inspect the equipment for proper marking. Photograph unmarked or improperly marked equipment.</p> <p>Inspect the equipment for proper marking. Photograph unmarked or improperly marked equipment.</p> <p>Inspect all marks to verify that they can be easily read. Photograph marks that are faded, damaged, or inverted.</p>

Regulatory Requirements	Inspection Procedures
<b>Marking Requirements</b>	
<p>Containers of PCBs manufactured under an exemption granted by EPA are not subject to the requirements in §761.40 unless so specified in the exemption (PCB Articles and equipment containing these PCBs are subject to marking requirements). §761.40(i)</p> <p>The owner or operator of all PCB Transformer locations must mark the vault and machinery room doors, fences, hallways, or means of access with the M<sub>L</sub> mark unless the conditions of §761.40(j)(2) are met. The owner or operator must place the mark in a manner that emergency personnel can read easily. §761.40(j)</p> <p>As of 4/26/99, the owner or operator of all PCB Large Low Voltage Capacitors not marked under §761.40(a), shall mark the capacitor individually, or shall mark the protected location where the capacitor is installed (e.g., power pole, structure, or fence). The owner or operator shall maintain a record or procedure identifying the PCB Capacitors at the protected location. The owner or operator does not need to mark each PCB Large Low Voltage Capacitors in inaccessible locations inside equipment, provided the owner or operator marks the equipment in accordance with §761.40(k)(2) and marks the individual capacitors at the time of removal from use in accordance with §761.40(a). §761.40(k)(1)</p> <p>As of 4/26/99, the owners or operators of all equipment not already required to be marked under §761.40(a) containing a PCB Transformer or a PCB Large High or Low Voltage Capacitor shall mark the equipment. §761.40(k)(2)</p> <p>Owners or operators must mark each voltage regulator that contains 1.36 kilograms (3 lbs.) or more of dielectric fluid with a PCB concentration of \$500 ppm. §761.40(l)(1)</p>	<p>Inspect all PCB Transformer locations for proper marking. Photograph unmarked or improperly marked locations.</p> <p>Ask to review the records or procedures that the owner or operator is required to maintain identifying the capacitors at protected locations. Inspect the capacitors or their protective location for proper marking. Photograph unmarked or improperly marked capacitors or locations.</p> <p>Inspect all equipment containing a PCB Transformer or large capacitor for proper marking. Photograph unmarked or improperly marked equipment.</p> <p>Inspect voltage regulators for proper marking. Verify that unmarked voltage regulators contain less than 3 lbs. of dielectric fluid with a PCB concentration of \$500 ppm. Photograph unmarked or improperly marked voltage regulators.</p>

Regulatory Requirements	Inspection Procedures
<b>Marking Requirements</b>	
<p>Owners or operators of locations of voltage regulators that contain 1.36 kilograms (3 lbs.) or more of dielectric fluid with a PCB concentration of \$500 ppm shall mark the vault door, machinery room door, fence, hallway, or means of access, other than grates or manhole covers with the <math>M_L</math> mark. §761.40(l)(2)</p> <p>Mark <math>M_L</math> must 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. §761.45(a)</p> <p>Mark <math>M_S</math> must appear as a rectangle of 2.5 x 5 cm (1 inch x 2 inches). The mark may be reduced to a minimum of 1 x 2 cm (0.4 x 0.8 inches) if the PCB Article or PCB Equipment is too small to accommodate this size. §761.45(b)</p> <p>All PCB marks must have letters and striping on a yellow or white background and must be sufficiently durable to equal or exceed the life of the items they label. They must be placed on the exterior of items so they can be easily read. §761.45 (a) and (b)</p>	<p>Inspect locations of voltage regulators for proper marking. Verify that unmarked locations have voltage regulators that contain less than 3 lbs. of dielectric fluid with a PCB concentration of \$500 ppm. Photograph unmarked or improperly marked voltage regulator locations.</p> <p>Photograph all sides of items potentially not in compliance. Note circumstances. Sample unmarked suspect items to determine presence/concentration of PCBs. The marking requirements are <u>not</u> applicable to PCB-Contaminated Electrical Equipment.</p>

## 5.4 Storage and Disposal

### 5.4.1 Applicability

#### Regulation Reference: §761.50

Regulatory Requirements	Inspection Procedures
<b>Applicability</b>	
<p>Any person storing or disposing of PCB waste must follow subpart D of this part. The following prohibitions and conditions apply to all PCB waste storage and disposal: §761.50(a)</p> <ul style="list-style-type: none"> <li>• No person may openly burn PCBs. Combustion of PCBs approved under §761.60 (a) or (e), or otherwise allowed under part 761, is not open burning.</li> <li>• No person may process liquid PCBs into non-liquid forms to circumvent the high temperature incineration requirements of §761.60(a).</li> <li>• No person may discharge water containing PCBs to a treatment works (as defined Sec. 503.9(aa) of this chapter) or to navigable waters unless the PCB concentration is &lt;3 Fg/L (approximately 3 ppb), or unless the discharge is in accordance with a PCB discharge limit included in a permit issued under section 307(b) or 402 of the Clean Water Act.</li> <li>• Spills and other uncontrolled discharges of PCBs at concentrations of \$50 ppm constitute the disposal of PCBs.</li> <li>• Any person land disposing of non-liquid PCBs may avoid otherwise-applicable sampling requirements by presuming that the PCBs disposed of are \$500 ppm (or \$100 Fg/100 cm<sup>2</sup> if no free-flowing liquids are present).</li> <li>• Any person storing or disposing of PCBs is also responsible for determining and complying with all other applicable Federal, State, and local laws and regulations.</li> </ul> <p>Any person removing PCB liquids from use (i.e., not PCB remediation waste) must dispose of them in accordance with §761.60(a), or decontaminate them in accordance with §761.79. §761.50(b)(1)</p>	<p>Inspect the facility, interview facility personnel, and review required records as specified in Section 4.8 to determine compliance with the PCB waste storage and disposal prohibitions.</p>



Regulatory Requirements	Inspection Procedures
<b>Applicability</b>	
<p>Any person removing from use a PCB Item containing an intact and non-leaking PCB Article must dispose of it in accordance with §761.60(b), or decontaminate it in accordance with §761.79. PCB Items where the PCB Articles are no longer intact and non-leaking are regulated for disposal as PCB bulk product waste under §761.62(a) or (c). §761.50(b)(2)</p> <p>Fluorescent light ballasts containing PCBs only in an intact and non-leaking PCB Small Capacitor are regulated for disposal under §761.60(b)(2)(ii). Fluorescent light ballasts containing PCBs in the potting material are regulated for disposal as PCB bulk product waste under §761.62. §761.50(b)(2) (i) and (ii)</p> <p>PCB remediation waste, including PCB sewage sludge, is regulated for cleanup and disposal in accordance with §761.61. §761.50(b)(3)</p>	<p>Visually inspect and check what PCB Articles facility has, if any.</p> <p>Check PCB Articles are disposed properly. For example, transformers must be disposed of in a TSCA incinerator or approved chemical waste landfill. See Section 5.4.2 for the disposal requirements for other PCB Articles.</p> <p>For the disposal requirements applicable to fluorescent light ballasts refer to Table 3-5.</p> <p>Ask owner/operator if any spills or releases of PCBs have occurred and if so, when did they occur, have they been remediated, when and how. In addition to spills or other releases from electrical equipment, inspectors should check hydraulic systems. Previous use of PCBs in hydraulic systems and subsequent spills from that system are the main source of contamination at facilities currently undergoing remediation. Spills from the use of PCB-contaminated hydraulic oil contaminate surrounding floors, drainage systems, outfalls, and streams. Inspectors may also collect samples from outfalls and oil/water separators to check for PCBs.</p>

Regulatory Requirements	Inspection Procedures
<b>Applicability</b>	
<ul style="list-style-type: none"> <li>• Any person responsible for PCB waste at as-found concentrations \$50 ppm that was either placed in a land disposal facility, spilled, or otherwise released into the environment prior to April 18, 1978, regardless of the concentration of the spill or release; or placed in a land disposal facility, spilled, or otherwise released into the environment on or after April 18, 1978, but prior to July 2, 1979, where the concentration of the spill or release was \$50 ppm but &lt; 500 ppm, must dispose of the waste as follows: §761.50(b)(3)(i) <ul style="list-style-type: none"> <li>- Sites containing these wastes are presumed not to present an unreasonable risk of injury to health or the environment from exposure to PCBs at the site. However, the EPA RA may make a finding that an unreasonable risk of injury exists, and then direct the owner or operator of the site to dispose of the PCB remediation waste in accordance with §761.61 such that an unreasonable risk of injury no longer exists.</li> </ul> </li> </ul>	

Regulatory Requirements	Inspection Procedures
<b>Applicability</b>	
<ul style="list-style-type: none"> <li>- Unless directed by the EPA RA to dispose of PCB waste in accordance with paragraph (b)(3)(i)(A) of this section, any person responsible for PCB waste at as-found concentrations <math>\geq 50</math> ppm that was either placed in a land disposal facility, spilled, or otherwise released into the environment prior to April 18, 1978, regardless of the concentration of the spill or release; or placed in a land disposal facility, spilled, or otherwise released into the environment on or after April 18, 1978, but prior to July 2, 1979, where the concentration of the spill or release was greater than 50 ppm but less than 500 ppm, who unilaterally decides to dispose of that waste (for example, to obtain insurance or to sell the property), is not required to cleanup in accordance with §761.61. Disposal of the PCB remediation waste must comply with §761.61. However, cleanup of those wastes that is not in complete compliance with §761.61 will not afford the responsible party with relief from the applicable PCB regulations for that waste.</li> <li>• Any person responsible for PCB waste at as-found concentrations <math>\leq 50</math> ppm that was either placed in a land disposal facility, spilled, or otherwise released into the environment on or after April 18, 1978, but prior to July 2, 1979, where the concentration of the spill or release was <math>\leq 500</math> ppm; or placed in a land disposal facility, spilled, or otherwise released into the environment on or after July 2, 1979, where the concentration of the spill or release was <math>\leq 50</math> ppm, must dispose of it in accordance with either of the following: §761.50(b)(3)(ii) <ul style="list-style-type: none"> <li>- In accordance with the PCB Spill Cleanup Policy (Policy) at subpart G of this part, for those PCB remediation wastes that meet the criteria of the Policy.</li> </ul> </li> </ul>	

Regulatory Requirements	Inspection Procedures
<b>Applicability</b>	
<p>The owner or operator of a site containing PCB remediation waste has the burden of proving the date that the waste was placed in a land disposal facility, spilled, or otherwise released into the environment, and the concentration of the original spill. §761.50(b)(3)(iii)</p> <p>Any person disposing of PCB bulk product waste must do so in accordance with §761.62. PCB bulk product waste is waste that was \$50 ppm when originally removed from service, even if its current PCB concentration is &lt;50 ppm. PCB bulk product waste is regulated for disposal based on the risk from the waste once disposed. Land disposed waste is regulated based on how readily the waste is released from disposal to the environment, in particular by leaching out from the land disposal unit. §761.50(b)(4)(i)</p> <p>Any person disposing of metal surfaces in contact with PCBs (e.g., painted metal) may use thermal decontamination procedures in accordance with §761.79(c)(6) [see §761.62(a)(6)]. §761.50(b)(4)(ii)</p> <p>Any person storing or disposing of PCB Household Waste must do so in accordance with §761.63. §761.50(b)(5)</p> <p>Any person disposing of PCB wastes generated during and as a result of research and development for use under §761.30(j), or for disposal under §761.60(j), must do so in accordance with §761.64. §761.50(b)(6)</p> <p>Any person storing or disposing PCB/radioactive waste \$50 ppm PCBs must do so taking into account both its PCB concentration and its radioactive properties, except as provided in §761.65(a)(1), (b)(1)(ii), and (c)(6)(i). §761.50(b)(7)</p>	<p>Inspector should ask owner/operator if any PCB remediation waste is at the site or removed from the site. If so, ask for records that show the date waste was removed and that show it was disposed of.</p>

Regulatory Requirements	Inspection Procedures
<b>Applicability</b>	
<p>In most cases a person must dispose of porous surfaces as materials where PCBs have penetrated far beneath the surface, rather than a simple surface contamination. §761.50(b)(8)</p> <ul style="list-style-type: none"> <li>• Any person disposing of porous surfaces on which PCBs have been spilled and meeting the definition of PCB remediation waste at §761.3 must do so in accordance with §761.61.</li> <li>• Any person disposing of porous surfaces which are part of manufactured non-liquid products containing PCBs and meeting the definition of PCB bulk product waste at §761.3 must do so in accordance with §761.62.</li> <li>• Any person may decontaminate concrete surfaces upon which PCBs have been spilled in accordance with §761.79(b)(4), if the decontamination procedure is commenced within 72 hours of the initial spill of PCBs to the concrete or portion thereof being decontaminated.</li> <li>• Any person may decontaminate porous non-liquid PCBs in contact with non-porous surfaces, such as underground metal fuel tanks coated with fire retardant resin or pitch, for purposes of unrestricted use or disposal in a smelter in accordance with §761.79(b)(3).</li> </ul> <p>Any person who holds PCB waste must store it in accordance with §761.65. §761.50(c)</p> <p>Performance specifications for disposal technologies:</p> <ul style="list-style-type: none"> <li>• Any person using an incinerator to dispose of PCBs must use an incinerator that meets the criteria in §761.70. §761.50(d)(1)</li> <li>• Any person using a high efficiency boiler to dispose of PCBs must use a boiler that meets the criteria in §761.71. §761.50(d)(2)</li> <li>• Any person using scrap metal recovery ovens and smelters to dispose of PCBs must use a device that meets the criteria in §761.72. §761.50(d)(3)</li> <li>• Any person using a chemical waste landfill to dispose of PCBs must use a chemical waste landfill that meets the criteria in §761.73. §761.50(d)(4)</li> </ul>	<p>Verify that the disposal facilities meet the necessary criteria by reviewing records that the incinerator meets criteria specified in the regulations as stated in Appendix I of this manual.</p> <p>Verify facility has appropriate TSCA Coordinated Approval documentation, if applicable. Documentation may include the application, any notice of deficiencies, and final approval by EPA.</p>

## 5.4.2 Disposal Requirements

## Regulation Reference: §761.60

Regulatory Requirements	Inspection Procedures
<b>Disposal Requirements</b>	
<p>Persons must dispose of PCB liquids at concentrations \$50 ppm in an incinerator that complies with §761.70. §761.60(a)</p> <ul style="list-style-type: none"> <li>• Persons may dispose of mineral oil dielectric fluid with a PCB concentration of \$50 ppm and &lt;500 ppm in a high efficiency boiler according to §761.71(a)</li> </ul> <p>NOTE: Owners or users of mineral oil dielectric fluid electrical equipment may use the procedures in §761.60(g) to determine the concentration of PCBs in the dielectric fluid.</p> <ul style="list-style-type: none"> <li>• Persons may dispose of liquids, other than mineral oil dielectric fluid, containing a PCB concentration of \$50 ppm and &lt;500 ppm in a high efficiency boiler according to §761.71(b).</li> <li>• Persons may dispose of liquids from incidental sources, such as precipitation, condensation, leachate or load separation and are associated with PCB Articles or non-liquid PCB wastes in a chemical waste landfill that complies with §761.75 <u>if</u> information is provided to the owner or operator of the landfill that shows that the liquids are &lt;500 ppm and are not an ignitable waste per §761.75(b)(8)(iii).</li> </ul> <p>Persons may dispose of PCB Transformers in accordance with either of the following: §761.60(b)(1)</p> <ul style="list-style-type: none"> <li>• An incinerator that complies with §761.70</li> <li>• A chemical waste landfill that complies with §761.75, <u>provided</u> that the requirements of §761.60(b)(1)(i)(B) are met.</li> </ul>	<p>Review records to ensure compliance with all applicable requirements (e.g., concentration of mineral oil dielectric fluid is between \$50 &amp; &lt;500 ppm at the time of disposal).</p> <p>Review records and verify that liquids containing a PCB concentration of \$50 ppm and &lt;500 ppm, other than mineral oil dielectric fluid, are disposed in compliance with all applicable requirements.</p> <p>Review records and verify that PCB Transformers are disposed in compliance with all applicable requirements.</p>

Regulatory Requirements	Inspection Procedures
<b>Disposal Requirements</b>	
<p>Any person may dispose of PCB Small Capacitors as municipal solid waste, unless that person is or was a PCB Capacitor manufacturer. The owner or any PCB Large High- or Low- Voltage Capacitor that contains \$500 ppm PCBs must dispose of the capacitor in an incinerator that complies with §761.70. 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 must place PCB small capacitors in a container meeting DOT requirements and dispose of them in an incinerator that complies with §761.70. EPA may by notice allow disposal of the above items in a chemical waste landfill compliant with §761.75. §761.60(b)(2)</p> <p>Any person disposing of PCB hydraulic machines that contain concentrations of \$50 ppm PCBs (such as die casting machines) must drain the machines of all free-flowing liquid and disposed of the liquid in an incinerator that complies with §761.70. If the PCB liquid contains \$1000 ppm PCBs, the person must decontaminate the machine in accordance with §761.79 or flush the machine prior to disposal with a solvent containing &lt;50 ppm PCB and disposed of in accordance with §761.60(a) or §761.79. §761.60(b)(3)</p> <p>The drained PCB hydraulic machines may be disposed of:</p> <ul style="list-style-type: none"> <li>• at a properly approved solid waste facility</li> <li>• in accordance with the decontamination procedures at §761.79</li> <li>• in a scrap metal recovery oven or smelter operating in compliance with §761.72</li> <li>• in an approved disposal facility.</li> </ul>	<p>Verify that all PCB Capacitors are disposed of in compliance with all applicable requirements by reviewing records. Conduct a physical inspection of what is stored for disposal or its records. Small capacitors contain less than 1.36 kg (3 lbs.) of dielectric fluid. If the actual weight is unknown, the inspector can assume that a capacitor whose total volume is less than 1,639 cm<sup>3</sup> (100 in<sup>3</sup>) meets the definition of a small capacitor. If the capacitor weighs less than 4.08 kg (9 lbs.), the inspector can assume that a capacitor whose total volume is between 1,639 and 3,278 cm<sup>3</sup> meets the definition of a small capacitor.</p> <p>Verify that PCB hydraulic machines are disposed of in compliance with all applicable requirements by reviewing records.</p>

Regulatory Requirements	Inspection Procedures
<b>Disposal Requirements</b>	
<p>Any person disposing of PCB-Contaminated Electrical Equipment (except capacitors) must drain all free-flowing liquid from the electrical equipment and dispose of the liquid in an incinerator or high efficiency boiler. Persons must dispose of the drained equipment and keep records for four years:</p> <ul style="list-style-type: none"> <li>• at a properly approved solid waste facility</li> <li>• in accordance with the decontamination procedures at §761.79</li> <li>• in a scrap metal recovery oven or smelter operating in compliance with §761.72.</li> <li>• in an approved disposal facility.</li> </ul> <p>Any person disposing of large capacitors with \$50 and &lt;500 ppm PCBs must do so in an approved disposal facility and keep records for four years. §761.60(b)(4)</p> <p>The owner or operator of natural gas pipeline systems containing \$50 ppm PCBs, when no longer in use, shall dispose of the system either by abandonment in place of the pipe under paragraph §761.60(b)(5)(i) or removal under paragraph §761.60(b)(5)(ii). Any person determining the PCB concentrations in natural gas pipeline systems shall do so in accordance with paragraph §761.60(b)(5)(iii). §761.60(b)(5)</p> <ul style="list-style-type: none"> <li>• Any person disposing of liquids containing PCBs \$50 ppm removed, spilled, or otherwise released from a natural gas pipeline system must do so in accordance with §761.61(a)(5)(iv) based on the PCB concentration at the time of removal from the system.</li> <li>• Any person disposing of material contaminated by spills or other releases of PCBs \$50 ppm from a natural gas pipeline system, must do so in accordance with §761.61 or §761.79, as applicable.</li> </ul>	<p>Verify that PCB-Contaminated Electrical Equipment is disposed of in compliance with all applicable requirements by reviewing records.</p>



Regulatory Requirements	Inspection Procedures
<b>Disposal Requirements</b>	
<ul style="list-style-type: none"> <li>• Any person who burns for energy recovery liquid containing PCBs at concentrations &lt;50 ppm PCBs at the time of removal from a natural gas pipeline system must do so in accordance with the provisions pertaining to used oil at §761.20(e).</li> <li>• No other use of liquid containing PCBs at concentrations above the quantifiable level of detection removed from a natural gas pipeline system is authorized.</li> </ul> <p>Any person must dispose of PCB Articles with concentrations at \$500 ppm PCBs in an incinerator that complies with §761.70 or 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 landfill and the drained liquids are disposed of in an incinerator that complies with §761.70. §761.60(b)(6)(i)</p> <p>Any person disposing of a PCB-contaminated article must remove all free-flowing liquid from the article and dispose of the liquid in accordance with §761.60(a). The drained article must be disposed of:</p> <ul style="list-style-type: none"> <li>• at a properly approved solid waste facility</li> <li>• in accordance with the decontamination procedures at §761.79</li> <li>• in a scrap metal recovery oven or smelter operating in compliance with §761.72.</li> <li>• in an approved disposal facility.</li> </ul> <p>Persons disposing of fluorescent light ballasts containing PCBs in their potting material must dispose of them in a TSCA-approved disposal facility, as bulk product waste under §761.62, as household waste under §761.63 (where applicable), or in accordance with the decontamination provisions of §761.79. §761.60(b)(6)(iii)</p>	<p>Check facility records, including old records, new relevant records, and test results, to determine compliance.</p> <p>Verify that PCB Articles, such as capacitors, transformers, electric motors, pumps, and others, are disposed of in compliance with all applicable requirements by reviewing the facility's records and procedures and the disposal facility's records and procedures.</p> <p>Review disposal records such as manifests to verify that fluorescent light ballasts containing PCBs are disposed of in a TSCA-approved disposal facility, as bulk product waste under §761.62, as household waste under §761.63 (where applicable), or in accordance with the decontamination provisions of §761.79. NOTE: Procedures for inspecting ballast disposers and recyclers are discussed in Appendix L.</p>

Regulatory Requirements	Inspection Procedures
<b>Disposal Requirements</b>	
<p>Persons disposing of PCB Articles must wear or use protective clothing or equipment to protect against dermal contact with or inhalation of PCBs or materials containing PCBs. §761.60(b)(8)</p> <p>Any person disposing of PCB Containers with a concentration of \$500 ppm PCBs, unless decontaminated in accordance with §761.60(c)(2) or §761.79, must dispose of them in an incinerator that complies with §761.70, or a chemical waste landfill that complies with §761.75, provided that the PCB Container is first drained and the PCB liquid disposed of in accordance with §761.60(a). Any container used to contain only PCBs at a concentration of &lt;500 ppm can be disposed of as municipal solid waste, provided that the PCB Container is first drained and the PCB liquid disposed of in accordance with §761.60(a). §761.60(c)</p> <p>Any person who is required to incinerate any PCBs and PCB Items may apply to EPA for a waiver if that person can demonstrate that an alternative method of destroying PCBs and PCB Items exists. The person must not use the alternative method until obtaining approval of the waiver. §761.60(e)</p> <p>Persons must dispose of PCBs resulting from spills and other uncontrolled discharges at concentrations of 50 ppm or greater in accordance with §761.60(a).</p>	<p>Inspect the protective clothing or equipment to verify that the facility has appropriate protective gear. Observe if disposal is occurring.</p> <p>Verify that PCB containers are disposed of in compliance with all applicable requirements by reviewing records. Interview facility officials and see what their disposal procedures are.</p> <p>Verify that any alternative methods in use were approved by EPA by reviewing the required paperwork.</p> <p>Verify that PCBs resulting from spills and other uncontrolled discharges in concentrations of 50 ppm or greater are disposed of in accordance with §761.60(a) by reviewing disposal records.</p>

Regulatory Requirements	Inspection Procedures
<b>Disposal Requirements</b>	
<p>Any person may conduct research and development for PCB disposal without prior written approval from EPA if they: §761.60(j)(1)</p> <ul style="list-style-type: none"> <li>• file a notification and obtain an EPA identification number. §761.60(j)(1)(i)</li> <li>• notify the EPA RA, the state environmental protection agency, and local environmental protection agency, having jurisdiction where the R&amp;D for PCB disposal activity will occur in writing at least 30 days prior to the commencement of any R&amp;D for PCB disposal activity. §761.60(j)(1)(ii)</li> <li>• do not treat more than 500 gal or 70 ft<sup>3</sup> of liquid or non-liquid PCBs or maximum concentration of 10,000 ppm PCBs annually. §761.60(j)(1)(iii)</li> <li>• dispose of no more than 1 kg total of pure PCBs per year in all R&amp;D for PCB disposal activities at the facility. §761.60(j)(1)(iv)</li> <li>• conduct each R&amp;D for PCB disposal activity for no more than 1 calendar year. §761.60(j)(1)(v)</li> <li>• store all PCB wastes (treated and untreated PCB materials, testing samples, spent laboratory samples, residuals, untreated samples, contaminated media or instrumentation, clothing, etc.) in compliance with §761.65(b) and disposes of them according to the undiluted PCB concentration prior to treatment. §761.60(j)(1)(vi)</li> <li>• use manifests for all R&amp;D PCB wastes being transported from the R&amp;D facility to an approved PCB storage or disposal facility. However, §761.207 through §761.218 do not apply if the residuals or treated samples are returned either to the physical location where the samples were collected or a location where other regulated PCBs from the physical location where the samples were collected are being stored for disposal. §761.60(j)(1)(vii)</li> <li>• package and ship all PCB wastes according to DOT requirements under 49 CFR 171 through 180. §761.60(j)(1)(viii)</li> <li>• comply with the recordkeeping requirements of §761.180. §761.60(j)(1)(ix)</li> </ul>	<p>Verify that the conditions are met if conducting R&amp;D for PCB disposal without prior written approval from EPA.</p> <p>Verify that each written notification includes the EPA identification number, the quantity of PCBs to be treated, the type of R&amp;D technology to be used, the general physical and chemical properties of material being treated, and an estimate of the duration of the PCB activity. Note records may be checked at EPA prior to the inspection.</p> <p>Verify that material limitations (500 gallons/70ft<sup>3</sup> of liquid or non-liquid PCB or maximum concentration of 10,000 ppm PCB) and time limitations (one year) are not exceeded without prior written approval from EPA.</p>

Regulatory Requirements	Inspection Procedures
<b>Disposal Requirements</b>	
<p>Portions of samples of a size designated in a chemical extraction and analysis method for PCBs and extracted for purposes of determining the presence of PCBs or concentration of PCBs are unregulated for PCB disposal. §761.64(a)</p> <p>All other wastes generated during these activities are regulated for disposal based on their concentration at the time of disposal as follows: §761.64(b)</p> <ul style="list-style-type: none"><li>• Liquid wastes, including rinse solvents, must be disposed of according to §761.61(a)(5)(iv).</li><li>• Non-liquid wastes must be disposed of in the same manner as non-liquid cleaning materials and personal protective equipment waste according to §761.61(a)(5)(v)(A).</li></ul>	

## 5.4.3 PCB Remediation Waste

## Regulation Reference: §761.61

*(NOTE: The PCB Spill Cleanup Policy found at Regulation Reference §761.125 (page 4-83) is intended for spills less than 72 hours old. Any spills older than 72 hours must be cleaned up as PCB remediation waste. There are three options for disposal/cleanup of PCB remediation waste: self implementing, performance-based standards, and risk-based cleanup.)*

Regulatory Requirements	Inspection Procedures
<b>PCB Remediation Waste</b>	
<p><b>Self Implementing Cleanup Policy</b> Persons should use self-implementing onsite cleanup and disposal of PCB remediation waste only for a general, moderately-sized site where there should be low residual environmental impact from remedial activities. Persons may not use the self-implementing procedures to cleanup the following: §761.61(a)(1)</p> <ul style="list-style-type: none"> <li>• surface or ground waters</li> <li>• sediments in marine and freshwater ecosystems</li> <li>• sewers or sewage treatment systems</li> <li>• any private or public drinking water sources or distribution systems</li> <li>• grazing lands</li> <li>• vegetable gardens.</li> </ul> <p>The self-implementing cleanup notice includes: §761.61(a)(3)(i)</p> <ul style="list-style-type: none"> <li>• the nature of the contamination, including kinds of materials contaminated</li> <li>• a summary of the procedures used to sample contaminated and adjacent areas and a table or cleanup site map showing PCB concentrations measured in all pre-cleanup characterization samples</li> <li>• the location and extent of the identified contaminated area, including topographic maps with sample collection sites cross referenced to the sample identification numbers in the data summary</li> <li>• a cleanup plan for the site, including schedule, disposal technology, and approach</li> </ul>	<p>Verify that the site is adequately characterized to be able to provide the required notification information.</p> <p>Verify that at least 30 days prior to the date that the self-implementing cleanup of a site begins, the person in charge of the cleanup or the owner of the property where the PCB remediation waste is located notifies, in writing, the EPA Regional Administrator, the director of the state or tribal environmental protection agency, and the director of the county or local government where the cleanup will be conducted.</p>

Regulatory Requirements	Inspection Procedures
<b>PCB Remediation Waste</b>	
<ul style="list-style-type: none"> <li>• a written certification, signed by the owner of the property where the cleanup site is located and the party conducting the cleanup, that all sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination at the cleanup site, are on file at the location designated in the certificate, and are available for EPA inspection</li> <li>• when applicable, a statement that alternate methods for chemical extraction and chemical analysis for site characterization will be used and that a comparison study which meets or exceeds the requirements of Subpart Q of §761, and for which records are on file, has been completed prior to verification sampling.</li> </ul> <p>The EPA RA will respond in writing approving the self-implementing cleanup, disapproving the self-implementing cleanup, or requiring additional information. If the EPA RA does not respond within 30 days of receiving the notice, the person submitting the notice may assume that it is acceptable and proceed with the cleanup according to the information provided to EPA. §761.61(a)(3)(ii)</p> <p>Any person conducting a cleanup activity may obtain a waiver of the 30-day notification requirement, if they receive a separate waiver, in writing, from each of the agencies they are required to notify. The person must retain the original written waiver. §761.61(a)(3)(iii)</p>	<p>Verify that once the self-implementing cleanup is underway, the person conducting the cleanup provides any proposed changes from the notification to the EPA RA in writing no less than 14 calendar days prior to the implementation of the change.</p> <p>Review records to verify that the cleanup was done in accordance with the notice provided to EPA. If any changes were made, verify that the EPA Regional Administrator was notified no less than 14 days prior to the implementation of the proposed change.</p> <p>Review the original written waiver, if applicable.</p>

Regulatory Requirements	Inspection Procedures
<b>PCB Remediation Waste</b>	
<p>Responsible party must collect and analyze samples to verify the cleanup and onsite disposal of PCB waste according to specific parameters. §761.61(a)(6)(i)</p> <p>Where sample analysis results in a measurement of PCBs less than or equal to the levels specified in §761.61(a)(4), self-implementing cleanup is complete. Otherwise, the owner or operator of the site must either dispose of the sampled PCB remediation waste, or reclean the waste represented by the sample and reinitiate sampling and analysis. §761.61(a)(6)(ii)</p>	<p>Verify that any person collecting and analyzing samples to verify the cleanup and onsite disposal of bulk PCB remediation wastes and porous surfaces do so in accordance with Subpart O of §761. Sampling by the responsibly party according to Subpart O must precede the beginning of cleanup for self-implementing cleanup to be a viable option.</p> <p>Verify that any person collecting and analyzing samples from non-porous surfaces does so in accordance with §761, Subpart P.</p> <p>Verify that any person collecting and analyzing samples from liquids does so in accordance with §761.269.</p>

Regulatory Requirements	Inspection Procedures
<b>PCB Remediation Waste</b>	
<p>Caps for PCB cleanup sites must meet specific requirements. When referring to onsite cleanup and disposal of PCB remediation waste, a cap means a uniform placement of concrete, asphalt, or similar material of minimum thickness spread over the area where remediation waste was removed or left in place in order to prevent or minimize human exposure, infiltration of water, and erosion. §761.61(a)(7)</p>	<p>Verify that any cap is designed and constructed in accordance with §264.310(a), and complies with the permeability, sieve, liquid limit, and plasticity index parameters in §761.75(b)(1)(ii) through (b)(1)(v).</p> <p>Verify that there is a cap of compacted soil with a minimum thickness of 25 cm (10 in).</p> <p>Verify that a concrete or asphalt cap has a minimum thickness of 15 cm (6 in).</p> <p>Verify that the cap integrity is sufficient to maintain its effectiveness during the use of the cap surface which is exposed to the environment.</p> <p>Verify that a cap is not contaminated at a level \$1 ppm PCB per Aroclor (or equivalent) or per congener before use by sampling or reviewing testing data.</p> <p>Visually inspect for breaches and determine if repair began within 72 hours of discovery.</p> <p>Verify that, when there is a fence or cap, the fence or cap is maintained.</p>



Regulatory Requirements	Inspection Procedures
<b>PCB Remediation Waste</b>	
<p>When a cleanup activity conducted under this section includes the use of a fence or a cap, the owner of the site must maintain the fence or cap, in perpetuity. In addition, whenever a cap, or the procedures and requirements for a low occupancy area, is used, the owner of the site must record a notice on the deed.</p> <p>The owner of the site may remove a fence or cap after conducting additional cleanup activities and achieving cleanup levels (§761.125) that do not require a cap or fence. The owner may remove the notice on the deed no earlier than 30 days after achieving the cleanup levels that do not require a fence or cap. § 761.61(a)(8)</p> <p><b>Performance Based Standards</b> Any person disposing of liquid PCB remediation waste shall do so according to §761.60(a) or (e), or decontaminate it in accordance with §761.79. §761.61(b)(1)</p> <p>Any person disposing of non-liquid PCB remediation waste shall do so by one of the following methods:</p> <ul style="list-style-type: none"> <li>• Dispose of it in a high temperature incinerator approved under §761.70(b), an alternate disposal method approved under §761.60(e), a chemical waste landfill approved under §761.75, or in a facility with a coordinated approval issued under §761.77.</li> <li>• Decontaminate it in accordance with §761.79. §761.61(b)(2)</li> </ul>	<p>Verify that the owner 1) recorded a notation on the deed to the property, or on some other document which is normally examined during a title search, and 2) submitted a signed certification that they recorded the notation to the EPA RA within 60 days of completion of a cleanup activity. The notation will in perpetuity notify any potential purchaser of the property:</p> <ul style="list-style-type: none"> <li>- That the land has been used for PCB remediation waste disposal and is restricted to use as a low occupancy area as defined in §761.3.</li> <li>- Of the existence of the fence or cap and the requirement to maintain the fence or cap.</li> <li>- The applicable PCB levels left at the site, inside the fence, and/or under the cap.</li> </ul> <p>Verify that the fence or cap is maintained.</p>

Regulatory Requirements	Inspection Procedures
<b>PCB Remediation Waste</b>	
<p>Any person may manage or dispose of material containing &lt; 50 ppm PCBs that has been dredged or excavated from waters of the United States: §761.61(b)(3)</p> <ul style="list-style-type: none"> <li>• in accordance with a permit that has been issued under Section 404 of the Clean Water Act, or the equivalent of such a permit as provided for in regulations of the U.S. Army Corps of Engineers at 33 CFR 320</li> <li>• in accordance with a permit issued by the U.S. Army Corps of Engineers under section 103 of the Marine Protection, Research, and Sanctuaries Act, or the equivalent of such a permit as provided for in regulations of the U.S. Army Corps of Engineers at 33 CFR 320.</li> </ul> <p><b>Risk-Based Cleanup Provisions</b> Any person wishing to sample, cleanup, or dispose of PCB remediation waste in a manner other than prescribed in the self implementing cleanup policy or performance based standards, or store PCB remediation waste in a manner other than prescribed in §761.65, must apply in writing to the appropriate EPA RA or to the Director of the National Program Chemicals Division. Each application must contain information described in the notification required by §761.61(a)(3). No person may conduct cleanup activities under this paragraph prior to obtaining written approval by EPA. §761.61(c)(1)</p>	<p>Identify whether facility has appropriate permits and is operating in accordance with the permit.</p> <p>Some facilities applied for and received EPA approvals for the remediation of PCBs. The inspector should check for such EPA approvals prior to the inspection and should consult with the permit writer or the person responsible for the permit to determine if any critical areas of the facility need to be inspected or do not need to be inspected.</p>

## 5.4.4 Disposal of PCB Bulk Product Waste

Regulation Reference: §761.62

Regulatory Requirements	Inspection Procedures
<b>Disposal of PCB Bulk Product Waste</b>	
<p>Performance-based disposal of PCB bulk product waste must be in accordance with specific parameters. §§761.50(b)(4), 761.62(a) and 761.62(c)</p> <p>Persons may dispose of PCB bulk product waste: §761.62(a)</p> <ul style="list-style-type: none"> <li>• in an incinerator approved under §761.70</li> <li>• in a chemical waste landfill approved under §761.75</li> <li>• in a permitted hazardous waste landfill</li> <li>• under an alternate disposal method approved under §761.60(e)</li> <li>• in accordance with the decontamination provisions of §761.79</li> <li>• for metal surfaces in contact with PCBs, in accordance with the thermal decontamination provisions of §761.79(c)(6)</li> <li>• in accordance with a TSCA PCB Coordinated Approval issued under §761.77</li> <li>• as daily landfill cover as long as the daily cover remains in the landfill and is not released or dispersed by wind or other action or under asphalt as part of a road bed.</li> </ul> <p>Disposal of PCB bulk product waste in solid waste landfills must be in accordance with specific parameters (§761.62(b) through 761.62(d)).</p>	<p>Check disposal records to determine where and how materials were disposed.</p> <p>When PCB bulk product waste is disposed of in a solid waste landfill, verify that the landfill is permitted, licensed, or registered by a state as a municipal or non-municipal non-hazardous waste landfill.</p> <p>For any disposal of PCB bulk product waste, verify that a written record is maintained of all sampling and analysis of PCBs or notifications made for 3 years from the date of the waste's generation.</p>

Regulatory Requirements	Inspection Procedures
<b>Disposal of PCB Bulk Product Waste</b>	
<p>Any person may dispose of the following PCB bulk product waste in a facility permitted, licensed, or registered by a state as a municipal or non-municipal non-hazardous waste landfill: §761.62(b)</p> <ul style="list-style-type: none"> <li>• plastics (such as plastic insulation from wire or cable; radio, television, and computer casings; vehicle parts; or furniture laminates); pre-formed or molded rubber parts and components; applied dried paints, varnishes, waxes or other similar coatings or sealants; caulking; Galbestos; non-liquid building demolition debris; or non-liquid PCB bulk product waste from the shredding of automobiles or household appliances from which PCB small capacitors have been removed (shredder fluff)</li> <li>• other sampled PCB bulk product waste that leaches PCBs at &lt;10 µg/L of water measured using a procedure used to simulate leachate generation.</li> </ul> <p>Any release of PCBs (including but not limited to leachate) from the landfill unit must be cleaned up in accordance with §761.61. §761.62(c)</p> <p>Bulk product waste as described in the above NOTE statement may be disposed of as daily landfill cover as long as the daily cover remains in the landfill and is not released or dispersed by wind or other action or under asphalt as part of a road bed.)</p> <p>Any person disposing off-site of PCB bulk product waste regulated under §761.62(b)(1) or (2) at a waste management facility not having a commercial PCB storage or disposal approval must provide written notice to the facility a minimum of 15 days in advance of the first shipment from the same disposal waste stream and, for disposal in solid waste landfills, with each shipment thereafter. §761.62(b)(4)</p>	<p>Verify that, if materials other than those listed under regulatory requirements are disposed of in a facility that is permitted, licensed, or registered by a state to manage municipal solid waste or nonmunicipal nonhazardous waste, the following are met:</p> <ul style="list-style-type: none"> <li>• the PCB bulk product waste is segregated from organic liquids disposed of in the landfill unit</li> <li>• leachate is collected from the landfill unit and monitored for PCBs.</li> </ul> <p>If PCB release is suspected, sample.</p> <p>Verify that the written notice states that the PCB bulk product waste may include components containing PCBs at \$ 50 ppm based on analysis of the waste in the shipment or application of a general knowledge of the waste stream (or similar material) which is known to contain PCBs at those levels, and that the PCB bulk product waste is known or presumed to leach \$ 10 µg/L PCBs.</p>

Regulatory Requirements	Inspection Procedures
<b>Disposal of PCB Bulk Product Waste</b>	
<p>Any person sampling or disposing of PCB bulk product waste in a manner other than prescribed in §761.62(a) or (b), or storing PCB bulk product waste in a manner other than prescribed in §761.65, must apply in writing to the EPA and receive written approval. §761.62(c)</p> <p>Any person may dispose of bulk product waste described in §761.62(b)(1) provided EPA RA approves:</p> <ul style="list-style-type: none"> <li>• as daily landfill cover as long as the cover remains in the landfill and is not released or dispersed by wind or other actions</li> <li>• under asphalt as part of a road bed.</li> </ul>	<p>Verify that, if bulk product waste is disposed of in a manner other than prescribed in §761.62(a) or 761.62(b), the EPA RA (if the disposal site is located in a single EPA Region) or the Director of the National Program Chemicals Division (if disposal is occurring in more than one EPA Region) received and approved the application. Inspector can check PCB website for a list of approved facilities: <a href="http://www.epa.gov/pcb/stordisp.html">www.epa.gov/pcb/stordisp.html</a></p>

## 5.4.5 Storage for Disposal

## Regulation Reference: §761.65

*(NOTE: This section applies to the storage for disposal of PCBs at concentrations \$50 ppm and PCB Items with concentrations of \$50 ppm.)*

Regulatory Requirements	Inspection Procedures
<b>Storage for Disposal</b>	
<p>No one may store PCB waste for more than one year from the date they determined it to be waste and decided to dispose of it. §761.65(a)(1)</p> <p>To obtain an automatic one-year extension, the person storing PCB waste for disposal may notify the EPA Region that efforts to secure disposal were unsuccessful. §761.65(a)(2)</p> <p>EPA may grant additional extensions beyond the one-year extension. EPA may also grant extended storage time as part of a PCB storage or disposal approval. §§761.65(a)(3) and (4)</p> <p>Storage areas where PCBs and PCB Items are stored for disposal must be marked with mark M<sub>L</sub>. §761.65(c)(1)</p> <p>Roofs and walls of storage facilities must be adequate to prevent rain water from reaching PCBs and PCB Items. §761.65(b)(1)(i)</p>	<p>Check storage records to verify that no containers stored for disposal have been in storage for more than nine months (The one-year disposal time includes 90 days for the disposal facility to conduct the disposal, so the generator's effective storage time is nine months.) NOTE: This is a policy requirement.</p> <p>If PCB wastes have been stored for more than one year, verify with National Program Chemical Division that the facility sent a complete notice for the one-year automatic extension or received another extension from EPA. NOTE: The one year starts when PCB waste is first placed into the container or when PCB Items were removed from service for disposal.</p> <p>Before entering a storage area, allow the storage area to ventilate sufficiently. Inspect storage area for proper markings. Photograph and note location of unmarked or improperly marked storage areas. Inspect roof and walls for evidence of leakage. Provide exact location of leaks by measurement from floor, wall, or ceiling. Photograph when possible, and draw a scale floor plan noting objects water might contact. Note drainage path of water (run-on and runoff) around the storage building.</p>

Regulatory Requirements	Inspection Procedures
<b>Storage for Disposal</b>	
<p>Floors must have at least a 6" continuous curb creating a containment area (PCB radioactive wastes are exempt). The containment area must not have any drains, valves, expansion joints, sewer lines, or other openings that would permit liquids to flow from the curbed area. The floor and curbing must provide a containment volume equal to the greatest of: §§761.65(b)(1)(ii) and (iii)</p> <ul style="list-style-type: none"> <li>• at least twice the internal volume of the largest PCB Article or Container stored</li> <li>• <u>or</u> 25 percent of the total internal volume of all PCB Articles or Containers stored.</li> </ul> <p>Floors and curbing must be constructed of Portland cement, concrete, or continuous, smooth, and non-porous materials, to prevent or minimize penetration of PCBs. §761.65(b)(1)(iv)</p> <p>The facility's PCB storage area must be located above the 100- year flood elevation. §761.65(b)(1)(v)</p>	<p>Visually inspect floor for openings that would permit liquids to flow from the curbed area. Estimate volume of all stored articles or containers through records or by actual measurement. Take special note of largest container or article and take photographs. Measure surface dimensions and curbing height to determine volume of containment area. Compare the above to determine adequacy of containment area. Check to ensure that all items are stored far enough away from dike to prevent potential leaks from escaping over the dike. If a discrepancy is found, verify all measurements, and record in field notebook. Photocopy records describing volume of containers or articles if available. NOTE: When estimating the volume of storage remember to account for the footprint of drums, tanks, pallets, etc. which reduce the volume.</p> <p>Inspect containment area for any openings, including cracks, floor drains, and pipe conduits. Review construction records including piping and sewer blueprints. If openings are found, verify exact location and determine drainage path and ultimate disposal. Note exact location of any openings relative to a stationary object. Photograph or provide scale floor plan. Review blueprints showing openings.</p> <p>Prior to the inspection, determine the 100-year flood elevation from U.S. Geological Survey or U.S. Army Corps of Engineers records. During the inspection, determine the elevation of facility from facility records.</p>

Regulatory Requirements	Inspection Procedures
<b>Storage for Disposal</b>	
<p>PCBs and PCB Items designated for disposal must be stored in a storage unit approved by EPA pursuant to §761.65(d) or meeting the design requirements of §761.65(b), unless the unit meets one of the following conditions: §761.65(b)(2)</p> <ul style="list-style-type: none"> <li>• The unit is permitted by EPA under section 3004 of RCRA to manage hazardous waste in containers, and PCB spills are cleaned up in accordance with §761 subpart G.</li> <li>• The unit qualifies for interim status under section 3005 of RCRA to manage hazardous waste in containers, meets the requirements for containment at Sec. 264.175 of this chapter, and PCB spills are cleaned up in accordance with §761 subpart G.</li> <li>• The unit holds a permit from a State authorized under section 3006 of RCRA to manage hazardous waste in containers, and PCB spills are cleaned up in accordance with §761 subpart G.</li> <li>• The unit is approved or otherwise regulated pursuant to a State PCB waste management program no less stringent in protection of health or the environment than the applicable TSCA requirements found in this part.</li> <li>• The unit is subject to a TSCA Coordinated Approval, which includes provisions for storage of PCBs, issued pursuant to §761.77.</li> <li>• The unit has a TSCA PCB waste management approval, which includes provisions for storage, issued pursuant to §761.61(c) or §761.62(c).</li> </ul>	<p>Check with the National Chemical Program Division if unit is approved. If the storage unit has not been approved or does not meet the above design requirements, determine if it meets one of the conditions for exemption by reviewing records.</p> <p>Review the TSCA Coordinated Approval for storage conditions. Facilities must keep a copy of the approval, so inspectors can review the facility copy.</p>



Regulatory Requirements	Inspection Procedures
<b>Storage for Disposal</b>	
<p>Persons may store the following PCB Items in an area that does not comply with §761.65(b) for up to 30 days from the date the item was removed from service, provided that they attach a notation to the PCB Item indicating the date the item was removed from service: §761.61(c)(1)</p> <ul style="list-style-type: none"> <li>• Non-leaking PCB Articles and PCB Equipment</li> <li>• Leaking PCB Articles and PCB Equipment if the PCB Items are placed in a non-leaking PCB Container that contains sufficient sorbent material to absorb any liquid PCBs remaining in the PCB Items.</li> <li>• PCB Containers containing non-liquid PCBs (e.g., contaminated soil, rags, and debris)</li> <li>• PCB Containers containing liquid PCBs at concentrations <math>\geq 50</math> ppm, provided a Spill Prevention Control and Countermeasure (SPCC) Plan has been prepared for the temporary storage area and the liquid PCB waste is in packaging authorized in the Department of Transportation (DOT) Hazardous Materials Regulations (HMR) at 49 CFR Parts 171 through 180 or stationary bulk storage tanks.</li> </ul> <p>Persons may store non-leaking, undrained, structurally undamaged PCB Large High Voltage Capacitors and PCB-Contaminated Electrical Equipment outside on pallets next to a storage facility meeting the general requirements described above. §761.65(c)(2)</p>	<p>Verify that only items meeting the appropriate requirements are in temporary storage. Inspect all equipment or articles for leaks. Photograph and establish location of discrepant items. Describe leaks, number of containers, condition of equipment, drainage path, and ultimate disposition. Collect sample of leaked material.</p> <p>Check notation on each item in temporary storage to determine date item was removed from service. Compare with copies of records indicating date of removal from service. Note discrepancies.</p> <p>Verify that an SPCC Plan has been prepared for the temporary storage area in accordance with 40 CFR 112; obtain a copy of the plan, and review for compliance with 40 CFR 112.</p> <p>Check transformers and capacitors for structural integrity and evidence of leakage. Observe general condition of outside storage area. Sample, photograph suspected leaks. Verify that the owner or operator checks the capacitors and equipment for leaks weekly.</p>

Regulatory Requirements	Inspection Procedures
<b>Storage for Disposal</b>	
<p>Persons may store capacitors and equipment outside only when there is immediately available space within the prescribed facility equal to 10% of the volume of all capacitors and equipment stored outside the facility. §761.65(c)(2)</p> <p>Persons temporarily storing capacitors and equipment outside must check them for leaks weekly.</p> <p>No one may remove moveable equipment that is used for handling PCBs and PCB Items in the storage units and comes in direct contact with PCBs unless it has been decontaminated as specified in §761.79. §761.65(c)(4)</p> <p>Owners/operators must check for leaks at least once every 30 days on all PCB Articles and PCB Containers in storage §761.65(c)(5)</p> <p>Owners/operators must transfer immediately to properly marked non-leaking containers any leaking PCB Articles and PCB Containers and their contents. Owners/operator must immediately cleanup and properly dispose of any spilled or leaked PCB-contaminated materials and residues. §761.65(c)(5)</p>	<p>Determine the volume of PCB Capacitors and transformers stored outside. Calculate volume of unfilled stored space inside facility. Enter measurements and calculations in field notebook. Verify figures if discrepancy appears. NOTE: This requirement provides for immediate inside storage of leaking capacitors or equipment. When estimating volume of storage, remember to account for the footprint of drums, tanks, pallets, etc. which reduce the volume.</p> <p>Verify that personnel are conducting weekly inspections. Obtain records and/or statements. Note discrepancies.</p> <p>Visually inspect moveable equipment used within the storage facility area for proper decontamination; check decontamination procedures and verify use of these procedures. Obtain wipe samples from suspect equipment.</p> <p>Verify that regular inspection is carried out. Check for facility records of the inspections.</p> <p>Inspect articles, containers, and the general storage area for evidence of leakage. Determine whether leaking articles and containers have been placed in properly marked non-leaking containers. Note, describe, and establish location and photograph leaking articles and containers. Collect samples of suspected PCB spills.</p>

Regulatory Requirements	Inspection Procedures
<b>Storage for Disposal</b>	
<p>PCB Containers must meet the shipping container specifications of the Hazardous Materials Regulations (HMR) at 49 CFR Parts 171 through 180. §761.65(c)(6)</p> <p>Persons must package PCB waste not subject to HMR (under 20 ppm or less than 1 pound of waste) in accordance with Packaging Group III, unless other hazards require Groups I or II. §761.65(c)(6)</p> <p>Containers for PCB/radioactive waste need not meet HMR standards, but:</p> <ul style="list-style-type: none"> <li>• must not be leaking,</li> <li>• for non-liquid wastes, must be designed to prevent the buildup of liquids if in an area meeting §761.65(b)(1)(ii),</li> <li>• must meet all requirements for nuclear criticality safety. §761.65(c)(6)(i)</li> </ul> <p>A person may use the following containers for liquid PCBs for storage and transportation activities not subject to DOT regulation: §761.65(c)(6)(ii)</p> <ul style="list-style-type: none"> <li>• Specification 5 containers, without removal heads</li> <li>• Specification 5B containers, without removal heads</li> <li>• Specification 6D overpack with specifications 2S or 2SL polyethylene containers</li> <li>• Specification 17E containers</li> </ul> <p>A person may use the following containers for non-liquid PCBs for storage and transportation activities not subject to DOT regulation: §761.65(c)(6)(ii)</p> <ul style="list-style-type: none"> <li>• Specification 5 containers, without removal heads</li> <li>• Specification 5B containers, without removal heads</li> <li>• Specification 17C containers</li> </ul>	<p>The specifications include exemptions to the packaging requirements (49 CFR 173.155); packaging requirements for non-bulk shipments (49 CFR 173.202); and packaging requirements for bulk shipments of liquid PCBs (49 CFR 173.241) and solid PCBs (49 CFR 173.240).</p> <p>Check specification numbers where available. When specification numbers are not present, compare to DOT specifications. (Use a caliper gauge to measure container thickness). Note and describe non-compliance with DOT regulations and notify DOT.</p> <p>Verify that containers used to hold nonliquid PCBs meet all applicable DOT specifications, or in the case of larger non-DOT specification containers, that containers provide adequate protection against leaking.</p>

Regulatory Requirements	Inspection Procedures
<b>Storage for Disposal</b>	
<p>Larger liquid PCB Containers other than those specified above must be designed, constructed, and operated in compliance with Occupational Safety and Health Administration standards in 29 CFR 1910.106. Prior to use, the above design must be reviewed to determine the structural safety for containing PCBs. §761.65(c)(7)</p> <p>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 specification DOT containers.</p> <p>Owners/operators of facilities using these containers must keep records indicating the quantity of PCBs and the date PCBs were added to or removed from these containers. Disposition of any PCBs removed must also be included.</p> <p>Persons storing PCB Articles and Containers must place the date of storage on the PCB Items when they are placed in storage and manage the storage area so that articles and containers can be located by the date they entered storage. §761.65(c)(8)</p> <p>Persons may store bulk PCB remediation waste or PCB bulk product waste at the clean-up site or site of generation for 180 days subject to the following conditions: §761.65(c)(9)</p> <ul style="list-style-type: none"> <li>• The waste pile is designed and operated to control wind dispersal, where necessary, by means other than wetting.</li> </ul>	<p>Check specification numbers and compare to OSHA regulations. Note and describe non-compliance. Verify by records or by statements that safety of design was reviewed by owner/operator. Note names, dates, and findings. Use of such containers must coincide with the preparation and implementation of an SPCC Plan. Inspectors may notify OSHA if noncompliance is suspected.</p> <p>Inspect these records for compliance. Note missing or erroneous records. Non-liquid PCB Containers must meet the shipping container specifications of the Department of Transportation per §761.65(c)(6).</p> <p>Verify that dates appear on all articles and containers. Note locations and contents of undated articles and containers. Compare storage date records with stored articles and containers to see that they can be located by date of storage. If discrepancy appears, obtain copy of records, and establish location of relevant items.</p> <p>Verify that the storage site meets the conditions through visual examination and records review.</p>

Regulatory Requirements	Inspection Procedures
<b>Storage for Disposal</b>	
<ul style="list-style-type: none"> <li>• The waste does not generate leachate through decomposition or other reactions.</li> <li>• The storage site has:               <ul style="list-style-type: none"> <li>- A liner designed, constructed, and installed to prevent any migration of wastes off or through the liner into the adjacent subsurface soil, ground water or surface water at any time during the active life (including the closure period) of the storage site. The liner may allow waste to migrate into the liner.</li> </ul> </li> </ul> <p>The liner must be:</p> <ul style="list-style-type: none"> <li>-- Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation.</li> <li>-- Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift.</li> <li>-- Installed to cover all surrounding earth likely to be in contact with the waste.</li> </ul> <ul style="list-style-type: none"> <li>- A cover that meets the requirements §761.65(c)(9)(iii)(A), is installed to cover all of the stored waste likely to be contacted with precipitation and is secured so as not to be functionally disabled by winds expected under normal seasonal meteorological conditions at the storage site.</li> </ul>	<p>Conduct visual inspections of the area.</p>

Regulatory Requirements	Inspection Procedures
<b>Storage for Disposal</b>	
<ul style="list-style-type: none"><li>- A run-on control system designed, constructed, operated, and maintained such that it<ul style="list-style-type: none"><li>-- Prevents flow onto the stored waste during peak discharge from at least a 25-year storm.</li><li>-- Collects and controls at least the water volume resulting from a 24-hour, 25-year storm. Collection and holding facilities (e.g., tanks or basins) must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.</li></ul></li></ul>	

## 5.4.6 Approval of Commercial Storers

Regulatory Requirements	Inspection Procedures
<b>Approval of Commercial Storers</b>	
<p>Commercial storers must submit an application to EPA for storage approval. The storer must not store PCB waste at its facility prior to written approval from EPA. §761.65(d)</p> <p>EPA's approval includes a maximum PCB storage capacity that the commercial storer must not exceed. The approval may include other conditions as EPA deems necessary.</p> <ul style="list-style-type: none"> <li>• 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. §761.65(d)(5)</li> <li>• Storage areas at RCRA-permitted facilities may be exempt from the separate TSCA storage approval requirements if they meet the criteria at §761.65(d)(6).</li> <li>• Storage areas ancillary to TSCA-approved disposal facilities may be exempt from a separate facility approval provided they meet the criteria at §761.65(d)(7).</li> </ul>	<p>Review facilities' EPA approval document and facility records to verify that the storer did not store PCB waste prior to receipt of written approval from EPA. Also review the regional files.</p> <p>NOTE: Commercial storers were required to submit "complete" applications by August 1990, and some facilities may still be operating without written approval.</p> <p>Obtain and bring a copy of the EPA approval to check for conditions.</p> <p>Obtain information on the amount of PCBs currently in storage. Collect copies of at least the last 12 months of manifests and bills of lading to determine if the facility at anytime exceeded their approved storage capacity or store waste for 10 days or more.</p>

Regulatory Requirements	Inspection Procedures
<b>Approval of Commercial Storers</b>	
<p>Commercial storers of PCB waste must have a closure plan that has been accepted and approved by EPA. The plan must include: §§761.65(e)(1) and (2)</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• 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</li> <li>• 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 offsite facilities that will be used</li> <li>• a detailed description of the steps needed to remove or decontaminate PCB waste residues and contaminated containment system components, equipment, structures, and soils during closure, including a description of the methods for sampling and testing of surrounding soils, and the criteria for determining the extent of removal or decontamination</li> <li>• 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 (e.g., ground-water monitoring, runoff and runoff control, and facility security).</li> </ul>	<p>Verify that the commercial storer of PCB waste has a written closure plan that EPA has determined to be acceptable. Check list of EPA's approved commercial storers: <a href="http://www.epa.gov/pcb">www.epa.gov/pcb</a>.</p>



Regulatory Requirements	Inspection Procedures
<b>Approval of Commercial Storers</b>	
<ul style="list-style-type: none"> <li>• 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</li> <li>• 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.</li> </ul> <p>Commercial storers do not need to submit a separate and new closure plan in cases where a facility is currently covered by a TSCA approval or a RCRA permit, upon a showing to the satisfaction EPA that the existing closure plan is substantially equivalent to current requirements for closure plans and that the plan adequately accounts for PCB waste inventories. §761.65(e)(3)</p> <p>The commercial storer must submit a written request to EPA for modification of its closure plan if: §761.65(e)(4)</p> <ul style="list-style-type: none"> <li>• changes in ownership, operating plans, or facility design affect the existing closure plan</li> <li>• there is a change in the expected date of closure, if applicable</li> <li>• in conducting closure activities, unexpected events require a modification of the approved closure plan.</li> </ul>	<p>Verify that the commercial storer of PCB waste submitted a written request to EPA for a modification to its storage approval to amend its closure plan if the storer meets the criteria and that EPA has approved it. Facility may be operating without written approval.</p>

Regulatory Requirements	Inspection Procedures
<b>Approval of Commercial Storers</b>	
<p>Commercial storers of PCB waste must follow a specific closure schedule. They must: §761.65(e)(6)</p> <ul style="list-style-type: none"> <li>• notify EPA RA or Director of National Program Chemicals Division at least 60 days prior to the date on which final closure of its PCB storage facility is expected to begin.</li> <li>• “expect to begin closure” no later than 30 days after the date on which the facility received its final quantities of PCB waste.</li> <li>• remove all PCB waste in storage from the facility within 90 days after receiving the final quantity of PCB waste for storage.</li> <li>• complete closure activities within 180 days after receiving the final quantity of PCB waste for storage at the facility.</li> </ul> <p>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 §761.180 through 761.193.</p> <p>During the closure period, the commercial storer must dispose of all contaminated system component equipment, structures, and soils in accordance with the disposal requirements, or, if applicable, decontaminated in accordance with the levels specified in the PCB Spills Cleanup Policy. §761.65(e)(7)</p> <p>Within 60 days of completion of closure of each facility for the storage of PCB waste, the commercial storer of PCB waste must submit to the EPA RA (or Director, NPCD 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. §761.65(e)(8)</p>	<p>Verify that the commercial storer complies with the schedule. Note that for good cause shown, EPA may approve a reasonable extension to the required deadlines regarding closure activities. Approved commercial storers may be found at the PCB website (<a href="http://www.epa.gov/pcb/waste.html">www.epa.gov/pcb/waste.html</a>).</p> <p>Verify that the commercial storer properly disposed of or decontaminated the required items.</p> <p>Obtain a copy of the certification from the facility representative and verify that the owner or operator and an independent registered professional engineer signed the certification.</p>

Regulatory Requirements	Inspection Procedures
<b>Approval of Commercial Storers</b>	
<p>Commercial storers of PCB waste must have a detailed written estimate from the commercial storer, in current dollars, of the cost of closing the facility in accordance with its approved closure plan. §761.65(f)(1)</p> <p>The person who prepared the cost estimate must certify it. The estimate must:</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• be based on the costs to the owner or operator of hiring a third party to close the facility, and the third party is not be either a corporate parent or subsidiary of the owner or operator, or member in joint ownership of the facility</li> <li>• include the current market costs for offsite commercial disposal of the facility's maximum estimated inventory of PCB wastes, except that onsite disposal costs may be used if onsite disposal capacity will exist at the facility at all times over the life of the facility</li> <li>• 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.</li> </ul> <p>During the active life of the PCB storage facility, the commercial storer of PCB waste must adjust the cost estimate annually for inflation 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 must adjust their closure cost estimates for inflation within 30 days after the close of the storer's fiscal year. §761.65(f)(2)</p>	<p>Request the most recent cost estimate to verify that it is kept at the facility. Review the cost estimate to verify that it was certified by the person who prepared the cost estimate and meets the necessary criteria listed in the regulatory requirements and has properly been adjusted for inflation each year.</p>

Regulatory Requirements	Inspection Procedures
<b>Approval of Commercial Storers</b>	
<p>When the EPA approves a modification to the facility's closure plan, and that modification increases the cost of closure, the owner or operator must revise the closure cost estimate no later than 30 days after the modification is approved. §761.65(f)(3)</p> <p>A commercial storer must establish financial assurance for closure of each PCB storage facility that they own or operate. §761.65(g)</p> <p>Laboratories are exempt from the reporting and documentation requirements for commercial storers if they meet stipulated conditions. §761.65(i)(1)</p> <p>Laboratory samples are exempt from the manifesting requirements of §761.208 if the sample is being: §761.65(i)(2)</p> <ul style="list-style-type: none"> <li>• transported to a laboratory for the purpose of testing</li> <li>• transported back to the sample collector after testing</li> <li>• stored by the sample collector before transport to a laboratory for testing</li> <li>• stored in a laboratory before testing</li> <li>• stored in a laboratory after testing but before it is returned to the sample collector</li> <li>• stored temporarily in the laboratory after testing for a specific purpose (e.g., until conclusion of a court case enforcement action where further testing of the sample may be necessary).</li> </ul>	<p>Verify that the laboratory is storing samples held for disposal in a facility that complies with the standards in §761.65(b)(1)(i) through (b)(1)(iv).</p>

Regulatory Requirements	Inspection Procedures
<b>Approval of Commercial Storers</b>	
<p>To qualify for the exemptions in §761.65(i)(2), the sample collector or laboratory shipping the sample must: §761.65(i)(3)</p> <ul style="list-style-type: none"> <li>• comply with applicable 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</li> <li>• assure that the following information accompanies the sample: <ul style="list-style-type: none"> <li>- the sample collector's name, mailing address, and telephone number</li> <li>- the laboratory's name, mailing address, and telephone number.</li> <li>- the quantity of the sample</li> <li>- the date of shipment</li> <li>- a description of the sample.</li> </ul> </li> <li>• package the sample so that it does not leak, spill, or vaporize from its packaging.</li> </ul> <p>After the laboratory determines the concentration of the PCB sample and terminates its use, the laboratory must either manifest the PCB waste to a disposer or commercial storer, retain a copy of each manifest, and follow up on exception reporting, or return the sample to the sample collector who must then properly dispose of the sample. §761.65(i)(4)</p>	<p>Review records and facility procedures to verify that the facility personnel are properly shipping samples.</p> <p>If inspecting a laboratory that conducts PCB analysis, review facility records to verify that the samples are properly manifested to a disposer or returned to the sample collector.</p>

## 5.4.7 Coordinated Approval

## Regulation Reference §761.77

Regulatory Requirements	Inspection Procedures
<b>Coordinated Approval</b>	
<p>Any owner or operator of a facility that he or she intends to use to: landfill PCB wastes; incinerate PCB wastes; dispose of PCB wastes using an alternative disposal method that is equivalent to disposal in an incinerator approved under §761.70 or a high efficiency boiler operating in compliance with §761.71; or store PCB wastes; or conduct research and development (R&amp;D) into PCB disposal methods (regardless of PCB concentration), or conduct PCB remediation activities may apply to EPA for a TSCA PCB Coordinated Approval. Generally, EPA must find that such a person holds a permit or other document which properly regulates PCB wastes. All requirements, conditions, and limitations of any such other permit or waste management document, cited or described in paragraph (b) and (c) of this section, as the technical or legal basis on which the TSCA PCB Coordinated Approval is issued, are conditions of the TSCA PCB Coordinated Approval. §761.77</p>	<p>Verify compliance with the permit or other document on which the Coordinated Approval is based.</p>

## 5.4.8 Decontamination Standards and Procedures

## Regulation Reference §761.79

Regulatory Requirements	Inspection Procedures
<b>Decontamination Standards and Procedures</b>	
<p>Decontamination in accordance with the standards in §761.79(b) does not require a disposal approval under §761, Subpart D. Materials from which PCBs have been removed by decontamination may be distributed in commerce, used or reused, and are unregulated for disposal. §761.79(a)</p> <p>Any person decontaminating porous surfaces other than concrete and non-porous surfaces covered with a porous surface, such as paint or coating on metal, must obtain an alternative decontamination approval. §761.79(a)(5)</p> <p>Persons using chopping (including wire chopping), distilling, filtering, oil/water separation, spraying, soaking, wiping, stripping of insulation, scraping, scarification, or abrasives or solvents to remove or separate PCBs from liquids, concrete, or non-porous surfaces must adhere to standards. §761.79(b)</p> <ul style="list-style-type: none"> <li>• Standards for water containing PCBs: <ul style="list-style-type: none"> <li>- &lt; 200 µg/L (i.e., 200 ppb PCBs) for non-contact use in a closed system where there are no releases</li> <li>- for water discharged to a treatment works or to navigable waters, &lt;3 µg/L (approximately &lt;3 ppb) or a PCB discharge limit included in a permit issued under section 307(b) or 402 of the Clean Water Act</li> <li>- #0.5 µg/L (i.e., approximately # 0.5 ppb PCBs) for unrestricted use</li> </ul> </li> <li>• Standards for organic liquids and non-aqueous inorganic liquids containing PCBs: <ul style="list-style-type: none"> <li>- &lt;2 mg/kg (i.e., &lt;2 ppm PCBs)</li> </ul> </li> </ul>	<p>If the facility has conducted decontamination, review records to verify that it had a disposal approval or that it conducted decontamination in accordance with the standards in §761.79(b).</p> <p>Request the facility's alternative decontamination approval if the facility decontaminated porous surfaces other than concrete or non-porous surfaces covered with a porous surface.</p> <p>Verify that they are adhering to the applicable decontamination standards.</p>

Regulatory Requirements	Inspection Procedures
<b>Decontamination Standards and Procedures</b>	
<ul style="list-style-type: none"> <li>• Standards for non-porous surfaces previously in contact with liquid PCBs at any concentration, where no free-flowing liquids are currently present, for unrestricted use:               <ul style="list-style-type: none"> <li>- # 10 µg/100 cm<sup>2</sup> as measured by a standard wipe test at selected locations</li> </ul> </li> <li>• Standards for non-porous surfaces in contact with non-liquid PCBs (including non-porous surfaces covered with a porous surface, such as paint or coating on metal)               <ul style="list-style-type: none"> <li>- cleaning to Visual Standard No. 2, Near-White Blast Cleaned Surface Finish, of the National Association of Corrosion Engineers (NACE) as verified by visually inspecting all cleaned areas.</li> </ul> </li> <li>• Standards for non-porous surfaces previously in contact with liquid PCBs at any concentration, where no free-flowing liquids are currently present for disposal in a smelter meeting specified standards under §761.72:               <ul style="list-style-type: none"> <li>- &lt; 100 µg/100 cm<sup>2</sup> as measured by a standard wipe test at selected locations</li> </ul> </li> <li>• Standards for non-porous surfaces in contact with non-liquid PCBs (including non-porous surfaces covered with a porous surface, such as paint or coating on metal) for disposal in a smelter meeting specified standards under §761.72:               <ul style="list-style-type: none"> <li>- cleaning to Visual Standard No. 3, Commercial Blast Cleaned Surface Finish, of NACE as verified by visually inspecting all cleaned areas.</li> </ul> </li> <li>• Standard for concrete               <ul style="list-style-type: none"> <li>- #10 µg/100 cm<sup>2</sup> as measured by a standard wipe test if the decontamination procedure is started within 72 hours of the initial spill of PCBs to the concrete or portion thereof being decontaminated.</li> </ul> </li> </ul>	



Regulatory Requirements	Inspection Procedures
<b>Decontamination Standards and Procedures</b>	
<p>Any person performing self-implementing decontamination procedures must comply with one of the following procedures: §761.79(c)</p> <ul style="list-style-type: none"> <li>• For PCB Containers, flush the internal surfaces of the container 3 times with a solvent containing &lt;50 ppm PCBs. The volume of each rinse must equal approximately 10% of the PCB Container capacity. §761.79(c)(1)</li> <li>• For PCB-contaminated movable equipment, tools, or sampling equipment, swab surfaces with a solvent, perform a double wash/rinse in accordance with §761.360 through 761.378, or perform another applicable decontamination procedure. §761.79(c)(2)</li> <li>• For non-porous surface in contact with free-flowing mineral oil dielectric fluid (MODEF) at levels <math>\leq 10,000</math> ppm, drain all free-flowing MODEF and allow the surfaces to drain for an additional 15 h, dispose of drained MODEF according to §761.75(g), soak the surfaces in a sufficient amount of clean (containing &lt;2 ppm PCBs) performance-based organic decontamination fluid (PODF) such that there is a minimum of 800 mL of PODF for each 100 cm<sup>2</sup> of contaminated or potentially contaminated surface for at least 15 h at 20°C, drain the PODF from the surfaces, and dispose of the drained PODF in accordance with §761.79(g). Approved PODFs include kerosene, diesel fuel, terpene hydrocarbons, and mixtures of terpene hydrocarbons and terpene alcohols. §761.79(c)(3)</li> </ul>	<p>Verify that persons performing self-implementing decontamination complied with one of the procedures in §761.79(c) by reviewing records.</p>

Regulatory Requirements	Inspection Procedures
<b>Decontamination Standards and Procedures</b>	
<ul style="list-style-type: none"> <li>For a non-porous surface in contact with free-flowing MODEF containing &gt;10,000 ppm PCB in MODEF or askarel PCB (up to 70 percent PCB in a mixture of trichlorobenzenes and tetrachlorobenzenes), drain the free-flowing MODEF or askarel and allow the residual surfaces to drain for an additional 15 h, dispose of drained MODEF or askarel in accordance with §761.79(g), soak the surfaces to be decontaminated in a sufficient amount of clean PODF (containing &lt; 2 ppm PCBs) such that there is a minimum of 800 mL of PODF for each 100 cm<sup>2</sup> of contaminated or potentially contaminated surface for at least 15 h at ≥ 20°C, drain the PODF from the surfaces, dispose of the drained PODF in accordance with §761.79(g), resoak the surfaces to be decontaminated in a sufficient amount of clean PODF (containing &lt; 2 ppm PCBs) such that there is a minimum of 800 mL of PODF for each 100 cm<sup>2</sup> of surface for at least 15 h at ≥ 20°C, drain the PODF from the surfaces, dispose of the drained PODF in accordance with §761.79(g). §761.79(c)(4)</li> </ul>	

Regulatory Requirements	Inspection Procedures
<b>Decontamination Standards and Procedures</b>	
<ul style="list-style-type: none"> <li>• Any person decontaminating piping and air lines in an air compressor system must: §761.79(c)(5) <ul style="list-style-type: none"> <li>- before decontamination proceeds, disconnect or bypass the air compressors and air dryers from the piping and air lines and decontaminate the air compressors and air dryers separately</li> <li>- dispose of filter media and desiccant in the air dryers based on their existing PCB concentration</li> <li>- test the connecting line and appurtenances of the system to assure that there is no leakage by introducing air into the closed system at from 90 to 100 psi. Only if there is a pressure drop of &lt; 5 psi in 30 minutes may decontamination take place.</li> <li>- when there is no leakage, fill the piping and air lines with clean (containing &lt; 2 ppm PCBs) solvent. Solvents include PODF, aqueous potassium hydroxide at a pH between 9 and 12, or water containing 5 percent sodium hydroxide by weight</li> <li>- circulate the solvent to achieve turbulent flow through the piping and air lines in the air compressor system until the total volume of solvent circulated equals 10 times the total volume of the particular article being decontaminated, then drain the solvent</li> <li>- calculate the total volume of solvent circulated by multiplying the pump rate by the time of pumping</li> <li>- refill the system with clean solvent and repeat the circulation and drain process.</li> </ul> </li> <li>• For metal surfaces in contact with liquid and non-liquid PCBs at concentrations &lt; 500 ppm, use a scrap metal recovery oven or smelter.</li> <li>• For metal surfaces in contact with liquid or non-liquid PCBs at concentrations ≥ 500 ppm, decontaminate to a surface concentration of 100 µg/100 cm<sup>2</sup> then use a scrap metal recovery oven or smelter.</li> </ul>	<p>Interview facility workers on decontamination procedures. Check disposal records to ensure facility complied with disposal requirements.</p>

Regulatory Requirements	Inspection Procedures
<b>Decontamination Standards and Procedures</b>	
<p>Decontamination solvents: §761.79(d)</p> <ul style="list-style-type: none"> <li>• must be 5 percent or more by weight (unless otherwise provided)</li> <li>• must have a PCB concentration of &lt;50 ppm</li> <li>• may be tested and validated for performance-based decontamination of non-porous surfaces contaminated with MODEF or other PCB liquids, in accordance with the self-implementing procedures. Specific conditions for the performance-based testing from this validation are determined in the validation study.</li> </ul> <p>Any person conducting decontamination activities shall limit their exposure and take necessary measures to protect against direct release of PCBs to the environment from the decontamination area. §761.79(e)</p> <p>Persons conducting self-implementing decontamination must retain a written record documenting compliance with required compliance sampling or self-implementing decontamination procedures for 3 years after completion of the decontamination. §761.79(f)</p>	<p>Verify that individuals participating in decontamination activities wear or use protective clothing or equipment to protect against dermal contact or inhalation of PCBs or materials containing PCBs.</p> <p>Verify that the persons conducting self-implementing decontamination have retained the required written record for 3 years after completion of the decontamination.</p>

Regulatory Requirements	Inspection Procedures
<b>Decontamination Standards and Procedures</b>	
<p>Persons must dispose of decontamination waste and residues at their existing PCB concentration unless otherwise specified. §761.79(g)</p> <p>Any person wishing to decontaminate material or perform sampling using an alternate method must apply in writing to the EPA RA and receive approval. §761.79(h)</p>	<p>Verify that</p> <ul style="list-style-type: none"> <li>• distillation bottoms or residues and filter media are disposed of as PCB remediation waste.</li> <li>• PCB wastes physically separated from regulated waste are disposed of at their original concentration</li> <li>• hydrocarbon solvent that contains &lt;50 ppm PCB is burned and marketed in accordance with §761.20(e), disposed of in accordance with §761.60(a) or 761.60(e), or decontaminated.</li> <li>• chlorinated solvent with any PCB concentration are disposed of in an incinerator in accordance with §761.70 or decontaminated</li> <li>• solvents <math>\geq</math> 50 ppm other than those described above are disposed of in accordance with §761.60(a) or decontaminated</li> <li>• non-liquid cleaning materials and personal protective equipment waste at any concentration, including non-porous surfaces and other non-liquid materials such as rags, gloves, booties, other disposable personal protective equipment, and similar materials resulting from decontamination are disposed of in accordance with §761.61(a)(5)(v).</li> </ul> <p>Verify that the facility does not conduct decontamination or sampling using an alternate methodology prior to obtaining written approval from EPA.</p>

## 5.5 Transboundary Shipments of PCBs for Disposal

## Regulation Reference §761.91 through §761.99

Regulatory Requirements	Inspection Procedures
<b>Import for Disposal</b>	
<p>No person may import PCBs or PCB Items for disposal without an exemption issued under the authority of TSCA section 6(e)(3). §761.93(a)</p>	<p>From EPA databases, review facility historical enforcement data and obtain information on whether the facility imported PCBs or PCB Items. If so, verify that the facility had received an exemption at the time of import.</p>
<b>Export for Disposal</b>	
<p>No person may export PCBs or PCB Items for disposal without an exemption, except that PCBs and PCB Items at concentrations &lt;50 ppm (or &lt;10 µg PCB/100 cm<sup>2</sup> if no free-flowing liquids are present) may be exported for disposal. §761.97(a)(1)</p> <p>Persons shall treat PCBs and PCB Items of unknown concentrations as if they contain ≥50 ppm. §761.97(a)(2)</p>	<p>Obtain information on whether the facility exported PCBs or PCB Items. If so, verify that the facility received an exemption prior to export, or that the PCBs were below the specified concentrations.</p>
<b>Other Transboundary Shipments</b>	
<p>The following transboundary shipments are not considered exports or imports:</p> <ul style="list-style-type: none"> <li>• PCB waste generated in the U.S., transported outside the Customs Territory of the U.S. (including any residuals resulting from cleanup of spills of such wastes in transit) through another country or its territorial waters, or through international waters, and returned to the U.S. for disposal. §761.99(a)</li> <li>• PCB waste in transit, including any residuals resulting from cleanup of spills during transit, through the U.S. (e.g., from Mexico to Canada, from Canada to Mexico). §761.99(b)</li> <li>• PCB waste transported from any State to any other State for disposal, regardless of whether the waste enters or leaves the customs territory of the U.S., provided that the PCB waste or the PCBs from which the waste was derived were present in the U.S. on January 1, 1979, and have remained within the U.S. since that date. §761.99(c)</li> </ul>	

## 5.6 PCB Spill Cleanup Policy

## Regulation Reference §761.125

**(NOTE: The PCB Spill Cleanup Policy is intended for spills less than 72 hours old. Any spills older than 72 hours must be cleaned up as PCB Remediation Waste found at Regulation Reference §761.61 (page 4-49). This is a policy, not a regulation.)**

Regulatory Requirements	Inspection Procedures
<b>PCB Spill Cleanup Policy</b>	
<p>Unless expressly limited, the reporting, disposal, and preclean-up sampling requirements below apply to all spills of PCBs at concentrations of <math>\geq 50</math> ppm which are subject to decontamination requirements under TSCA including those spills listed under §761.120(b) which are excluded from the cleanup standards of §§761.125(b) and (c). §761.125(a)</p> <p>Where a spill directly contaminates surface water, sewers, or drinking water supplies, the responsible party must notify the appropriate EPA regional office or National Chemical Program Division and obtain guidance for appropriate cleanup measures within 24 hours of discovery or sooner if possible. §761.125(a)(1)(i)</p> <p>Where a spill directly contaminates grazing lands or vegetable gardens, the responsible party must notify the appropriate EPA regional office and proceed with immediate requirements specified under §§761.125(b) or (c) within 24 hours of discovery or sooner if possible. §761.125(a)(1)(ii)</p> <p>Where a spill exceeds 10 pounds of PCBs by weight and is not addressed in §§761.125(a)(1)(i) or (ii), the responsible party must notify the appropriate EPA regional office and proceed to decontaminate the spill area in accordance with this Policy within 24 hours of discovery or sooner if possible. §761.125(a)(1)(iii)</p> <p>Where a spill is 10 pounds or less and is not addressed in §§761.125(a)(1)(i) or (ii), the responsible party must decontaminate the spill area in accordance with this Policy but does not need to notify EPA. §761.125(a)(1)(iv)</p>	<p>Determine who is the responsible party based on interviews and information gathered from the citizen complaint. Verify that the responsible party notified the EPA within 24 hours of discovery.</p> <p>Verify that the responsible party notified the EPA within 24 hours of discovery and immediately began cleanup.</p> <p>Verify that the responsible party notified the EPA within 24 hours of discovery and immediately began cleanup.</p>

Regulatory Requirements	Inspection Procedures
<b>PCB Spill Cleanup Policy</b>	
<p>The responsible party must properly store, label, and dispose of all concentrated soils, solvents, rags, and other materials resulting from the cleanup in accordance with Subpart D. §761.125(a)(2)</p> <p>The responsible party must use a statistically based sampling scheme to determine the boundaries of the spill where there are insufficient visible traces yet there is evidence of a leak or spill. §761.125(a)(3)</p> <p><b>Low-concentration spills which involve less than 1 pound of PCBs by weight (less than 270 gallons of untested mineral oil) §761.125(b)</b></p> <p>Within 48 hours after they were notified or became aware of the spill, the responsible party must: §761.125(b)(1)</p> <ul style="list-style-type: none"> <li>• Double wash/rinse (as defined under §761.123) all solid surfaces</li> <li>• Clean all indoor, residential surfaces other than vault areas to 10 µg/100 cm<sup>2</sup> by standard commercial wipe tests.</li> <li>• Excavate all soil within the spill area (i.e., visible traces of soil and a buffer of 1 lateral foot around the visible traces) and restore the ground to its original configuration by back-filling with clean soil (&lt; 1 ppm PCBs).</li> </ul> <p>The responsible party may delay completion of cleanup 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. The delay may only last 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. §761.125(b)(2)</p>	<p>Verify decontamination procedures.</p> <p>If cleanup completion was delayed beyond 48 hours, document the reason for the delay.</p>



Regulatory Requirements	Inspection Procedures
<b>PCB Spill Cleanup Policy</b>	
<p>At the completion of cleanup, the responsible party shall document the cleanup with records and certify decontamination. They must maintain the records and certification for 5 years. The records and certification shall consist of the following:</p> <p>§761.125(b)(3)</p> <ul style="list-style-type: none"> <li>• Identification of the source of the spill.</li> <li>• Estimated or actual date and time of the spill occurrence.</li> <li>• Date and time cleanup was completed or terminated (the nature and duration of the delay, if applicable).</li> <li>• Description of the spill location.</li> <li>• Precleanup sampling data used to establish the spill boundaries, if required, and a brief description of the sampling methodology used to establish the spill boundaries.</li> <li>• Description of the solid surfaces cleaned and of the double wash/rinse method used.</li> <li>• Approximate depth of soil excavation and the amount of soil removed.</li> <li>• 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 their knowledge.</li> </ul>	<p>Check the company records and copy of certification of decontamination for the required information if applicable.</p>
<p><b>High-concentration spills and low-concentration spills involving 1 pound or more PCBs by weight (270 gallons or more of untested mineral oil). §761.125(c)</b></p> <p>As quickly as possible and within no more than 24 hours (48 hours for PCB Transformers) after the responsible party was notified or became aware of the spill, they must: §761.125(c)(1)</p> <ul style="list-style-type: none"> <li>• Notify the EPA regional office and the National Response Center (NRC) as required by §761.125(a)(1) or by other applicable statutes.</li> <li>• 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 and the potential for human exposure.</li> </ul>	<p>Verify that the responsible party completed the required notification, restriction, and documentation.</p>



Regulatory Requirements	Inspection Procedures
<b>PCB Spill Cleanup Policy</b>	
<p>The party responsible for a spill in outdoor electrical substations must: §761.125(c)(2)</p> <ul style="list-style-type: none"> <li>• Clean contaminated solid surfaces (both impervious and non-impervious) to a PCB concentration of 100 µg/100 cm<sup>2</sup> (as measured by standard wipe tests).</li> <li>• At the option of the responsible party, clean soil contaminated by the spill 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. If the responsible party demonstrates 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.</li> <li>• Verify conformance to the cleanup standards by post-cleanup sampling as specified under §761.130.</li> </ul>	<p>Verify that the responsible party cleaned the spill to the prescribed concentrations.</p> <p>If improper cleanup procedures are suspected or no records are available, the inspector may sample.</p>
<p>The party responsible for a spill in other restricted access areas must: §761.125(c)(3)</p> <ul style="list-style-type: none"> <li>• Clean high-contact solid surfaces to 10 µg/100 cm<sup>2</sup> (as measured by standard wipe tests). A high-contact surface is a surface that is repeatedly touched, often for long periods of time. Examples of high-contact industrial surfaces are manned machinery or control panels. Examples of high-contact residential/commercial surfaces are doors, walls below 6 feet, uncovered flooring, windowsills, bannisters, fencing, stairs, automobiles, and children's play areas.</li> <li>• Decontaminate low-contact, indoor, impervious solid surfaces to 10µg/100 cm<sup>2</sup>.</li> </ul>	<p>Verify company's sampling records to ensure that the responsible party cleaned the spill to the prescribed concentrations.</p>

Regulatory Requirements	Inspection Procedures
<b>PCB Spill Cleanup Policy</b>	
<ul style="list-style-type: none"> <li>• At the option of the responsible party, clean low-contact, indoor, nonimpervious surfaces to 10 µg/100 cm<sup>2</sup> or clean to 100 µg/100 cm<sup>2</sup> and encapsulate. The EPA RA may disallow the encapsulation option for a particular spill situation upon finding that the uncertainties associated with that option pose special concerns at that site.</li> <li>• Clean low-contact, outdoor surfaces (both impervious and nonimpervious) to 100 µg/100 cm<sup>2</sup>.</li> <li>• Clean soil contaminated by the spill to 25 ppm PCBs by weight.</li> <li>• Verify conformance to the cleanup standards by postcleanup sampling as specified under §761.130.</li> </ul> <p>Note: Persons responsible for spills to outdoor electrical substations or other restricted access areas that have been converted to another use must clean the spill to the nonrestricted access requirements at §761.125(c)(4).</p> <p>The party responsible for a spill in nonrestricted access areas must: §761.125(c)(4)</p> <ul style="list-style-type: none"> <li>• Dispose of furnishings, toys, and other easily replaceable household items in accordance with the provisions of subpart D of this part and replace them.</li> <li>• Clean indoor solid surfaces and high contact outdoor solid surfaces, defined as high contact residential/commercial surfaces under §761.123, to 10 µg/100 cm<sup>2</sup> (as measured by standard wipe tests).</li> <li>• Decontaminate indoor vault areas and low-contact, outdoor, impervious solid surfaces to 10 µg/100 cm<sup>2</sup>.</li> </ul>	<p>Visually inspect and review company sampling records to ensure that the responsible party cleaned the spill to the prescribed concentrations.</p> <p>If improper sampling is suspected, inspector may sample area affected by the spill.</p>

Regulatory Requirements	Inspection Procedures
<b>PCB Spill Cleanup Policy</b>	
<ul style="list-style-type: none"> <li>• At the option of the responsible party, clean low-contact, outdoor, nonimpervious solid surfaces to 10 µg/100 cm<sup>2</sup> or clean to 100 µg/100 cm<sup>2</sup> and encapsulate. The EPA RA may disallow the encapsulation option for a particular spill situation upon finding that the uncertainties associated with that option pose special concerns at that site.</li> <li>• Decontaminate soil contaminated by the spill to 10 ppm PCBs by weight, excavate the soil to a minimum depth of 10 inches, replace the excavated soil with clean soil (&lt;1 ppm PCBs), and restore the spill site.</li> <li>• Verify conformance to the cleanup standards by postcleanup sampling as specified under §761.130.</li> </ul> <p>The responsible party must document the cleanup with records of decontamination and maintain the records for 5 years. The records and certification shall consist of the following: §761.125(c)(5)</p> <ul style="list-style-type: none"> <li>• Identification of the source of the spill</li> <li>• Estimated or actual date and time of the spill occurrence</li> <li>• Date and time cleanup was completed or terminated (the nature and duration of the delay, if applicable).</li> <li>• Description of the spill location (outdoor electrical substation, other restricted access location, or in a nonrestricted access area) and the nature of the materials contaminated.</li> <li>• Precleanup sampling data used to establish the spill boundaries, if required, and a brief description of the sampling methodology used to establish the spill boundaries.</li> <li>• Description of the solid surfaces cleaned.</li> <li>• Approximate depth of soil excavation and the amount of soil removed.</li> <li>• Postcleanup verification sampling data and, if not otherwise apparent, a brief description of the sampling methodology and analytical technique used.</li> </ul>	<p>Check the records and certification of decontamination for the required information.</p>

## 5.7 General Records and Reports

## 5.7.1 PCBs and PCB Items in Service or Projected for Disposal

## Regulation Reference §761.180(a)

Regulatory Requirements	Inspection Procedures
<b>PCBs and PCB Items in Service or Projected for Disposal</b>	
<p>Beginning 2/5/90, owners and operators of a facility other than a commercial storer or disposer of PCB waste, using or storing at any time at least 45 kilograms (99.4 pounds) of containerized PCBs, one or more PCB Transformers, or 50 or more PCB Large High-or Low-Voltage Capacitors must develop and maintain all annual records and a written annual document log of the disposition of PCBs and PCB Items. The owners and operators must prepare a written annual document log for each facility by July 1st covering the previous calendar year (January - December) and maintain the annual document log for at least 3 years after the facility ceases using or storing PCBs. §761.180(a)</p> <p>The annual records must include: §761.180(a)(1)</p> <ul style="list-style-type: none"> <li>• All signed manifests generated by the facility during the calendar year</li> <li>• All certificates of disposal (CODs) that have been received by the facility during the calendar year</li> <li>• Records of inspections and cleanups performed in accordance with §761.65(c)(5).</li> </ul> <p>The annual document log must include: §761.180(a)(2)</p> <ul style="list-style-type: none"> <li>• Name, address, and EPA ID number of the facility covered by the annual document log and the calendar year covered by the annual document log §761.180(a)(2)(i)</li> </ul>	<p>Check the amount of PCBs or PCB Items to determine whether facility is subject to general recordkeeping requirements. If PCBs or PCB Items are present in prescribed amounts, verify that the facility is preparing and maintaining the proper records.</p> <p>Inspect annual records for required information.</p> <p>Inspect annual document log for required information.</p>

Regulatory Requirements	Inspection Procedures
<b>PCBs and PCB Items in Service or Projected for Disposal</b>	
<ul style="list-style-type: none"> <li>• The manifest number of every manifest generated during the calendar year, and from each manifest and for unmanifested waste stored at the facility, the following information: §761.180(a)(2)(ii)</li> </ul> <p><b>All PCB Items</b> — First date it was removed from service for disposal, date it was placed into transport for storage or disposal, and date of disposal.</p> <p><b>Bulk PCB waste</b> — Weight in kg, total bulk weight in kg of bulk PCB waste that was placed into storage for disposal or disposed of during the calendar year.</p> <p><b>PCB Transformers</b> — The serial number or other means of identifying each PCB Transformer, weight in kg of the PCB waste in the transformer or capacitor, and the total number of PCB Transformers and total weight in kg of PCBs contained in the transformers.</p> <p><b>PCB Containers</b> — A unique number identifying each PCB Container, a description of the contents of each PCB Container (liquid, soil, cleanup debris, etc.), total weight in kg of PCB Container(s), and total weight in kg of the contents of PCB Containers.</p> <p><b>PCB Articles</b> — a unique number identifying each PCB Article Container, a description of the contents of each PCB Article Container (pipes, capacitors, motor pumps, etc.), total weight of material in PCB Container(s), the total number by specific type of PCB Articles, total weight in kg of PCBs and PCB Articles, and total number of PCB Article Containers.</p>	<p>Interview owner/operator and verify what materials the facility handles and inspect annual document log for required information applicable to specific materials.</p> <p>Take photographs of facility's PCB items, waste, transformers, containers, and articles.</p> <p>Ensure all of the above comply with the appropriate requirements.</p>

Regulatory Requirements	Inspection Procedures
<b>PCBs and PCB Items in Service or Projected for Disposal</b>	
<ul style="list-style-type: none"> <li>• The total number by specific type of PCB Articles and the total weight in kg of PCBs in PCB Articles, the total number of PCB Article Containers and total weight in kg of the contents of PCB Article Containers, the total number of PCB Containers and the total weight in kg of the contents of PCB Containers, and the total weight in kg of bulk PCB waste that was placed into storage for disposal or disposed during the calendar year. §761.180(a)(2)(iii)</li> <li>• The total number of PCB Transformers and total weight in kg of PCBs contained in the transformers remaining in service at the end of the calendar year. §761.180(a)(2)(iv)</li> <li>• The total number of Large High or Low Voltage PCB Capacitors remaining in service at the end of the calendar year. §761.180(a)(2)(v)</li> <li>• The total weight in kg 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. §761.180(a)(2)(vi)</li> <li>• For any PCBs or PCB Item received from or shipped to another facility owned or operated by the same generator, the information required under §761.180(a)(2)(ii). §761.180(a)(2)(vii)</li> <li>• 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). §761.180(a)(2)(viii)</li> </ul>	<p>Verify whether any PCBs or PCB Items were received from or shipped to another facility owned or operated by the same generator; if so, check annual report log for required information.</p> <p>Verify whether any PCBs or PCB Items were shipped for storage or disposal via transportation by an independent transporter; if so, check annual report log for records of required verification.</p>



Regulatory Requirements	Inspection Procedures
<b>PCBs and PCB Items in Service or Projected for Disposal</b>	
<ul style="list-style-type: none"> <li>Whenever a PCB Item, excluding small capacitors, with a concentration of \$50 ppm is distributed in commerce for reuse pursuant to §761.20(c)(1), the name, address, and telephone number of the person to whom the item was transferred, date of transfer, and the permanently marked serial number or internal identification number of the item. §761.180(a)(2)(ix)</li> </ul> <p>For purposes of the annual document log, PCB Voltage Regulators must be recorded as PCB Transformers. §761.180(a)(4)</p>	<p>Verify whether any PCB Item was transferred, sold, or otherwise distributed in commerce.</p>

### 5.7.2 Disposers and Commercial Storers of PCB Waste

#### Regulation Reference: §761.180(b)

Regulatory Requirements	Inspection Procedures
<b>Disposers and Commercial Storers of PCB Waste</b>	
<p>Beginning 2/5/90, each owner and operator of a facility (including high-efficiency boiler operations used for the commercial storage or disposal of PCBs and PCB Items) must maintain annual records on the disposition of all PCBs and PCB Items at the facility and prepare and maintain a written annual document log for PCBs and PCB Items that were handled as PCB waste at the facility. §761.180(b)</p> <p>The owner and operator must prepare the written annual document log by July 1 for the previous calendar year (January - December) and maintain the log at each facility for at least 3 years after each facility is no longer used for the storage or disposal of PCBs and PCB Items, except that owners/operators of chemical waste landfills must maintain the annual document log for at least 20 years after the landfill is no longer used for PCB disposal. The maintenance requirements for annual records are the same as those for the annual document log. §761.180(b)</p>	<p>Verify that annual records and written annual document log are being maintained and are correct.</p> <p>Verify that annual records and annual document log are maintained according to specified time table.</p>

Regulatory Requirements	Inspection Procedures
<b>Disposers and Commercial Storers of PCB Waste</b>	
<p>The annual records must include: §761.180(b)(1)</p> <ul style="list-style-type: none"> <li>• All signed manifests generated by the facility during the calendar year</li> <li>• All certificates of disposal (CODs) that have been received by the facility during the calendar year</li> <li>• Records of inspections and cleanups performed in accordance with §761.65(c)(5).</li> </ul> <p>The annual document log must contain the following information: §761.180(b)(2)</p> <ul style="list-style-type: none"> <li>• Name, address, and EPA ID number of the facility covered by the annual document log and the calendar year covered by the annual document log §761.180(b)(2)(i)</li> <li>• The manifest number of every manifest generated by the facility during the calendar year and from each manifest and for unmanifested waste stored at the facility, the following information: §761.180(b)(2)(ii)</li> </ul> <p><b>All PCB Items</b> — First date it was removed from service for disposal, date it was received at the facility, date it was placed into transport offsite disposal (if applicable), date of disposal (if known), and confirmed date of disposal.</p> <p><b>Bulk PCB waste</b> — Weight in kg.</p> <p><b>PCB Articles not in a PCB Container</b> — A unique number identifying each PCB Article and weight in kg of the PCB waste in the article.</p> <p><b>PCB Containers</b> — The unique number assigned by the generator identifying each PCB Container and a description of the contents of each PCB Container (liquid, soil, cleanup debris, etc.), and total weight in kg of the PCB waste in the PCB Container(s).</p>	<p>Inspect annual document log for all required information.</p> <p>Verify what materials are handled at facility and inspect annual document log for required information applicable to specific materials.</p> <p>The inspector should also obtain copies of at least one years worth of shipping documents (manifests and bills of lading). By comparing the dates of incoming and outgoing weights, the inspector can determine if the facility at any time exceeded their allowed storage capacity.</p>

Regulatory Requirements	Inspection Procedures
<b>Disposers and Commercial Storers of PCB Waste</b>	
<p><b>PCB Article Containers</b> — The unique number assigned by the generator identifying each PCB Article Container and a description of the contents of each PCB Article Container (e.g., pipes, capacitors, electric motors, pumps, etc.), and total weight in kg of the PCB waste in the PCB Article Container.</p> <p>For any PCBs or PCB Items received from or shipped to another facility owned or operated by the same generator, the information listed in §761.180(b)(2)(ii). §761.180(b)(2)(iii)</p> <p>The owner or operator of a PCB disposal or commercial storage facility must submit an annual report (that briefly summarizes the records and annual document log required to be maintained and prepared as indicated above) to the RA of the EPA Region where the facility is located by July 15 of each year. §761.180(b)(3)</p>	<p>Verify what materials are handled at facility and inspect annual document log for required information applicable to specific materials.</p> <p>Verify whether any PCBs or PCB Items were received from or shipped to another facility owned or operated by the same generator; if so, check annual report log for required information.</p> <p>During the inspection, verify that annual report has been submitted to the EPA Regional Administrator according to required timetable.</p>

Regulatory Requirements	Inspection Procedures
<b>Disposers and Commercial Storers of PCB Waste</b>	
<p>The annual report must contain:</p> <ul style="list-style-type: none"> <li>• Name, address, and EPA identification number of the facility covered by the annual report for the calendar year §761.180(b)(3)(i)</li> <li>• A list of the numbers of all signed manifests of PCB waste initiated or received by the facility during that year §761.180(b)(3)(ii)</li> <li>• The total weight in kg of bulk PCB waste, PCB waste in PCB Transformers, PCB waste in PCB Large High- or Low- Voltage Capacitors, and PCB waste in PCB Containers in storage at the facility at the beginning of the calendar year, received or generated at the facility, or disposed of at the facility during the calendar year and remaining in storage for disposal at the facility at the end of the calendar year. (The information must be provided for each of these categories as appropriate.) §§761.180(b)(3)(iii and v)</li> <li>• 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, or disposed of at the facility during the calendar year, and remaining in storage for disposal at the facility at the end of the calendar year. (The information must be provided for each of these categories as appropriate.) §§761.180(b)(3)(iv and vi)</li> </ul> <p>The requirement to submit annual reports to the EPA RA continues until the submission of the annual report for the calendar year during which the facility ceases PCB storage or disposal operations. §761.180(b)(3)(vii)</p> <p>Whenever a commercial storer of PCB waste accepts PCBs or PCB Items at his or her storage facility and transfers the PCB waste offsite to another facility for storage or disposal, the commercial storer of PCB waste must initiate a manifest for the transfer of PCBs or PCB Items to the next storage or disposal facility. §761.180(b)(4)</p>	<p>Inspect annual report for all required information. (See left column.)</p> <p>If facility has ceased operations, verify that an annual report was submitted to the EPA RA for the calendar year in which the facility ceased operations.</p> <p>Verify whether facility has accepted PCBs or PCB Items and transferred the PCBs or PCB Items to an offsite facility for storage or disposal; if so, inspect manifests executed pursuant to this requirement.</p>

Regulatory Requirements	Inspection Procedures
<b>Disposers and Commercial Storers of PCB Waste</b>	
For purposes of these requirements, PCB Voltage Regulators must be recorded as PCB Transformers. §761.180(b)(5)	

### 5.7.3 Retention of Special Records by Storage and Disposal Facilities

**Regulation Reference: §761.180(f)**

Regulatory Requirements	Inspection Procedures
<b>Retention of Special Records by Storage and Disposal Facilities</b>	
<p>In addition to the information required to be collected and maintained under §761.180(b),(c),(d) and (e), each owner or operator of a PCB storage or disposal facility (including high-efficiency boiler facilities) must collect and maintain for three years the following data for the time period specified in §761.180(b): §761.180(f):</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• 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</li> <li>• Any applications and related correspondence sent by the owner or operator of the facility to any local, State, or Federal authorities in regard to wastewater discharge permits, solid waste permits, building permits, or other permits or authorizations such as those required by §§761.70(d) and 761.75(c).</li> </ul>	Inspect facility records for all required information.

### 5.7.4 Certification Program and Retention of Records by Importers and Persons Generating PCBs in Excluded Manufacturing Processes

Regulation Reference: §761.185

Regulatory Requirements	Inspection Procedures
<b>Certification Program and Retention of Records by Importers and Persons Generating PCBs in Excluded Manufacturing Processes</b>	
<p>Manufacturers with processes inadvertently generating PCBs and importers of products containing inadvertently generated PCBs must report to EPA any excluded manufacturing processes or imports for which the concentration of PCBs in products leaving the manufacturing site or imported is greater than 2 µg/g (approximately 2 ppm) for any resolvable gas chromatographic peak. The manufacturers and importers must file such reports within 90 days of having processes or imports for which such reports are required. The reports must contain the following: §761.185(a)</p> <ul style="list-style-type: none"> <li>• <u>For manufacturers</u>—the number, type, and location of excluded manufacturing processes in which PCBs are generated when the PCB level in products leaving any manufacturing site is greater than 2 Fg/g for any resolvable gas chromatograph peak.</li> <li>• <u>For importers</u>—the concentration of PCBs in imported products when the PCB concentration of products being imported is greater than 2 Fg/g for any resolvable gas chromatograph peak.</li> </ul> <p>Persons required under this section to report to EPA must also certify the following: §761.185(b)</p> <ul style="list-style-type: none"> <li>• Their compliance with all applicable requirements of §761.1(f), including any applicable requirements for air and water releases and process waste disposal.</li> </ul>	<p>Verify whether the manufacturing facility or importer has manufactured or imported products with PCBs and determine the concentration; if greater than 2 µg/g, inspect report for all required information and verify that it was sent to the EPA National Chemical Program Division within 90 days of the commencing of the process or importation for which the report was required.</p> <p>Verify whether the report has been properly certified by a company-authorized person and submitted to EPA National Chemical Program Division.</p> <p>Review the report to verify that the following items were certified:</p> <ul style="list-style-type: none"> <li>• Compliance with all applicable requirements of §761.1(f) (recordkeeping and reporting requirements of Subpart J),</li> <li>• Whether determinations of compliance are based on actual monitoring of PCB levels or on theoretical assessments, and</li> <li>• That such determinations of compliance are being maintained.</li> </ul>

Regulatory Requirements	Inspection Procedures
<b>Certification Program and Retention of Records by Importers and Persons Generating PCBs in Excluded Manufacturing Processes</b>	
<ul style="list-style-type: none"> <li>• Whether determinations of compliance are based on actual monitoring of PCB levels or on theoretical assessments (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).</li> <li>• That such determinations of compliance are being maintained.</li> </ul> <p>Any person who reports pursuant to this section: §761.185(c)</p> <ul style="list-style-type: none"> <li>• Must have performed either a theoretical analysis or actual monitoring of PCB concentrations; and</li> <li>• Must maintain for a period of 3 years after ceasing process operations or importation, or for 7 years, whichever is shorter, records containing the following information:</li> </ul> <p><b>Theoretical analysis</b>—Manufacturers records must include the reaction or reactions believed to be generating PCBs; the levels of PCBs generated; and 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;</p> <p style="text-align: center;">-or-</p> <p><b>Actual monitoring</b>—The method of analysis, the results of the analysis including data from the Quality Assurance Plan, description of the sample matrix, name of the analyst(s), date and time of the analysis, and numbers for lots from which the samples are taken.</p> <p>A responsible corporate official must sign the certification required by section §761.185(b) in accordance with §761.185(d) and (e).</p>	<p>Verify whether theoretical or actual analysis was utilized in determining PCB levels in manufactured or imported products and that the records containing the analysis are being maintained for 3 years after ceasing process operations or importation, or for 7 years., whichever is shorter.</p> <p>Verify a responsible corporate official properly signed the report.</p>

Regulatory Requirements	Inspection Procedures
<b>Certification Program and Retention of Records by Importers and Persons Generating PCBs in Excluded Manufacturing Processes</b>	
The manufacturer or importer must repeat the certification process whenever process conditions are significantly modified to make the previous certification invalid. §761.185(g)	Verify the facility records and ensure that the certification process is repeated whenever process conditions are significantly modified to make the previous certification no longer valid. Obtain information on modifications of process conditions.

### 5.7.5 Reporting Importers and by Persons Generating PCBs in Excluded Manufacturing Processes

Regulation Reference: §761.187

Regulatory Requirements	Inspection Procedures
<b>Reporting Importers and by Persons Generating PCBs in Excluded Manufacturing Processes</b>	
<p>PCB-generating manufacturing processes or importers of PCB-containing products are “excluded manufacturing processes” only when the following conditions are met:</p> <ul style="list-style-type: none"> <li>• The owner/operator or importer reports to the EPA data 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% 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% of the average total quantity of such product containing PCBs imported by such importer during the years 1978, 1979, 1980, 1981 and 1982. §761.187(a)</li> </ul>	Compare internal facility reports to those submitted to EPA, which can be found in the National Chemical Program Division database at <a href="http://www.epa.gov/pcb/data.html">http://www.epa.gov/pcb/data.html</a> , to verify that the data reported to EPA are correct.



Regulatory Requirements	Inspection Procedures
<b>Reporting Importers and by Persons Generating PCBs in Excluded Manufacturing Processes</b>	
<ul style="list-style-type: none"> <li>The owner/operator or importer reports to the EPA data concerning the total quantity of inadvertently generated PCBs released to the air or water from excluded manufacturing processes at any manufacturing site in any calendar year when such quantity exceeds 10 pounds. §§761.187(b) and (c)</li> </ul>	

### 5.7.6 Maintenance of Monitoring Records by Persons Who Import, Manufacture, Process, Distribute in Commerce, or Use Chemicals Containing Inadvertently Generated PCBs

Regulation Reference: §761.193

Regulatory Requirements	Inspection Procedures
<b>Maintenance of Monitoring Records by Persons Who Import, Manufacture, Process, Distribute in Commerce, or Use Chemicals Containing Inadvertently Generated PCBs</b>	
<p>Persons who import, manufacture, process, distribute in commerce, or use chemicals containing PCBs present as a result of inadvertent generation or recycling or who perform any actual monitoring of PCB concentrations must maintain records of any such monitoring for a period of 3 years after a process operation or importation ceases, or for 7 years, whichever is shorter. §761.193(a)</p> <p>Monitoring records must contain the method of analysis, results of the analysis, including data from the Quality Assurance Plan, description of the sample matrix, name of the analyst(s), date and time of the analysis, and numbers for the lots from which the samples are taken. §761.193(b)</p>	<p>Verify if monitoring of PCB concentrations has taken place; if so, inspect monitoring records of all required information and retention for prescribed time period.</p>

## 5.8 PCB Waste Disposal Records and Reports

## 5.8.1 EPA Identification Numbers

## Regulation Reference: §761.202

Regulatory Requirements	Inspection Procedures
<b>EPA Identification Numbers</b>	
<p>A generator of PCB waste shall not:</p> <ul style="list-style-type: none"> <li>• Process, store, dispose of, transport, or offer for transportation PCB waste without having received an EPA identification number. 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 <b>identification number “40 CFR PART 761.”</b> §761.202(b)(1)(i)</li> <li>• Offer the PCB waste to transporters, disposers, or commercial storers of PCB waste who have not received an EPA identification number. §761.202(b)(1)(ii)</li> </ul> <p>A transporter of PCB waste shall not:</p> <ul style="list-style-type: none"> <li>• Transport PCB waste without having received an EPA identification number. §761.202(b)(2)(i)</li> <li>• Deliver PCB waste to transporters, disposers, or commercial storers of PCB waste that have not received an EPA identification number. §761.202(b)(2)(ii)</li> </ul> <p>A commercial storer of PCB waste shall not accept any PCB waste for storage without having received an EPA identification number. §761.202(b)(3)</p> <p>A disposer of PCB waste shall not accept any PCB waste for disposal without having received an EPA identification number. 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. §761.202(b)(4)</p>	<p>Check National Chemical Program Division database records to ensure that the generator of PCB waste has an EPA identification number.</p> <p>Check records to ensure that the transporter of PCB waste transported waste only after receiving an EPA identification number and only delivered waste to facilities that had EPA identification numbers.</p> <p>Check records to ensure that the commercial storer of PCB waste has an EPA identification number.</p> <p>Check records to ensure that the disposer of PCB waste has an EPA identification number.</p>

Regulatory Requirements	Inspection Procedures
<b>EPA Identification Numbers</b>	
<p>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, and who engaged in PCB waste handling prior to 2/5/90, are not subject to the prohibitions of §761.202(b) if they have applied for an EPA identification number. Such persons must use "40 CFR Part 761" or a number assigned by EPA or a State under RCRA, until EPA or a State issues a specific identification number under §761.205(a), (b) or (c). §761.202(c)</p>	<p>If the generator, commercial storer, transporter or disposer is handling PCBs without an EPA identification number, verify that (1) facility was handling PCBs prior to 2/5/90, and (2) that facility has applied for an EPA identification number in accordance with §761.205.</p>

### 5.8.2 Notification of PCB Waste Activity

#### Regulation Reference: §761.205

Regulatory Requirements	Inspection Procedures
<b>Notification of PCB Waste Activity</b>	
<p>All commercial storers, transporters, and disposers of PCB waste who were engaged in PCB waste handling activities on or prior to 2/5/90 shall notify EPA of their PCB waste activities by filing EPA Form 7710-53 with EPA by no later than 4/4/90. §761.205(a)(1)</p> <p>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 2/5/90, shall notify EPA of their PCB waste activities by filing EPA Form 7710-53 with EPA prior to engaging in PCB waste handling activities. §761.205(a)(2)</p> <p>Upon receiving the notification form, EPA will assign an EPA identification number to each entity that notifies.</p>	<p>Prior to inspection, check National Chemical Program Division database to verify that the facility filed EPA Form 7710-53 before 4/4/90. Can also check PCB website (<a href="http://www.epa.gov/pcb/waste.html">www.epa.gov/pcb/waste.html</a>) for approved facilities.</p> <p>Verify that the facility filed EPA Form 7710-53 before engaging in PCB waste handling activities by reviewing records. Note: Not all generators have to notify; most can use the generic identification number for manifesting.</p>

Regulatory Requirements	Inspection Procedures
<b>Notification of PCB Waste Activity</b>	
<p>All of the following information shall be provided to EPA on Form 7710-53: §761.205(a)(4)</p> <ul style="list-style-type: none"> <li>• The name of the facility, and the name of the owner or operator of the facility</li> <li>• EPA identification number, if any, previously issued to the facility</li> <li>• The facility's mailing address</li> <li>• The location of the facility</li> <li>• The facility's installation contact and telephone number</li> <li>• The type of PCB waste activity engaged in at the facility</li> <li>• Signature of the signer of the certification statement, typed or printed name and official title of signer, and date signed.</li> </ul> <p>Generators (other than those generators exempt from notification under §761.205(c)(1)), 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 the Director of National Chemical Program Division or Regional Administrator by no later than 4/4/90. 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. §761.205(b)</p> <p>Generators of PCB waste need not notify EPA and receive unique EPA identification numbers unless their PCB waste activities meet the following requirements of §761.205(c)(2). Generators exempted from notifying PEA shall use the generic identification "40 CFR PART 761." §761.205(c)(1).</p>	<p>Review Form 7710-53 to verify that all of the information was provided and is accurate.</p> <p>Note that most generators do not have to notify and can use the generic identification number for manifesting.</p>

Regulatory Requirements	Inspection Procedures
<b>Notification of PCB Waste Activity</b>	
<ul style="list-style-type: none"> <li>• 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: §761.205(c)(2) <ul style="list-style-type: none"> <li>- 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 4/4/90.</li> <li>- Generators who desire to commence storage of PCB waste after 2/5/90 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).</li> <li>- Generators of PCB waste shall submit a separate notification to EPA for each PCB storage facility they own or operate. Upon receiving these notifications, EPA will assign generators unique EPA identification numbers for each storage facility.</li> </ul> </li> </ul> <p>When a facility has previously notified EPA (National Chemical Program Division Director or RA) of its PCB waste handling activities using EPA Form 7710-53 and those activities change, the facility must resubmit EPA Form 7710-53 to reflect those changes no later than 30 days from when a change is made. Examples of when a PCB waste handler must renotify EPA include, but are not limited to the following: the company changes location of the facility; or the company had notified solely as engaging in a certain type of PCB waste handling activity and now wishes to engage in another PCB waste activity (e.g., previously only commercially stored PCB waste and now wishes to transport PCB waste). §761.205(f)</p>	<p>Identify whether the facility has changed its PCB waste handling activities by reviewing Form 7710-53, their current manifests, waste storage areas, and disposal records. Check National Chemical Program Division database and PCB website (<a href="http://www.epa.gov/pcb/waste.html">www.epa.gov/pcb/waste.html</a>) to see if all are approved in their current form. If they have, verify that the facility resubmitted Form 7710-53.</p>

## 5.8.3 The Manifest - General Requirements

## Regulation Reference: §761.207

Regulatory Requirements	Inspection Procedures
<b>The Manifest - General Requirements</b>	
<p>A generator who ships by transporting, or offering for transport by his or her own vehicle or by a vehicle owned by another person, PCB wastes for commercial offsite storage or offsite disposal must prepare a manifest on EPA Form 8700-22, with a continuation sheet if necessary. On the manifest, the generator must specify: §761.207(a)</p> <ul style="list-style-type: none"> <li>• For each bulk load of PCBs, identification of the PCB waste, the date of removal from service for storage and/or disposal, and the weight in kg of the PCB waste;</li> <li>• For each PCB Article Container or PCB Container, the unique identifying number, type of PCB waste (e.g., soil, debris, small capacitors), date of removal from service for storage and/or disposal, and weight in kg of the PCB waste;</li> <li>• For each PCB Article not in a PCB Container, the serial number (if available) or other identification number if there is no serial number, the date of removal from service for storage and/or disposal, and weight in kg of the PCB waste in each PCB Article.</li> </ul> <p>The generator must designate on the manifest one offsite commercial storage or disposal facility approved for the commercial storage and/or disposal of PCBs and PCB Items described on the manifest. §761.207(g)</p> <p>The manifest that accompanies the PCB waste must consist of at least the minimum 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 for each of their records, and one additional copy signed by the commercial storage or disposal facility and returned to the generator. §761.207(i)</p>	<p>Inspect manifests for all required information, signatures (manifests must be maintained as part of the facility annual record). Verify that the facility has manifests terminated (signed) by the storage or disposal facility for all shipments of PCB waste.</p> <p>An inventory sheet should accompany the manifest with the appropriate number of waste and the out-of-service date of each piece of equipment.</p> <p>Verify that the designated storage and/or disposal facility listed on the manifest is approved under the Part 761 for the storage and/or disposal of the PCBs or PCB Items listed on the manifest.</p> <p>Verify that the facility is manifesting waste using an adequate number of manifest copies.</p>

Regulatory Requirements	Inspection Procedures
<b>The Manifest - General Requirements</b>	
<p>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 of 50 ppm and above. An example of such a PCB waste is spill cleanup material containing &lt;50 ppm PCBs when the spill involved material containing PCBs at a concentration of \$50 ppm. However, there is no manifest requirement for material currently below 50 ppm which derives from pre-April 18, 1978, spills of any concentration, pre-July 2, 1979, spills of &lt;500 ppm PCBs, or materials decontaminated in accordance with §761.79. §761.207(j)</p>	

## 5.8.4 Manifest Procedures

Regulation Reference: §761.208 through §761.211

Regulatory Requirements	Inspection Procedures
<b>Manifest Procedures</b>	
<p>Generators of PCB waste—for shipments of PCB waste for which a manifest must be executed, the generator must:</p> <ul style="list-style-type: none"> <li>• Sign the manifest certification by hand</li> <li>• Obtain the handwritten signature of the initial transporter and date of acceptance on the manifest</li> <li>• Retain one copy among its records for at least 3 years in accordance with §761.209(a)</li> <li>• Give to the transporter the remaining copies of the manifest that will accompany the shipment of PCB waste. §761.208(a)(1)</li> </ul> <p>For bulk shipments of PCB waste within the U.S. transported solely by water, the generator must 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. §761.208(a)(2)</p> <p>For rail shipments of PCB waste within the U.S. which originate at the site of generation, the generator must send at least three copies of the manifest dated and signed in accordance with this section to the next nonrail transporter, if any, and the designated commercial storage or disposal facility if transported solely by rail. §761.208(a)(3)</p> <p>When a generator has employed an independent transporter to transport the PCB waste to a commercial storer or disposer, the generator must confirm by telephone, or by other means of confirmation agreed to by both parties, that the commercial storer or disposer actually received the manifested wastes. The generator must confirm receipt of the waste by the close of business the day after they receive the manifest copy hand-signed by the commercial storer or disposer. §761.208(a)(4)</p>	<p>Verify that generator of PCB waste is in compliance with required manifesting procedures.</p> <p>If the generator is shipping bulk shipments of PCBs via water, verify that special requirements for such shipments are being met, such as sending 3 copies of manifests to the owner/operator of the designated commercial storage or disposal facility.</p> <p>If the generator is shipping bulk shipments of PCBs via rail, verify that special requirements for such shipments are being met, such as sending 3 copies of the manifest to the non-rail transporter, if any, and to the storage or disposal facility.</p> <p>Verify that the generator has in place the required procedures for confirming receipt of PCB waste shipments.</p>



Regulatory Requirements	Inspection Procedures
<b>Manifest Procedures</b>	
<p>If a generator does not receive the copy of the manifest hand-signed by the commercial storage or disposal facility within 35 days after the transporter accepted the PCB waste, the generator must telephone, or communicate 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 must contact the 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 means of agreed upon communication, to the transporter, the generator must submit an exception report to the EPA RA for the Region in which the generator is located pursuant to the requirements of §761.215. The generator must retain a written record of all telephone or other confirmations to be included in the annual document log in accordance with §761.180. §761.208(a)(4)</p> <p>A generator of PCB waste must keep a copy of each manifest signed in accordance with §761.208(a)(1) until they receive a signed copy from the designated commercial storage or disposal facility that received the PCB waste. The generator must retain the signed copy of the manifest for at least 3 years from the date the PCB waste was accepted by the initial transporter. Note: A generator subject to annual document requirements under §761.180 must retain manifest copies for the period of time specified in §761.180(a). §761.209(a)</p> <p><u>Transporters of PCB wastes</u>—for shipments of PCB waste for which a manifest must be executed:</p> <ul style="list-style-type: none"> <li>• A transporter may not accept PCB waste from a generator unless it is accompanied by a manifest signed by the generator as required by §761.208(a)(1). §761.208(b)(1)</li> </ul>	<p>Verify that the generator has in place the required procedures for PCB waste for which a hand-signed terminated manifest is not returned to the generator within the specified period of time.</p> <p>Verify that if such procedures have been invoked by the generator, then all required records are included in the annual document log.</p> <p>Verify that the generator has on hand all required copies of manifests for shipments of PCB waste for storage or disposal. For recent shipments where the copy from the storage or disposal facility has not yet been received by the generator, verify that the generator has a copy of manifest with the generator and transporter hand-signed signatures.</p> <p>Verify that the PCB waste transporter is in compliance with required manifesting procedures.</p>

Regulatory Requirements	Inspection Procedures
<b>Manifest Procedures</b>	
<p>A manifest is not required if any of the following conditions exists:</p> <ul style="list-style-type: none"> <li>• The shipment of PCB waste consists solely of PCB wastes with PCB concentrations &lt;50 ppm, <u>unless</u> the PCB concentration &lt;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.</li> <li>• 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.</li> </ul> <p>Before transporting the PCB waste, the transporter must sign and date the manifest acknowledging acceptance of the PCB waste from the generator. The transporter must return a signed copy to the generator before leaving the generator's facility. §761.208(b)(2)</p> <p>The transporter must ensure that the manifest accompanies the PCB waste. §761.208(b)(3) *</p> <p>A transporter who delivers PCB waste to another transporter, or to the designated commercial storer or disposer, must: §761.208(b)(4) *</p> <ul style="list-style-type: none"> <li>• Obtain the date of delivery and the handwritten signature of the subsequent transporter, or of the owner or operator of the designated commercial storage or disposal facility designated on the manifest.</li> <li>• Retain one copy of the manifest in accordance with §761.209(b)(1).</li> <li>• Give the remaining copies of the manifest to the accepting transporter of PCB waste, or to the designated commercial storage or disposal facility. §761.208(b)(4)</li> </ul>	<p>If the transporter has transported PCB waste without an accompanying manifest, verify that one or both of these conditions existed for the shipment shipped without a manifest.</p> <p>Review the generator's manifests to verify that the transporter acknowledged acceptance of the PCB waste and returned the signed copy.</p> <p>Review the transporter's manifests to verify that they are properly dated and signed.</p>

Regulatory Requirements	Inspection Procedures
<b>Manifest Procedures</b>	
<p>* Note: These requirements do not apply to transporters of bulk shipments by water or rail shipment if <u>all</u> of the following applicable conditions are met:</p> <p><u>For transporters of bulk shipments by water</u> §761.208(b)(5)</p> <ul style="list-style-type: none"> <li>• The PCB waste is delivered by water to the designated commercial storage or disposal facility.</li> <li>• A shipping paper containing all the information required on the manifest (excluding EPA identification number, generator certification, and signatures) accompanies the waste.</li> <li>• The person delivering the PCB waste to the initial water transporter obtains the date of delivery and signature of the water transporter on the manifest and forwards it to the designated facility.</li> <li>• Each water transporter retains a copy of the shipping paper or manifest in accordance with §761.209(b).</li> </ul> <p><u>For shipments involving rail transportation—</u> §761.208(b)(6)</p> <ul style="list-style-type: none"> <li>• These requirements do not apply; instead, the requirements described at 40 CFR §263.20(f) [Rail Transportation of Hazardous Waste] apply to rail shipments of PCB waste.</li> </ul> <p>The transporter must deliver the entire quantity of PCB waste accepted from a generator or transporter to either the designated commercial storage or disposal facility listed on the manifest or the next designated transporter of PCB waste. §761.208(b)(7)</p> <p>If PCB waste cannot be delivered in accordance with §761.208(b)(7), the transporter must contact the generator for further directions and shall revise the manifest and/or return the PCB waste according to the generator's instructions. §761.208(b)(8)</p>	<p>Verify that the transporter has in place and observes the required procedures to comply with the requirements for undeliverable shipments of PCBs.</p>

Regulatory Requirements	Inspection Procedures
<b>Manifest Procedures</b>	
<p>A transporter of PCB waste must 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 facility. This copy must be retained for at least 3 years from the date the PCB waste was accepted by the initial transporter. §761.209(b)(1)</p> <p>A water (bulk shipment) transporter must 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. §761.209(b)(2)</p> <p>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. §761.209(b)(3)(i)</p> <p>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. §761.209(b)(3)(ii)</p> <p><u>Commercial storage or disposal facilities receiving offsite shipment of PCB wastes</u> for which a manifest was executed must:</p> <ul style="list-style-type: none"> <li>• Sign and date each copy of the manifest to certify that the PCB waste covered by the manifest was received.</li> <li>• Note any significant discrepancies in the manifest (as defined in §761.210(a)(1)) on each copy of the manifest.</li> <li>• Give the transporter at least one copy of the signed manifest immediately.</li> <li>• Send a hand-signed copy of the manifest to the generator within 30 days after the delivery.</li> <li>• Retain a copy of each manifest among the facilities records in accordance with §761.209(d). §761.208(c)(1)</li> </ul>	<p>Verify that the transporter is in compliance with manifest retention requirements.</p> <p>Verify that the water (bulk shipment) transporter is in compliance with manifest retention requirements.</p> <p>Verify that the rail transporter is in compliance with manifest retention requirements.</p> <p>Verify that the commercial storage or disposal facility is in compliance with required manifesting procedures.</p>

Regulatory Requirements	Inspection Procedures
<b>Manifest Procedures</b>	
<p>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 of the information required on the manifest except the EPA identification numbers, generator's certification, and signatures, the owner or operator, or her/his agent, must:</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Note any significant discrepancies in the manifest or shipping paper on each copy of the manifest or shipping paper.</li> <li>• Give the rail or water transporter at least one copy of the manifest or shipping paper immediately.</li> <li>• Send a copy of the hand-signed and dated manifest to the generator; however, if the manifest has not been received within 30 days after delivery, the owner or operator must send a copy of the shipping paper signed and dated to the generator within 30 days after the delivery.</li> <li>• 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). §761.208(c)(2)</li> </ul> <p>If the commercial storage or disposal facility initiates any offsite shipments of PCB waste, the owner or operator of the commercial storage or disposal facility must comply with all manifest requirements applicable to generators of PCB waste. §761.208(c)(3)</p> <p>The owner or operator of a PCB commercial storage or disposal facility that receives offsite shipments of PCB waste shall retain a copy of each manifest or shipping paper that the owner or operator signs in accordance with §761.208(c)(1) or (c)(3). §761.209(c)</p>	<p>If commercial storage or disposal facility accepts PCB waste shipments by water (bulk shipment) or rail transport, verify that manifesting procedures are in place and the facility is complying with those procedures.</p> <p>If the commercial storage or disposal facility ships PCB waste offsite, then the facility becomes a generator of PCB waste for that shipment; verify that the facility complies with all requirements applicable to generators.</p>

Regulatory Requirements	Inspection Procedures
<b>Manifest Procedures</b>	
<p>Upon discovering a significant manifest discrepancy as defined in §761.210(a)(1), the owner or operator of the designated commercial storage or disposal facility must 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, the owner or operator must immediately submit to the EPA RA 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. §761.210(b)</p> <p>If, after 4/4/90, a PCB commercial storage or disposal facility receives any shipment of PCB waste from an offsite 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 must attempt to contact the generator. If the owner or operator cannot contact the generator of the PCB wastes, he shall notify the RA of the EPA Region in which the facility is located. Within 15 days after receiving the unmanifested PCB waste, the owner or operator must prepare and submit to the EPA RA an unmanifested waste report prepared in accordance with the requirements of §761.211(c). §761.211(a)</p> <p>Note: The periods of record retention required by §761.209 will be automatically extended during the course of any outstanding enforcement action regarding the regulated activity.</p>	<p>Verify that the commercial storage or disposal facility has in place and complies with the required manifest discrepancy procedures. If the discrepancy is not resolved within 15 days, verify that facility submitted a letter describing the discrepancy to the EPA RA.</p> <p>If the facility has ever accepted unmanifested waste after 4/4/90, verify that an unmanifested waste report was prepared and submitted to the EPA RA in accordance with §761.211. Check Regional records.</p>

## 5.8.5 Exception Reporting

Regulation Reference: §761.215

Regulatory Requirements	Inspection Procedures
<b>Exception Reporting</b>	
<p>A generator must file an exception report with the EPA RA if the generator has not received a copy of the manifest with the hand-written 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 be submitted to EPA no later than 45 days from the date on which the generator should have received the manifest. The exception report shall include the following: §761.215(a) and (b)</p> <ul style="list-style-type: none"> <li>• A legible copy of the manifest for which the generator does not have confirmation of delivery</li> <li>• 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.</li> </ul> <p>A disposer of PCB waste shall submit a One-year Exception Report to the EPA RA for the Region in which the disposal facility is located no later than 45 days from the end of the 1-year storage for disposal date when the following occurs: §761.215(c)</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> </ul>	<p>When inspecting facility records, if it is determined that the generator had not received a copy of the manifest with the hand-written signature of the owner or operator of the designated facility within 45 days of the date the waste was accepted by the initial transporter for any waste shipments, verify that the generator initiated an exception report in conformance with all exception report requirements.</p> <p>If the disposer of PCB waste was required to submit a One-year Exception Report to the EPA RA, verify that the report was submitted in conformance with all exception report requirements by reviewing the facility's regional files and facility records.</p>

Regulatory Requirements	Inspection Procedures
<b>Exception Reporting</b>	
<p>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 EPA RA for the Region in which the generator or commercial storer is located no later than 45 days from the date the following occurs: §761.215(d)</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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 disposal of the affected PCBs or PCB Items on a date more than one year after the date of removal from service.</li> </ul> <p>The one-year exception report must include: §761.215(e)</p> <ul style="list-style-type: none"> <li>• A legible copy of any manifest or other written communication relevant to the transfer and disposal of the affected PCBs or PCB Items</li> <li>• A cover letter signed by the submitter or an authorized representative explaining:               <ol style="list-style-type: none"> <li>(1) the date(s) when the PCBs or PCB Items were removed from service for disposal;</li> <li>(2) the date(s) when the PCBs or PCB Items were received by the submitter of the report, if applicable;</li> <li>(3) the date(s) when the affected PCBs or PCB Items were transferred to a designated disposal facility;</li> <li>(4) the identity of the transporters, commercial storers, or disposers known to be involved with the transaction; and</li> <li>(5) 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.</li> </ol> </li> </ul>	<p>If a generator or commercial storer of PCB waste who manifests PCBs or PCB Items to a disposer of PCB waste was required to submit a one-year exception report to the EPA RA, verify that one-year exception report was submitted in conformance with all one-year exception report requirements by reviewing Regional records and facility records.</p>



Regulatory Requirements	Inspection Procedures
<b>Exception Reporting</b>	
<p>PCB/radioactive waste that is exempt from the one-year storage for disposal time limit pursuant to §761.65(a)(1) is also exempt from the exception reporting requirements of §761.215 (c), (d), and (e). §761.215(f)</p>	

### 5.8.6 Certificates of Disposal

#### Regulation Reference: §761.218

Regulatory Requirements	Inspection Procedures
<b>Certificates of Disposal</b>	
<p>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 must prepare a Certificate of Disposal for the PCBs and PCB Items disposed of at the facility. The Certificate of Disposal must include: §761.218(a)</p> <ul style="list-style-type: none"> <li>• The identity of the disposal facility, by name, address and EPA identification number</li> <li>• The identity of the PCB waste affected by the Certificate of Disposal including reference to the manifest number for the shipment</li> <li>• A statement certifying the fact of disposal of the identified PCB waste, including the date(s) of disposal, and identifying the disposal process used</li> <li>• A certification pursuant to §761.3.</li> </ul> <p>The owner or operator of the disposal facility must send the Certificate of Disposal 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 unless the generator and the disposer contractually agree to another time frame. §761.218(b)</p> <p>The disposal facility must keep a copy of each Certificate of Disposal among the records that it is required to retain under §761.180(b). §761.218(c)</p>	<p>Verify that the disposal facility is in compliance with all Certificate of Disposal requirements.</p> <p>Check disposal facility records for dates the facility sent manifests to generators. Compare these to the dates of disposal on the Certificates of Disposal. If over 30 days, ask facility whether it had an agreement to use another time frame. Obtain a copy of the agreement if possible.</p> <p>Verify that the disposal facility has retained copies of all Certificates of Disposal as required.</p>

Regulatory Requirements	Inspection Procedures
<b>Certificates of Disposal</b>	
<p>Generators of PCB waste must 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). §761.218(d)(1)</p>	<p>Verify that the generator facility has retained copies of all Certificates of Disposal as required.</p>
<p>Commercial storers of PCB waste must keep a copy of each Certificate of Disposal that they receive from disposers of PCB waste among the records they are required to retain under §761.180(b). §761.218(b)(2)</p>	<p>Verify that the commercial storage facility has retained copies of all Certificates of Disposal as required.</p>

# Chapter Six

## Sampling

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## 6.0 Sampling

### 6.1 Sampling Guidelines

Inspectors should consider sampling for analysis an integral part of any PCB-related inspection. The purpose of sampling is to verify the presence and concentration of PCBs. Since it is impractical to sample everything that might contain PCBs, EPA has established sampling guidelines intended to assist the inspector in making sampling determinations. These guidelines set out general principles for sampling and prioritize the types of situations in which inspectors should undertake sampling. The wide variety of field situations an inspector can encounter make it impractical to specify in advance exactly when the inspector should or should not take samples. In addition, sampling policies may vary among the Regions. Considering the guidelines below and Region-specific policies, the inspector must make this determination.

#### 1. Take a sample whenever one is needed to prove a potential violation.

This means obtaining a sample of any material that the inspector needs to verify as containing PCBs. Sample results eliminate any uncertainty concerning whether or not the material at issue is a PCB.

#### 2. Sample only when there is reason to suspect PCB presence.

Unless there is some reason to believe that PCBs are present, there is little likelihood of finding them through indiscriminate sampling. These general rules ensure the best case preparation in all instances, but they are sometimes impractical to observe:

- ! On many inspections, an inspector would need to take a very large number of samples, resulting in an unduly long inspection and an unreasonable backlog of sample analyses.
- ! In some instances, it is not possible or advisable for an inspector to take a sample. For example, inspectors usually cannot sample transformers on poles, and should never sample energized transformers.

#### 3. Verify the presence of PCBs by sampling and other means.

The most common sources of such verification are the company's records, nameplate or label information, and statements by company representatives. Such sources may be contested, but experience to date indicates that they usually are not. Therefore, sampling becomes less important when there is other evidence of the presence of PCBs.

**4. Always be sure that a laboratory is available and capable of providing reliable and defensible analyses within the necessary time frame .**

Verify with the laboratory prior to taking unusual samples or when anticipating the collection of an unusually large number (>10) of samples as part of an inspection or investigation. The laboratory should use an appropriate standard operating procedure (SOP) in conducting the analysis.

**6.2 Priorities for Sampling**

The following table lists the order of priority for taking samples. These priorities are based on the following:

- ! Potential exposure presented by the suspected violation
- ! Extent of the potential violation
- ! Need for independent proof of the presence of PCBs.

Table 6-1. Sampling Priority Table

(Level 1 is the highest priority, Level 7 is the lowest)	
<b>DISPOSAL VIOLATIONS</b>	
Level 1:	<i>Improper disposal (including leaks and spills)</i>
<b>MAJOR USE, STORAGE, MARKING, OR RECORDKEEPING VIOLATIONS</b>	
Level 2:	<i>Items bearing no indication of PCB content that are suspected to contain PCBs</i> ! Transformers ! Large containers ! More than ten 55-gallon drums
Level 3:	<i>Items claimed to be decontaminated that are suspected to contain PCBs</i> ! Transformers ! Large tanks
Level 4:	<i>Other items claimed to be decontaminated that are suspected to contain PCBs</i>
Level 5:	<i>Other unmarked or unidentified items that are suspected to contain PCBs</i>
<b>MAJOR STORAGE OR RECORDKEEPING VIOLATIONS</b>	
Level 6:	<i>Items bearing a mark or indication of PCB content when the concentration is unknown.</i> ! Transformers ! Large tanks ! More than ten 55-gallon drums
Level 7:	<i>Other items bearing a mark or indication of PCB content</i>

The highest sampling priority is to prove disposal violations because they result in direct environmental contamination and present the highest risk of human exposure.

- ! **Level 1** includes sampling in all instances of improper disposal, including leaks and spills, with priority for potential exposure to the public or potential to contaminate water, food, or feed.

The next four levels involve major use, storage, marking, or recordkeeping violations. These violations are grouped together because they often occur together.

- ! **Level 2** calls for sampling in situations involving large amounts of material for which there is no independent proof of the presence of PCBs. These situations involve a risk of extensive environmental harm and require solid evidence.
- ! **Level 3** calls for sampling in situations where large numbers of items are claimed to be decontaminated. Although these situations pose a lower risk of environmental harm,

there is a need for solid evidence because companies are likely to dispute claims of PCB presence.

- ! **Level 4** involves sampling other items claimed to be decontaminated. The need for evidence is high, but the risk of environmental harm is less than in Level 3, since the amount of material involved will be smaller.
- ! **Level 5** calls for the sampling of unmarked items suspected of containing PCBs. Although there is a strong need for evidence in such cases, the risk of harm is lower because smaller amounts of PCB materials will usually be involved.

The last group of priorities concerns situations where major storage or recordkeeping violations are suspected involving items that bear some indication of PCB content (such as a label). Sampling establishes concentration levels for determining compliance/noncompliance and the extent of the violation for penalty purposes.

- ! **Level 6** calls for sampling in situations where the risk of potential harm is high due to the large amount of PCB material.
- ! **Level 7** includes sampling in situations involving smaller amounts of PCB material.

Sampling is usually necessary where there is reason to determine compliance/noncompliance with the ban on unauthorized manufacture, process, distribution in commerce, or use of PCBs. Experience to date indicates that these violations are not usually encountered in routine inspections. Therefore, these violations are not included in the priority list. Because of the seriousness of such violations, the inspector should design in advance, in consultation with the appropriate EPA personnel to include EPA Headquarters, a sampling plan to document compliance/noncompliance.

Sampling is not required, in general, for situations involving only minor storage, marking, or recordkeeping violations. In these instances, independent evidence of PCB presence, either through records or marking, will usually exist. Moreover, the risk posed by these situations will usually be relatively small. Unusual circumstances sometimes will necessitate sampling in such cases. For example, the suspected violator may:

- ! Refuse access to records that would indicate PCB presence.
- ! Refuse to answer questions that would indicate PCB presence.
- ! Indicate, through past behavior or statements made to the inspector, reluctance to come into compliance.

Such actions indicate a need for more comprehensive evidence. The decision whether or not to sample in such situations rests with the inspector.



### 6.3 Sample Collection

The first step in any sample collection program is to determine the purpose of obtaining a sample for laboratory analysis. Samples collected for determining the PCB level of possible contaminated solvents or for establishing whether a transformer with unidentified dielectric fluid contains PCBs will require different sampling considerations than samples collected to confirm spills of PCBs or to identify the extent of PCB contamination of soil, surface water, or groundwater resulting from spills or improper disposal.

#### 6.3.1 Sampling Collection Indicators

Inspectors should generally obtain samples when direct physical evidence indicates that contamination has taken place. Sample collection is in order when:

- ! Leaking PCB articles or equipment are present.
- ! Discoloration of soil adjacent to in-service or stored PCB articles, equipment, or containers is present.
- ! Oil films, sheens, or sheets in standing water or on banks of nearby streams is present.
- ! Soils are highly saturated and groundwater contamination from PCB leakage is suspected.
- ! The facility improperly stores PCB materials, such as rags and other debris.
- ! There is reason to believe PCBs are present in unmarked or improperly stored articles.
- ! Dead or stressed grass or other vegetation is present.

When sampling spills and/or leaks near equipment, the inspector should sample both the spill area and the equipment to verify the source of the PCB contamination unless a PCB mark or nameplate identifies the equipment as containing PCBs.

#### 6.3.2 Sampling Plan

An effective sample collection program includes the development of a sample plan that is consistent with the requirements of the Region's quality assurance plan and contains at least the following items:

- ! An overall evaluation of the facility based on records of previous inspections and onsite observations
- ! An evaluation of the risk to sampling personnel
- ! Identification of proper equipment and procedures for safe, effective sampling
- ! Laboratory availability, capacity, capability, and reliability

- ! Identification of representative sampling sites (properly identified photographs are helpful)
- ! Procedures to collect sufficient volumes of the PCB mixtures, water, soil, or sludge to carry out the required analyses
- ! Procedures to preserve samples to maintain sample integrity (refer to sampling guidance tables at the end of this chapter)
- ! Proper labeling of the sample containers (including the exact location where the sample was taken)
- ! Procedures for identifying and handling potentially hazardous samples (PCBs in other hazardous substances)
- ! Procedures for maintaining and documenting chain-of-custody.

Inspectors should record the time, date, location, type of sample, sampling method, and reasons for obtaining the sample in their field logbook at the time of sample collection and, if possible, photograph the sampled area. If it is impossible to take photographs, the inspector should draw or sketch the contaminated area including a reference point. The drawing should indicate where the inspector takes any samples. Specific procedures for collecting PCB samples are detailed below.

### 6.3.3 Standard Operating Procedures

Specific regional procedures may exist on the collection of routine samples to ensure consistency and reconstructability, as well as serving as a training guide for new inspectors. Generally, these procedures take the form of SOPs. The inspector should review pertinent SOPs prior to the inspection.

### 6.3.4 Personal Protective Equipment

The inspector may take the following personal protective equipment to an inspection and sampling site depending on the situation. Please note that all equipment may not be available or necessary depending on the inspection type.

- ! Full face, air purifying, negative pressure respirator with organics cartridge(s)
- ! Disposable PCB-resistant gloves
- ! Disposable footwear covers
- ! Safety glasses with side shields or goggles
- ! Disposable full-body coveralls impervious to PCBs

- ! Hard hat
- ! Safety shoes/boots
- ! First-aid kit
- ! Other safety equipment specified by EPA and facility safety officers.

### 6.3.5 Suggested Sampling Equipment

The validity of PCB samples depends upon the integrity of sampling equipment. The following guidelines should be observed:

- ! Use appropriate containers.
  - Inspectors should use glass vials, bottles, or jars with Teflon-lined lids as sample containers. If cap is not Teflon-lined, cover vial, bottle, or jar with solvent-rinsed aluminum foil and cap. Do not use plastic as a primary container for PCB samples. PCBs will absorb in most plastics and can contaminate samples with plasticizers; however Teflon/Tedlar plastic bags can be used in place of poly or vinyl plastic.
  - An inspector may use new containers without additional treatment for samples where only PCB concentrations at or above 1 ppm are of concern. Keep the lids in place during storage and travel to the field. Do not reuse sample containers.
  - If the data objective is PCB concentration of less than 1 ppm, then clean the primary sample container with three rinses of acetone followed by three rinses of hexane. It is preferable that the laboratory that will conduct the analysis performs this rinsing.
- ! Prepare a field blank, which is an empty capped (and officially sealed) container of each type used in a sampling exercise, and submit it to the laboratory as a quality control check. Take this empty container to the sampling site, but do not uncapped it. For surface samples, submit as a control a piece of the swabbing material, treated with the solvent used, in a vial or bottle.
- ! Choose from the following list of equipment customarily used to sample for PCBs:
  - Glass tubing or coliwassa samplers (solvent rinsed)
  - Glass pipettes, with squeeze bulbs
  - Disposable 10 ml pipettes and bulbs
  - Extra clean sample jars for scooping
  - Eye droppers
  - Aluminum foil
  - Container of solvent (hexane is recommended)
  - Pharmaceutical grade gauze pads (3" x 3")

- Stainless steel forceps (several)
  - Stainless steel or disposable cardboard templates (10 cm x 10 cm)
  - Stainless steel trowels, or Teflon scoops
  - Laboratory spatulas (precleaned)
  - Soil coring devices (such as King-tube samplers, piston corers, or bulb planters)
  - Flashlight
  - Hammer and chisel
  - Hole saw and drill
  - Pruning shears
  - Precleaned stainless steel buckets
  - Disposable wiping cloths
  - Plastic disposal bags
  - Plastic secondary container bags and official seals
  - Survey stakes
  - 100 ft tape measure
  - Ice chests containing ice or ice packs and secured with padlocks (if required by the laboratory)
  - Compass and maps
  - Duct tape
  - Subsurface water sampling equipment (such as pumps, siphons, and glass sampling jars with attachments)
  - Container of distilled water
  - Stainless steel mixing bowls and spoons
  - Peterson dredge, Ekman dredge, weighted bottom dredge
  - 1/4" sieves
  - Adjustable wrench or channel lock pliers
  - Chain-of-custody forms
  - Sample labels
  - Evidence tape
  - Indelible markers.
- ! Take an adequate number of sampling tools (whether disposable or not) to each inspection site to avoid having to decontaminate such implements in the field.
- ! Notify the laboratory receiving the samples prior to the inspection to ensure availability of necessary analytical support.

#### 6.4 General Considerations for Sampling

To minimize the likelihood of PCB spills and health hazards during sampling, the inspector should:

- ! Avoid contamination of the outside of the sample container.
- ! Ensure that the cap is tightly affixed.
- ! Wipe stop cocks, hard surfaces, etc., when sampling is complete.

- ! Dispose of all contaminated sampling equipment or store the equipment for decontamination.

The inspector should try to minimize the risk of cross-contamination at all times to protect sample containers. If glass tubing or dipping vessels are used to collect a sample, the inspector should use a separate clean unit for each sample and should not co-store samples suspected of containing greater than 50 ppm with environmental samples where less than 1 ppm is of interest.

Inspectors should not use tools (e.g., adjustable wrenches or channel lock pliers) on any of the facility's equipment. If necessary, the inspector should request that the facility representative use the facility's tools (e.g., to open a transformer drain cock).

#### 6.4.1 Samples: Number and Volume

The inspector should prepare a field blank for each type of container used to collect samples and submit it to the laboratory as a quality control check. The inspector should also collect one duplicate sample for every ten samples collected.

Collect a sufficient volume of each sample obtained to perform all the required PCB analyses and to provide for any quality control needs, split samples, or repeat testing. The size of the sample depends on the type of material and the analyses to be performed. Suggested amounts required for each sample type are listed below.

**Table 6-2. Suggested Sample Volumes from Inspectors and Program Office based on Sample Type**

Sample Type	Required Volume
Transformer oil and other homogeneous PCB mixtures (i.e., hydraulic oil or heat transfer oil)	100 ml
Nonhomogeneous PCB mixtures, including waste oil	3 x 25 ml - 35 ml
Soil, sludge, sediment	Approximately 250 g (½ lb)
Water	4 L
Water-oil mixtures	3 x 100 ml
Solid PCB mixtures (nonhomogeneous, e.g., pigments)	3 x 50 g
Surfaces	3 cm x 10 cm x 10 cm areas

The inspector may collect the lower sample volume for uses where the target level is in the 50 ppm or greater range. Collect larger volumes where samples will be analyzed to identify environmental levels (1 ppm). The inspector should consult the laboratory in such cases.

The inspector may encounter some situations (e.g., condensate in natural gas lines or residual oil from drained drums) where the recommended sample size is not available; in these cases, the inspector should sample as feasible.

#### 6.4.2 Sample Preservation

PCBs are normally stable in oil, soil, and surface samples, but the laboratory may require some or all of the following sample preservation procedures. To minimize the effects of temperature, pH, and bacterial action, protect all samples from high temperatures and sunlight. Keep water and other environmental samples (target levels < 1 ppm) below 4EC. Arrange for freezing of all soil, surface, and vegetation if lengthy storage periods are necessary before transfer to the laboratory. According to 40 CFR 136.3, the maximum holding time for samples to be analyzed for PCBs is seven days until extraction and 40 days after extraction.

#### 6.4.3 Safety Procedures

The inspector should observe all facility safety requirements. In addition, the inspector should take special precautions, including the following, to avoid contact with PCBs or exposure to the fumes from hot PCBs:

- ! Wear clean or new disposable PCB-resistant gloves, coveralls, and safety goggles while taking samples suspected to contain PCBs.
- ! Wear disposable shoe covers when entering areas known or suspected to be contaminated with PCBs.
- ! Dispose of gloves, shoe coverings, and other disposable protective garments in a plastic bag after use. Final disposition of these items should be the same as for PCBs.
- ! Do not enter an area where there is an odor of fumes, solvents, or PCBs, unless wearing a full-face canister-type respirator.
- ! Ask facility personnel to obtain a sample, if required, from transformers. Observe and fully document the entire sample collection procedure. Photograph activities if possible.
- ! Do not attempt to obtain samples from transformers that are in operation or service.

- ! Ask facility personnel to obtain a sample, if required, from operating heat transfer systems. Have the liquid drained directly into the sample bottle, and leave the bottle open until cool enough to handle.
- ! Do not insist on samples of transformer or heat transfer system liquids if the facility is uncooperative, or if the sampling expertise is not available, but note in the report the problem and the reason for requesting a sample.
- ! Observe the safety regulations of the facility.
- ! Note that PCBs may pose a greater risk to pregnant women and nursing mothers.
- ! Leave power substations immediately when raining/lightning.

#### **Treatment for PCB Contact with Skin**

PCBs on the skin are likely not particularly hazardous if washed off within one-half hour.

- ! Do not touch and contaminate food or drink.
- ! Clean PCBs off skin and dispose of the wiping material as PCBs.
- ! Wash with soap and water.
- ! If PCBs get into the eyes, flush with water for several minutes and get immediate medical attention.
- ! If skin is blistering or symptoms of chloracne occur, see a physician immediately. Polychlorinated dibenzofurans are possible components of some PCB mixtures and may cause these symptoms.

### **6.5 Sample Documentation**

Sample documentation procedures include the means of establishing both chain-of-custody and the precision, accuracy, and representativeness of the samples. The procedures discussed below cover the basic elements that should be a part of all sample documentation procedures for PCB inspections. Inspectors should also become familiar with any additional or different documentation procedures required by their Regional office. These procedures are designed to assure that an inspector will be able to testify that a particular sample was drawn from a particular location at a particular time, describe the procedures that were used to obtain the sample, and explain how the integrity of the sample was secured.

### 6.5.1 Documentation of Precision and Accuracy

Field Measurement and Sampling Process. The inspector should follow the Region's quality assurance project plan (QAPP) for collecting and handling samples and performing field measurements in the sampling process. The inspector uses the field logbook to record the procedures undertaken during sampling. The documentation should identify:

- ! Type of sample matrix
- ! Exact location where each sample was collected
- ! Types of sample containers used for each parameter or group of parameters
- ! Sample container preparation process
- ! Sample collection process
- ! Sample preservation and handling
- ! Type and frequency of calibration and maintenance of field analytical procedures
- ! Calibration and maintenance of field instruments
- ! Identification and documentation of samples
- ! Custody of samples collected
- ! Decontamination of sampling equipment
- ! Date and time when each sample was collected.

### 6.5.2 Chain-of-Custody

The purpose of chain-of-custody procedures is to be able to trace possession of a sample from the time it was collected until the time it is introduced as evidence in a legal proceeding. Case development personnel should be able to demonstrate that none of the samples involved have been tampered with or contaminated during collection, transit, storage, or analysis. The various handlers should maintain an accurate written record to trace the possession of each sample from the moment of collection through its introduction as evidence. The concept of custody requires the maintenance of several procedures to ensure the authentication of the sample. These procedures begin with the identification of the sample and continue through the laboratory analysis process.

- ! Establishing Custody. Sample custody is initiated at the time of collection by sealing the sample with an official seal. The inspector should place evidence tape onto the sample and initial and date the tape in ink/waterproof pen.
- ! Preparing Sample Documentation. The inspector and lab personnel must prepare the documentation. Properly maintained, this documentation will serve as a clear and complete account indicating that the sample offered into evidence was the same one that was collected.



The documentation includes the entries in the inspector's field logbook, the Official Sample Seal, and the Chain-of-Custody Record (see Appendix O for blank sample seals and a Chain-of-Custody Record). The inspector needs to assure that the relationship between the physical sample and the related documentation is clear, complete, and accurate. The sample number, date, and inspector's initials should appear on all documents, and the inspector should fully and accurately complete all forms.

- ! Ensuring custody during transit. Shipment of samples to the laboratory should involve the following procedures:
  - Samples must be accompanied by the Chain-of-Custody Record. The originator retains copies of documents.
  - If sent by common carrier, the inspector must obtain and keep a bill of lading.
  - The inspector must keep all receipts and shipping documents and include them in the Chain-of-Custody documentation.
  
- ! Initiating Chain-of-Custody Record. Inspectors initiate the process that controls and records access to the sample once it has left their possession by filling out the Chain-of-Custody Record. The sample number relates the sample to the Chain-of-Custody Record which accompanies the sample through all the processing stages.
  
- ! Field Logbook Entry. The inspector's entry in the field logbook is the principal reference for the sample. Note this record may be maintained electronically such as in a PC tablet. The following information should be included about each sample collected:
  - Sample identification number
  - Any other unique identifying marks on the container
  - Date and time of collection
  - Type of matrix (e.g., oil, sludge, sediment, etc.)
  - Description of specific location of collection
  - Collection method (should include collection equipment; field analytical equipment; and all calculations, results, and calibration data for field sampling analytical and physical measurement equipment. All sampling and field analyses must be traceable to the type of equipment used and the inspector who did the work.)
  - Rationale for selecting the sample and representativeness considerations
  - Description of any deviations from standard protocols
  - A note regarding provision to the facility of duplicate or split samples, if appropriate.

### 6.5.3 Sample Identification

Tag each sample container immediately upon collection with a standard EPA sample tag. In some cases, particularly with biological samples such as vegetation, the tag may have to be included with or wrapped around the sample. Fill out appropriate sample tag and/or field data sheet.

The following basic considerations govern identification of samples:

- ! Use one sample number for each sample. Assign only one number to one sample consisting of several subsamples or units.
- ! Inspectors may seal subsamples in a single bag if they are part of one sample and if adequate packaging protection is provided.
- ! The inspector must include sample numbers on all documentation relating to a sample: official seals, Chain-of-Custody Records, drawings, or photographs.

### 6.5.4 Sample Seal

Once the inspector collects and tags the sample, the inspector should place its container inside a plastic bag. The inspector should first write her/his name or initials and the date on the bag and then turn the bag inside out to prevent any means of tampering with its contents. Place the sample inside the inverted bag, then tape it closed in a secure manner with the Official Sample Seal (EPA Form 7500-2). Blank sample seals are provided in Appendix O. Seal the sample container or wrapper so that it may not be opened at any point without breaking the seal and/or the original unit package. Do not seal more than one sample under one seal. The inspector may choose to use evidence tape as well. If it becomes necessary to break a seal, mount the seal on a piece of paper, properly initial and date it, and submit it with sample records to provide a continuous history. Reseal the sample with a new seal.

If the company declares a physical sample as confidential business information (CBI), the inspector should mark the seal "Confidential Business Information". Transfers of TSCA CBI must be conducted through the facility's DCO, in accordance with the following procedures:

- ! Inspectors may not deliver samples to a laboratory. Samples can only be mailed by: 1) inspectors cleared by the TSCA CBI DCO (this is on a case-by-case basis) to deliver samples/documents, or 2) by inspectors who are TSCA CBI DCO's.
- ! Inspectors must take the samples to their regional TSCA CBI DCO, who can deliver the samples to a CBI cleared laboratory for analysis.

For more details on how to transfer CBI materials, please refer to the TSCA Confidential Information Security Manual.

## 6.6 Sampling Strategies

EPA has developed guidance related to sampling strategies for 761 Subparts M, O, P, and R. This guidance provides an excellent source for inspectors developing a sampling strategy. The guidance is titled *Sampling Guidance for 40 CFR 761 Subparts M, O, P and R* and is available at <http://www.epa.gov/pcb/guidance.html>. The following tables provide additional information on sampling strategies.

**Table 6-3. Guidance for Sampling Transformers, Heat Transfer Systems, and Hydraulic Systems**

**CAUTION:** Do not sample electrically live transformers or systems by yourself. If samples are required, experienced facility personnel should take them in the presence of the inspector and should use the facility's, not the inspector's, tools. The inspector should fully witness and document the procedures followed in obtaining these samples.

- Equipment**
  - ! PPE - Disposable coveralls, footwear covers, safety goggles and disposable PCB-resistant gloves (one pair per sample)
  - ! 40 ml volatile organic analysis (VOA) vials with Teflon (TFE)-lined 1 ml caps
  - ! Secondary sample container bags, custody seals, and custody forms
  - ! Disposable wiping clothes
  - ! Plastic disposal bags
  - ! Container labels and indelible pens
  - ! Flashlight
  - ! Disposable 10 ml pipettes and bulbs
  - ! Extra clean sample jars for scooping.
  
- Site Selection**
  - ! A sample from a transformer or system drain cock is assumed to be representative of the entire system.
  
- Sampling Points**
  - ! Transformer drain cock \*
  - ! System drain cock \*
  - ! Expansion tank drain cock \*
  - ! Reservoir tank (hydraulic system)
  - Note: (1) Hydraulic fluid may also be sampled from barrels in storage or from drip pans and puddles.
  - (2) **De-energized** transformers may be sampled by unlocking the top cover or opening the refilling port.
  
- Volume**
  - ! 25 - 35 ml
  
- Procedures**
  - ! Use the PPE listed above.
  - ! Have the facility personnel open the drain cock because it may be difficult to reclose.
  - ! Drain 25 - 35 ml into the container.
  - ! Identify, officially seal, and log samples. Place samples in an ice chest.\*\*
  - ! Wipe spills from the sampling point.
  - ! Place contaminated equipment in a plastic bag for disposal or decontamination.

\* Beware drain cocks may be difficult to reclose.

\*\* Placing samples in an ice chest is recommended when dealing with PCBs.

**Table 6-4. Guidance for Sampling Barrels and Drums**

Since pure PCBs and chlorinated solvents used to dilute PCBs in electrical fluids are heavier than water, these materials will sink in water. However, PCBs in petroleum solvents as waste oils or rinsing solutions will be lighter than water and will float. For this reason, to the degree possible, drums of liquids suspected of containing PCBs should be representatively sampled from the top to the bottom.

<b>Equipment</b>	<ul style="list-style-type: none"> <li>! PPE - Disposable coveralls, disposable PCB-resistant gloves (one pair per sample), footwear covers, and respiratory protection</li> <li>! New glass tubing or coliwassa sampler</li> <li>! Suitable size glass bottles with TFE-lined caps (new containers may be used as received)</li> <li>! Secondary sample container bags, official seals, and custody forms</li> <li>! Sample labels and indelible pens.</li> </ul>
<b>Volume</b>	<ul style="list-style-type: none"> <li>! As appropriate to the volume of the sample. Collect three samples from the drum, if nonuniformity is evident.</li> </ul>
<b>Procedures</b>	<ul style="list-style-type: none"> <li>! Use the PPE listed above.</li> <li>! Open the sample container.</li> <li>! Insert the glass sampler into a drum to just above the bottom of the drum or until solids are contacted. Allow the sampler to fill as the tub is lowered. Cap the sampler.</li> <li>! Remove the sampling device.</li> <li>! Place the bottom end of the sampler into the sample container and let the sample slowly drain by removing the cap.</li> <li>! Identify, officially seal, and log samples. Place samples in an ice chest.</li> <li>! Decontaminate sampling equipment and dispose of the waste.</li> </ul>

\* Placing samples in an ice chest is recommended when dealing with PCBs.

**Table 6-5. Guidance for Sampling Drip Pans and Puddles**

Drip pans and puddles may be present under equipment drains, barrel stop cocks, etc.

<b>Equipment</b>	<ul style="list-style-type: none"> <li>! PPE - Disposable PCB-resistant gloves (one pair per sample), disposable coveralls, footwear covers, and safety goggles</li> <li>! 40 ml VOA vials with TFE-lined 1 ml caps (new containers may be used as received)</li> <li>! 25 ml clean glass sample containers (new containers may be used as received)</li> <li>! Glass pipette and squeeze bulb</li> <li>! Eye dropper</li> <li>! Clean sampling spatula</li> <li>! Secondary sample container bags, custody seal, and custody forms</li> <li>! Disposable wiping cloths</li> <li>! Plastic disposal bags</li> <li>! Sample labels and indelible pens.</li> </ul>
<b>Site Selection</b>	<ul style="list-style-type: none"> <li>! Obtain a sample from the center of the pan or puddle.</li> </ul>
<b>Volume</b>	<ul style="list-style-type: none"> <li>! 25 ml (or whatever available, if less). Collect three samples, if the liquid is nonhomogenous.</li> </ul>
<b>Procedures</b>	<ul style="list-style-type: none"> <li>! Use the PPE listed above.</li> <li>! Using a pipette, draw approximately 25 ml by means of a squeeze bulb. NEVER PIPETTE BY MOUTH. Use a separate pipette for each sample.</li> <li>! Deposit the sample in a 40 ml VOA vial. Cap the container.</li> <li>! Identify, officially seal, and log samples. Place samples in an ice chest.</li> <li>! Wipe any spills from the sampling point.</li> <li>! Place contaminated equipment into a plastic bag for disposal or decontamination.</li> </ul>

\* Placing samples in an ice chest is recommended when dealing with PCBs.

**Table 6-6. Guidance for Surfaces Sampling**

Take wipe samples of any smooth surface that is considered relatively nonporous (e.g., metal, glass, or enameled wood). Take destructive samples of hard porous surfaces (e.g., cement, brick, asphalt, or bare wood). See also the definition of *standard wipe test* under §761.123.

<b>Equipment</b>	<ul style="list-style-type: none"> <li>! PPE - Disposable PCB-resistant gloves (one pair per sample), disposable coveralls, footwear covers, and safety goggles</li> <li>! Gauze pads (3" x 3" pharmaceutical grade)</li> <li>! 40 ml VOA vials with TFE-lined caps (new containers may be used as received)</li> <li>! Stainless steel forceps</li> <li>! Container of hexane (e.g., eyedropper bottle)</li> <li>! Steel template or disposable cardboard template (10 cm x 10 cm)</li> <li>! Plastic disposal bags</li> <li>! Secondary sample container bags, official seals, and custody forms</li> <li>! Sample labels and indelible pens</li> </ul>
<b>Site Selection</b>	<ul style="list-style-type: none"> <li>! If the area of suspected contamination is small, take three co-located samples from the center of area, if possible. If large (e.g., a spill site), see <i>Sample Site Selection</i>.</li> </ul>
<b>Procedures</b>	<ul style="list-style-type: none"> <li>! Use the PPE listed above.</li> <li>! Identify in the field logbook the size and location of the areas to be sampled. Photograph the area, if possible.</li> <li>! Dip gauze pad into hexane or wet thoroughly with eyedropper.</li> <li>! Using stainless steel forceps or a disposable rubber glove to hold the wool or pad, thoroughly swab a 100 cm<sup>2</sup> sample area as identified with the template. Swab in horizontal direction with one side of the swabbing material and repeat in the vertical direction with the other side.</li> <li>! Place the pad in a clean sample container. Cap the container.</li> <li>! Identify, officially seal, and log samples. Place samples in an ice chest.*</li> <li>! Place contaminated equipment into a plastic bag for disposal or decontamination.</li> <li>! At the end of the sampling prepare a control blank by going through the entire procedure without swabbing the surface.</li> </ul>

\* Placing samples in an ice chest is recommended when dealing with PCBs.

Table 6-7. Guidance for Destructive Sampling (defined in glossary)

<b>Equipment</b>	<ul style="list-style-type: none"> <li>! PPE - Disposable PCB-resistant gloves (one pair per sample), disposable coveralls, footwear covers, and safety goggles</li> <li>! Full face piece, supplied air (as specified by OSHA regulation 29 CFR Part 1915)</li> <li>! 8 oz glass jars with TFE-lined caps</li> <li>! Hammer, chisel, drill, or hole saws</li> <li>! Clean glass sample bottle</li> <li>! Aluminum foil</li> <li>! Plastic disposal bags</li> <li>! Secondary sample container bags, official seals, and custody forms</li> <li>! Sample containers labels and indelible pens.</li> </ul>
<b>Site Selection</b>	<ul style="list-style-type: none"> <li>! If the area of suspected contamination is small, take three samples from the center. If the area is large (e.g., a spill site), follow the procedures outlined in <i>Sample Site Selection</i> in this chapter.</li> </ul>
<b>Procedures</b>	<ul style="list-style-type: none"> <li>! Use the PPE listed above.</li> <li>! Remove a sufficient sample for analysis (consult with the laboratory).</li> <li>! Place samples of less than 1 cm in glass sample jars (8 oz) and cap or solvent-rinsed aluminum foil. Aluminum foil packets should be identified and placed in a secondary plastic bag.</li> <li>! Identify, officially seal, and log samples. Place samples in an ice chest.*</li> <li>! Place contaminated equipment into a plastic bag for disposal or decontamination.</li> </ul>

\* Placing samples in an ice chest is recommended when dealing with PCBs.



**Table 6-8. Guidance for Sampling Surface Soil and Gravel**

<b>Equipment</b>	! PPE - Disposable PCB-resistant gloves (one pair per sample), disposable coveralls, footwear covers, and safety goggles
	! Disposable or cleaned aluminum or Teflon scoop (washed with soap and water, rinsed with distilled water, acetone and hexane, and wrapped in aluminum foil)
	! 8 oz glass sample containers, with TFE-lined caps (New container may be used as received if PCB levels of concern > 1 ppm.)
	! Secondary sample bags, custody seals, and custody forms
	! Plastic disposal bags
	! Stainless steel templates or disposable cardboard template (10 cm x 10 cm)
	! Sample container labels and indelible pens
<b>Site Selection</b>	! If the area of suspected contamination is small (less than 10 sq ft), collect three samples from near the center of the area. In larger areas (e.g., a spill site), follow the procedures outlined in <i>Sample Site Selection</i> in this chapter.
<b>Volume</b>	! 250 grams (approximately ½ lb)
<b>Procedures</b>	! Use the PPE listed in Section 6.3.4 of this chapter.
	! Remove foil from the sampler. Scoop to a depth of approximately 1 cm.
	! Collect three 250 gram samples. Deposit them in a sample container. Cap the container.
	! Identify, officially seal, and log samples. Place samples in an ice chest.*
	! Place contaminated equipment into a plastic bag for disposal or decontamination.
* Placing samples in an ice chest is recommended when dealing with PCBs.	

Table 6-9. Guidance for Taking Soil Core Samples

<b>Equipment</b>	<ul style="list-style-type: none"> <li>! PPE - Disposable PCB-resistant gloves (one pair per sample), disposable coveralls, footwear covers, and safety goggles</li> <li>! Piston core, bulb planter, hand auger, or King-tube sampler</li> <li>! New or clean sample containers of sufficient size to contain a cored sample of 5 cm (8 oz glass jar with TFE-lined cap or prepare an aluminum field packet)</li> <li>! Aluminum foil (solvent-rinsed if environmental levels (&lt; 1 ppm) are of concern)</li> <li>! Secondary sample bags, custody seals, and custody forms</li> <li>! Full face, negative pressure respirator, if necessary, for highly contaminated or enclosed area</li> <li>! Plastic disposal bags</li> <li>! Sample containers labels and indelible pens</li> </ul>
<b>Site Selection</b>	! If the area is small, core samples should be taken at the center and edge of the area. In larger areas (e.g., a spill site), follow the procedures outlined in <i>Sample Site Selection</i> in this chapter.
<b>Volume</b>	! Cores of 5 cm should be taken initially. If there is visible contamination at the 5 cm level, deeper samples should be taken. Analytical results may also indicate the need for deeper samples to be taken later.
<b>Procedures</b>	<ul style="list-style-type: none"> <li>! Use the PPE listed in Section 6.3.4 of this chapter.</li> <li>! Take at least three surface samples as previously described.*</li> <li>! Use the corer to obtain a 5 cm sample. Displace compacted surface soil with a trowel or laboratory spatula if necessary.</li> <li>! Extrude the sample into hexane-rinsed foil and wrap.</li> <li>! Label the top and bottom of the sample.</li> <li>! Place the sample in a container. Cap the sample container.</li> <li>! Identify, officially seal, and log samples. Store the samples in an ice chest.**</li> <li>! Place contaminated equipment into a plastic bag for disposal or decontamination.</li> </ul>
*	Very high surface concentrations of PCBs may easily contribute to cross-contamination at lower depths during sampling, thus the results of surface sampling will indicate this possibility and the need to resample using a more sophisticated or careful technique.
**	Placing samples in an ice chest is recommended when dealing with PCBs.

**Table 6-10. Guidance for Sampling Water**

Water sampling requires special attention. Because of the chemical properties of PCBs and because other substances may be in the water, PCBs may be present as a surface film (particularly when PCBs are dissolved in hydrocarbon oils) or sink to the bottom (particularly when PCBs are in askarel or other heavier-than-water materials). When a surface film is suspected (or visible), sample the water surface. Otherwise, take the water sample near the bottom.

<b>Equipment</b>	!	PPE - Disposable PCB-resistant gloves (one pair per sample), disposable coveralls, footwear covers, and safety goggles
	!	Cleaned, capped sample containers (4 L bottles or jars with TFE-lined caps)
	!	Peterson dredge
	!	Ekman dredge
	!	Weighted bottom dredge
	!	3-gallon hexane-rinsed steel bucket
	!	Plastic disposal bags
	!	Disposable wiping cloths.
<b>Volume</b>	!	4 Liters.

#### **Surface Water Samples**

<b>Site Selection</b>	!	Stagnant, standing water (puddles, ponds, impoundments, etc.)
<b>Procedures</b>	!	Use the PPE listed in Section 6.3.4 of this chapter.
	!	Slowly lower a tilted wide-mouth sample jar or bottle into the water until the water begins to run into it.
	!	Slowly turn the bottle upright keeping the lip just under the surface of the water so that the whole sample is surface water.
	!	Carefully lift the bottle out of the water and cap. Wipe the outside of the bottle with disposable wiping cloths.
	!	Identify, officially seal, and log the sample. Store samples in an ice chest.*
	!	Place contaminated equipment into a plastic bag for disposal or decontamination.

\* Placing samples in an ice chest is recommended when dealing with PCBs.

**Table 6-10. Guidance for Sampling Water (continued)**

***Subsurface Samples***

- Site Selection** ! In **moving** water, choose the most turbulent area where the greatest amount of mixing is taking place. Avoid quiescent areas. In **still** water, choose areas that appear to have an oil film on the surface.
- Procedures** ! Use the PPE listed in Section 6.3.4 of this chapter.  
 ! Immerse a **sealed** wide-mouth sample jar (1 L jar is recommended) to the required depth.  
 ! Remove the bottle top to let the air escape and the bottle fill.  
 ! Transfer the sample into a precleaned sample container (4 L jar or bottle). Repeat as necessary to fill sample container. Wipe the container with disposable wiping cloths.  
 ! Use a separate dipping vessel for each sample to prevent cross-contamination.  
 ! Identify, officially seal, and log samples. Store samples in an ice chest.\*  
 ! Place contaminated equipment into a plastic bag for disposal or decontamination.

***Groundwater***

**Note: Take these samples only in consultation with a groundwater hydrological laboratory.**

- Site Selection** ! Collect samples from a water well located downgradient from the area of suspected contamination.
- Procedures** ! Use the PPE listed in Section 6.3.4 of this chapter.  
 ! Open the tap on the supply line from the well (or hand pump the well).  
 ! Let water run about 2-3 minutes at full flow.  
 ! Fill and cap the sample container.  
 ! Seal, identify, and log samples. Store samples in an ice chest.\*  
 ! Place contaminated equipment into a plastic bag for disposal or decontamination.

\* Placing samples in an ice chest is recommended when dealing with PCBs.

Table 6-10. Guidance for Sampling Water (continued)

***Sediment (Bottom Samples)***

- |                       |  |
|-----------------------|--|
| <b>Site Selection</b> | ! Take samples from the same area that surface samples were taken.   |
| <b>Procedures</b>     | ! Use the PPE listed in Section 6.3.4 of this chapter.<br>! For lakes and slow-moving streams, use a weighted bottom dredge.<br>! For hard bottoms of sand, gravel, etc., use a Peterson dredge; for soft bottoms, use an Ekman dredge.<br>! Collect the sample.<br>! Empty the contents into a hexane-rinsed 3-gallon steel bucket. Stir to mix thoroughly. Pass the slurry through a 1/4 inch mesh sieve if necessary to remove sticks, leaves, etc.<br>! Allow the sediment to settle.<br>! Slowly pour off water.<br>! Transfer 1 liter of the sediment to a clean, wide-mouth sample jar. Cap the jar.<br>! Identify, officially seal, and log samples. Place samples in an ice chest.*<br>! Place contaminated equipment into a plastic bag for disposal or decontamination. |

\* Placing samples in an ice chest is recommended when dealing with PCBs.

**Table 6-11. Guidance for Sampling Vegetation**

The sample design or visual observation may indicate that samples of vegetation (e.g., tree leaves, bushes, and flowers) are required.

- |                   |  |
|-------------------|--|
| <b>Equipment</b>  | <ul style="list-style-type: none"><li>! PPE - Disposable PCB-resistant gloves (one pair per sample), disposable coveralls, footwear covers, and safety goggles</li><li>! Pruning shears, heavy duty scissors, or other suitable tools</li><li>! Cleaned glass sample containers (8 or 16 oz jars with TFE-lined caps)</li><li>! Plastic disposal bags</li><li>! Sample containers labels and indelible pens</li><li>! Secondary sample bags, custody seals, and custody forms.</li></ul> |
| <b>Procedures</b> | <ul style="list-style-type: none"><li>! Use PPE listed above.</li><li>! Place sufficient material (usually about 250 grams or ½ pound) into a clean glass sample jar. Cap.</li><li>! Identify, officially seal, and log samples. Place samples in an ice chest.*</li><li>! Place contaminated equipment into a plastic bag for disposal or decontamination.</li></ul>  |

\* Placing samples in an ice chest is recommended when dealing with only PCBs.

**Table 6-12. Composite Sampling**

Compositing is the pooling of several discrete samples from different areas to form one sample for chemical analysis; usually, only soils lend themselves to this approach. In many circumstances, it may be desirable to composite samples to reduce the number of (often costly) analyses.

The following PCB regulation subparts specify compositing procedures for the analyses regulated by those subparts.

<b>§761 Subpart</b>	<b>Compositing Procedures</b>
Subpart O--Sampling to Verify Completion of Self-Implementing Cleanup and On-Site Disposal of Bulk PCB Remediation Waste and Porous Surfaces in Accordance with §761.61(a)(6)	§761.289
Subpart P--Sampling Non-Porous Surfaces for Measurement-Based Use, Reuse, and On-Site or Off-Site Disposal Under §761.61(a)(6) and Determination Under §761.79(b)(3)	§761.310
Subpart R--Sampling Non-Liquid, Non-Metal PCB Bulk Product Waste for Purposes of Characterization for PCB Disposal in Accordance With §761.62, and Sampling PCB Remediation Waste Destined for Off-Site Disposal, in Accordance With §761.61	§761.350

**Table 6-13. Other Types of Sampling**

For other types of sampling, such as that conducted under §761.130, the following compositing procedures may be used. These suggested strategies for compositing samples are taken from PCB spill sites sampled using the grid sampling methods described in the *Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup* (May 1986), available on the EPA webpage <http://www.epa.gov/pcb/guidance.html>. Consult with the laboratory prior to compositing to ensure regulatory levels can be validly achieved.

- ! Composite only samples of the **same type** (i.e., all soil or all water). Since the composite must be thoroughly mixed to ensure homogeneity, do not composite certain types of samples, such as asphalt, wipe samples, and other hard-to-mix matrices.
- ! Do not form a composite with more than 10 samples, since in some situations compositing a greater number of samples may lead to such low PCB levels in the composite that the recommended analytical method approaches its limit of detection and becomes less reliable.
- ! Keep in mind that the PCB concentration of interest (e.g., regulatory or clean-up level) for the composite will be equal to:

$$\frac{\text{Regulatory or clean-up concentration level}}{\text{Number of samples in composite}}$$

It must be assumed that one sample at the target regulatory or clean-up level could be diluted by the remainder of the samples, which may be nondetectible or at very low levels with respect to the PCB concentrations.

- ! For each type of sample, determine the number of composites to be formed using the table below.

---

Number of Samples	Number of Composites
2-10	1
11-20	2
21-30	3
31-37	4

---

As much as possible, try to form composites of equal size. For example, if 37 soil samples are taken, then 4 composites could be formed using 9, 9, 9, and 10 samples apiece.

- ! To the extent possible, composite adjacent samples. If residual contamination is present, it is likely that high PCB levels will be found in some samples taken close together.



**Table 6-14. Sample Site Selection**

Regulated facilities conducting sampling must follow the procedures set out in §761 Subparts M through R where the sampling activities are within the scope and applicability of those subparts. For example, a facility conducting abandonment-in-place or removal and disposal off-site of a natural gas pipeline in accordance with §761.60(b)(5) must use the procedures in Subpart M to select surface sampling sites for determining the pipe's PCB surface concentration. For further guidance on sample site selection, see:

- ! *Sampling Guidance for 40 CFR 761 Subparts M, O, P and R;*
- ! *Verification of PCB Spill Cleanup by Sampling and Analysis;* and
- ! *Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup.*

All are available at the EPA webpage <http://www.epa.gov/pcb/guidance.html>.

## 6.7 Sampling Hazardous Materials

During sampling, inspectors handle hazardous materials and are subject to Department of Transportation (DOT) requirements applicable to handling, packaging, and shipping hazardous material samples. Information regarding these requirements and where training for these procedures is available can be found in EPA's Fact Sheet titled the Department of Transportation Hazardous Materials Training (see Appendix P).

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# Chapter Seven

## Post-Inspection Activities

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## 7.0 Post-Inspection Activities

### 7.1 Introduction

The effectiveness of a PCB compliance inspection is dependent on many factors, including the thoroughness of the inspection, the evidence collected by the inspector, and the cooperation of the facility being inspected. Critical to the success of the inspection process are two steps that follow the inspection itself:

- ! Conducting necessary follow-up activities at the conclusion of the inspection
- ! Preparing the inspection report
- ! Ensuring data is entered into the appropriate databases.

This chapter addresses inspection follow-up activities (Section 7.2), the preparation of the inspection report (Section 7.3), and what to do with the completed inspection report (Section 7.4). It also includes tips for developing narrative language for the inspection report.

Some of the actions described above may change as new technologies (e.g., handhelds, notebook computers) are implemented. These technologies may enable inspectors to complete their inspection reports in the field; however, the information regarding the elements that should be included in the report and the practical tips for report writing and preparation will continue to be applicable.

### 7.2 Inspection Follow-up

Prior to preparing the inspection report, the inspector should gather all data collected during the inspection, including records and reports and other supporting evidence (e.g., photographs, samples, affidavits, laboratory analyses reports, and the field logbook and/or other inspection notes). The inspector should review the information, noting any gaps or discrepancies, and refresh her/his memory of the entire inspection process. The inspector may need to fill in gaps by a phone call to the facility or, if necessary, by a follow-up visit. The inspector may also use written requests to collect additional information. Requests for supplemental data should specify a time frame for a response.

The inspector should conduct any necessary follow-up activities to answer outstanding questions and obtain relevant documents. The inspector should also collect information that clarifies the data already in the inspector's possession and include the additional and/or clarifying information in the inspection report (see Section 7.3.4). Other follow-up can be through EPA Headquarters (late reports, etc.), other contacts suggested onsite, or other program offices, if warranted.

In some instances, the inspector may have identified potential violations of other statutes. In this case, the inspector should refer this information to the applicable EPA or State program office or other Federal or State agency.

### 7.3 The Inspection Report

The primary function of the inspection report is to serve as the main document upon which the Division Director or other delegated authority will base enforcement decisions concerning the facility. The inspector's role in the preparation of the report is to be as accurate and inclusive as possible in recording the events that occurred and the observations that were made during the inspection. The following guidance on preparing the PCB inspection report includes objectives of the report (Section 7.3.1), the time frame for preparing the report (Section 7.3.2), CBI considerations (Section 7.3.3), and report elements (Section 7.3.4).

The inspection report should present a complete and factual record of the inspection process from opening conference, through the inspection itself, to closing conference. The inspector should keep in mind that the report should contain enough information about the facility and the inspection (as well as observations made during the inspection) to enable the Division Director or other delegated authority to make enforcement decisions pertaining to the subject facility and to develop a case, as necessary.

#### 7.3.1 Objectives

As the inspector prepares the report, she/he should have the following objectives in mind:

- ! To include in the report all of its basic elements (see Section 7.3.4), ensuring that the report contains copies of relevant forms and documents as appendices, and the narrative component of the report references those forms and documents
- ! To substantiate with as much evidence as possible each potential violation of PCB regulations cited in the report (including location, type and size of PCB equipment in violation, size and description of spills, and nature of the suspected violation)
- ! To ensure that any documents and/or photographs are appended to the report and referenced in the narrative component of the report. (This is necessary so that the Division Director or other delegated authority know how the data relates to the inspection.)
- ! To write the report in clear and concise language
- ! To present factual and accurate information pertaining to all steps in the inspection process from opening to closing conference and follow-up

- ! To make only those observations that are based on firsthand knowledge of the facility since enforcement personnel must be able to depend on the accuracy of all information
- ! To include only information that is relevant to the facility and its compliance with PCB regulations. (Irrelevant facts can interfere with enforcement decision-making.)

### 7.3.2 Time Frame for Preparing the Inspection Report

The inspector should prepare the inspection report as soon as possible following the inspection. EPA recommends that the report be completed within 45 days of the inspection. However, the actual amount of time will depend on the ability to obtain any additional required information in a timely fashion. This time frame should be sufficient to conduct necessary follow-up and to prepare the report.

### 7.3.3 Confidential Business Information Considerations

While preparing the inspection report, the inspector should keep in mind that some or all of the data gathered during the inspection may be CBI, if claimed as such by the facility. Under normal circumstances, a report may be released to the public in response to a Freedom of Information Act (FOIA) Request, unless the report falls under a FOIA exemption, such as law enforcement. On the other hand, if the inspection report contains CBI, those portions of the inspection report must be treated in accordance with CBI procedures and not released under FOIA. In preparing the inspection report, it is recommended that the inspector reference CBI in a non-confidential manner (i.e., by Document Control Number and a general description of the information contained in the document). Note, inspection reports may be released after the case file is closed.

### 7.3.4 Elements of the Inspection Report

Although inspection reports may vary in general content and format, there are certain elements that should be contained in each inspection report to ensure that necessary information is not inadvertently overlooked. The basic components of the inspection report are discussed below.

The inspection report should be a concise account of observations made and activities undertaken during the inspection, from opening conference to closing conference and follow-up. The inspector should use the field logbook and an inspection checklist (if one was used) to develop the narrative. These tools can help the inspector recall and include in the narrative important details concerning the inspection. Inspectors should include and note in the report any information submitted by the company as a result of the inspection.

The following is suggested information that may be included in the inspection report. The inspector is encouraged to include additional information in the inspection report as may be necessary.

- ! Title Page
- ! Index
- ! Facility Information
  - Company name, address, and telephone number
  - EPA Federal Registry System (FRS) ID Number
  - Primary NAICS/SIC code
  - DUNS number
  - Number of employees
  - Type of facility
  - Parent company name and address
  - Primary areas of business
- ! Inspection Conduct Information
  - Type of inspection conducted
  - Date and time of inspection
  - Responsible official's name, title, and telephone number
  - Name of EPA inspector(s) (Identify lead inspector if there is more than one inspector.)
  - Other facility participants
  - Person to whom the inspector presented his credentials
  - Person to whom the inspector provided the Notice of Inspection
  - Narrative of the inspector's observations regarding compliance/noncompliance with the regulations.
- ! Administrative Exhibits
  - The inspector should attach, as exhibits to the inspection report, all documentary evidence that supports the observations made during the inspection (and which should be described in the report narrative, as appropriate). The inspector should be sure that any data attached to the report as an exhibit is labeled as such and is mentioned within the narrative. Also, the inspector should prepare an index of exhibits (or attachments) listing the name and the location of each exhibit. This index should precede the exhibits and serve as a reference for enforcement personnel. Exhibits the inspector should include are: Notice of Inspection, Inspection Confidentiality Notice, Declaration of Confidential Business Information, Laboratory Analyses, Receipt for Samples and Documents, and other evidence.
- ! The inspector's signature with date.

The inspection report should not include any statements concluding that violations of PCB regulations exist.



### 7.3.5 Practical Tips for Report Preparation and Writing

The style of the inspection report should be clear, concise, accurate, factual, fair, complete, and logical. The inspector should write the report in such a way as to eliminate the possibility of erroneous conclusions, inferences, or interpretations. The report will become part of the permanent records for the facility, along with the samples, formal statements, photographs, and other pieces of evidence. A well-written report will serve as a summary of these other records.

In general, three rules apply to the preparation of good inspection reports:

- ! Write to express, not to impress. The inspector should include only facts and evidence that are relevant to the compliance situation.
- ! Keep the report simple. The inspector should discuss complicated matters in organized, simple, direct terms.
- ! Keep the reader in mind. The inspector should use writing, language, and terms familiar to the reader.

Keeping these rules in mind, the inspector should follow these basic steps when preparing to write the inspection report:

- ! Review the information. As the first step, the inspector should collect and review all information gathered during the inspection, including inspection report forms and checklists. The inspector should then review the information for relevance and completeness. If the inspector identifies gaps, he or she can make follow-up telephone calls or, if necessary, conduct a follow-up inspection.
- ! Organize the material. There are several different methods available for organizing the inspection data. Whatever the method, the inspector should present the material in a logical, comprehensive manner and organize it so it is easily understood.
- ! Reference accompanying material. The inspector should clearly reference all pieces of evidence (e.g., copies of records, analytical results, and photographs) that accompany the report so that the reader can locate them easily. The inspector should check supporting documents for clarity prior to writing.

When developing the narrative language portion of an inspection report, the inspector should:

- ! Ensure that the reader is able to readily ascertain the following information from the narrative:
  - The persons who participated in the inspection (i.e., identity of each facility representative and inspector)
  - A brief description of the facility being inspected (i.e., what it manufactures and/or imports, physical size of plant, number of buildings, etc.)
  - Verification that all required notices and receipts were completed and issued as required and are attached to the report

- The actions taken and observations made during the inspection which establish compliance status
  - The evidence (e.g., documents, photographs) that was collected during the inspection.
- !
- !
- Consider the types of information necessary to prove the circumstance and extent of noncompliance as shown in the PCB Penalty Policy, which can be found on the following website:  
<http://www.epa.gov/Compliance/resources/policies/civil/tsc/>.

In writing the report, the inspector should record in a factual manner the procedures used in, and the findings resulting from, the evidence-gathering process. The report should refer to routine procedures and practices used and describe in detail the facts relating to potential noncompliance and discrepancies, but should not suggest or conclude that there may be or are potential violations.

#### 7.4 What To Do With the Completed Inspection Report

After the inspector files the inspection report, the supervisor or designated senior inspector reviews it and sends it to the case development officer (CDO). If a case is issued and does not settle out-of-court, the inspector may need to appear as a witness in court.

#### 7.5 Data Entry

In addition to writing the inspection report, the inspector should submit required information for EPA's data tracking system. PCB inspectors must enter or provide appropriate information to data entry staff.

Inspectors must complete the Inspection Conclusion Data Sheets (ICDS) forms immediately after completing the inspection. If inspectors enter the ICDS information directly into ICIS they may include the ICDS information in their inspection notes without filling the actual form. Refer to Appendix D for information on Inspection Conclusion Data Sheets (ICDS). Current information on ICDS is found in the EPA inspector website at <http://intranet.epa.gov/OECA/OC/CAMPD/inspector>.

Finally, it is important that inspection data is submitted to the FIFRA/TSCA Tracking System (FTTS). FTTS is a regional system used to track compliance activities such as inspections, case review, enforcement actions taken, and samples collected. Compliance monitoring and enforcement activities are tracked from the time an inspector conducts an inspection until the time the case is closed.

**7.6 Appearing as a Witness**

The majority of cases that the EPA files result in out-of-court settlements that will not usually require the inspector's testimony. However, in cases that do not settle, the inspector may be called upon to be a "fact witness," or one who describes personal knowledge obtained through one of the five senses. Throughout the enforcement process, everything an inspector hears, sees, samples, or records may become evidence about which he or she may be questioned. Many cases are tried years after the field and laboratory activities have been conducted. Thus, the inspection report and field notebook should be sufficiently detailed and legible to allow the inspector to reconstruct the inspection "on the record." See Appendix Q for detailed information regarding preparing to testify; legal etiquette, appearance, and demeanor; and testifying during deposition, direct examination, and cross-examination.

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# **Appendices**

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# Appendix A

## Inspection Forms

The following pages contain blank Notice of Inspection, TSCA Inspection Confidentiality Notice, and Declaration of Confidential Business Information forms. See Chapter 2 for more detailed information regarding these forms. These forms may be obtained by calling the EPA Headquarters warehouse in Cincinnati, Ohio at (513) 489-8190.



US ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

TOXIC SUBSTANCES CONTROL ACT

NOTICE OF INSPECTION

1. INVESTIGATION IDENTIFICATION			3. FACILITY NAME
DATE	INSPECTOR'S NO.	DAILY SEQ. NO.	
2. INSPECTOR'S ADDRESS			4. FACILITY ADDRESS

**For Internal EPA Use.** Copies may be provided to recipient as acknowledgment of this notice.

REASON FOR INSPECTION

Under the authority of Section 11 of the Toxic Substances Control Act:

**Q** For the purpose of inspecting (including taking samples, photographs, statements, and other inspection activities) an establishment, facility, or other premises in which chemical substances or mixtures, articles containing same are manufactured, processed, stored or held before or after their distribution in commerce (including records, files, papers, processes, controls, and facilities) and any conveyances being used to transport chemical substances, mixtures, or articles containing same in connection with their distribution in commerce (including records, files, papers, processes, controls, and facilities) bearing on whether the requirements of the Act are applicable to the chemical substances, mixtures, or articles within, or associated with, such premise or conveyance have been complied with.


**Q** In addition, this inspection extends to (check appropriate blocks):

- |                            |                            |
|----------------------------|----------------------------|
| <b>Q</b> A. Financial data | <b>Q</b> D. Personnel data |
| <b>Q</b> B. Sales data     | <b>Q</b> E. Research data  |
| <b>Q</b> C. Pricing data   |                            |

The nature and extent of inspection of such data specified in A through E above is as follows:

INSPECTOR'S SIGNATURE		RECIPIENT'S SIGNATURE	
NAME		NAME	
TITLE	DATE SIGNED	TITLE	DATE SIGNED



			US ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460		
			<b>TOXIC SUBSTANCES CONTROL ACT</b>  <b>TSCA INSPECTION CONFIDENTIALITY NOTICE</b>		
1. INVESTIGATION IDENTIFICATION			4. FACILITY NAME		
DATE	INSPECTION NO.	DAILY SEQ. NO.			
2. INSPECTOR'S NAME			5. ADDRESS		
3. INSPECTOR'S ADDRESS			6. NAME OF CHIEF EXECUTIVE OFFICER		
			7. TITLE		
<b>For internal EPA use.</b> Copies may be provided to recipient as acknowledgment of this notice.					
<b>TO ASSERT A TSCA CONFIDENTIAL BUSINESS INFORMATION CLAIM</b>					
<p>It is possible that EPA will receive public requests for release of the information obtained during the inspection of the facility cited above. Such requests will be handled by EPA in accordance with provisions of the Freedom of Information Act (FOIA), 5 USC 552; EPA regulations issued thereunder, 40 CFR, Part 2; and the Toxic Substances Control Act (TSCA), Section 14. EPA is required to make inspection data available in response to FOIA requests unless the EPA Administrator determines that the data is entitled to confidential treatment, or may be withheld from release under other exceptions of FOIA.</p> <p>Any or all information collected by EPA during the inspection may be claimed as confidential if it relates to trade secrets, commercial, or financial matters that you consider to be confidential business information (CBI). If you assert a CBI claim, EPA will disclose the information only to the extent, and by means of the procedures set forth in the regulations (cited above) governing EPA's treatment of CBI. Among other things, the regulations require that EPA notify you in advance of publicly disclosing any information claimed as CBI.</p> <p>A CBI claim may be asserted at any time prior to, during, or after the information is collected. This notice was developed by EPA to assist you in asserting a CBI claim. If it is more convenient for you to assert a CBI claim on your own stationary or by making the individual documents or samples "TSCA confidential business information," it is not necessary for you to use this notice. The inspector will be glad to answer any questions you may have regarding EPA's CBI procedures.</p> <p>While you may claim any collected information or sample as CBI, such claims are not likely to be upheld if they are challenged unless the information meets the following criteria:</p>			<p>2. The information is not, and has not been, reasonably obtainable without your company's consent by other persons (other than governmental bodies), or by use of legitimate means (other than discovery based on showing of special need in a judicial or quasi-judicial proceeding).</p> <p>3. The information is not publicly available elsewhere.</p> <p>4. Disclosure of the information would cause substantial harm to your company's competitive position.</p> <p>At the completion of the inspection, you will be given a receipt for all documents, samples, and other materials collected. At that time, you may make claims that some or all of the information is CBI.</p> <p>If you are not authorized by your company to assert a CBI claim, this notice will be sent by certified mail, along with the receipt for documents, samples, and other materials to the Chief Executive Officer of your company within 2 days of this date. The Chief Executive Officer must return a statement specifying any information which should receive CBI treatment.</p> <p>The statement from the Chief Executive Officer should be addressed to:</p> <p>and mailed by registered, return-receipt requested mail within 7 calendar days of receipt of this notice. Claims may be made at any time after the inspection, but the inspection data will not be entered into the TSCA/CBI security system until an official confidentiality claim is made. The data will be handled under EPA's routine security system unless and until a claim is made.</p>		
<p>1. Your company has taken measures to protect the confidentiality of the information and it intends to continue to take such measures.</p>					
<b>TO BE COMPLETED BY FACILITY OFFICIAL RECEIVING THIS NOTICE</b> I acknowledge receipt of this notice:			If there is no one on the premise who is authorized to make CBI claims for this facility, a copy of this notice and other inspection materials will be sent to the company's Chief Executive Officer. If there is another official who should also receive this information, please designate below.		
SIGNATURE			NAME		
NAME			TITLE		
TITLE		DATE SIGNED	ADDRESS		



US ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

TOXIC SUBSTANCES CONTROL ACT

DECLARATION OF CONFIDENTIAL BUSINESS INFORMATION

1. INVESTIGATION IDENTIFICATION			2. COMPANY NAME	
---------------------------------	--	--	-----------------	--

DATE	INSPECTION NO.	DAILY SEQ. NO.		
------	----------------	----------------	--	--

3. INSPECTOR ADDRESS			4. COMPANY ADDRESS	
----------------------	--	--	--------------------	--

For internal EPA use. Copies of this form may be provided to recipient as acknowledgment of TSCA Confidential documents described below collected in connection with the administration and enforcement of the Toxic Substances Control Act.

INFORMATION DESIGNATED AS CONFIDENTIAL BUSINESS INFORMATION

NO.	DESCRIPTION

INSPECTOR SIGNATURE		CLAIMANT SIGNATURE	
---------------------	--	--------------------	--

NAME		NAME	
------	--	------	--

TITLE	DATE SIGNED	TITLE	DATE SIGNED
-------	-------------	-------	-------------



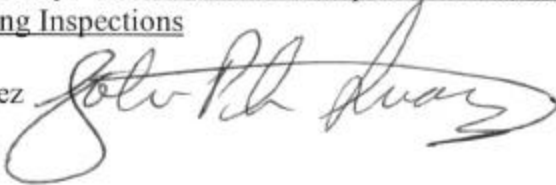
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUN 25 2003

ASSISTANT ADMINISTRATOR  
FOR ENFORCEMENT AND  
COMPLIANCE ASSURANCE

**MEMORANDUM**

SUBJECT: Final National Policy: Role of the EPA Inspector in Providing Compliance Assistance During Inspections

FROM: John Peter Suarez 

TO: Addressees

The purpose of this memorandum is to transmit the final national policy on The Role of the EPA Inspector in Providing Compliance Assistance During Inspections. This final policy incorporates many comments made by the regions and OECA offices on two previous drafts of the policy. We thank you for your comments.

This Policy will:

- ◆ Provide more consistency in how and when EPA inspectors provide compliance assistance.
- ◆ Respect the states' role in providing compliance assistance by limiting EPA inspectors to only providing assistance on state regulations that are identical to federal regulations.
- ◆ Clarify, not change, the existing practice of providing appropriate compliance assistance during inspections (recent results from the Inspection Conclusion Data Sheet project indicate that inspectors currently provide assistance during 75% of compliance inspections).

OECA will post the Policy on the EPA Website (Internet) and the OC Inspector Website (Intranet) and will include development of a training module in future offerings of the Basic Inspector Training course.



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**For your information, here is a summary of the Policy's major points:**

- EPA compliance inspectors are encouraged to provide appropriate general, and limited site-specific, compliance assistance, consistent with the primary purpose of compliance determination. The Policy provides examples of general and site-specific compliance assistance.
- The Policy is not intended to address every inspection scenario or situation. The Policy does not supplant the need for prudent judgement by EPA inspectors, based on their knowledge, experience, and expertise.
- EPA inspectors should **not** provide site-specific interpretive technical assistance during compliance inspections.
- EPA inspectors should **not** provide site-specific interpretive legal assistance during compliance inspections.
- EPA inspectors should not make applicability determinations in the field.
- Specific activities occurring during the inspection should be documented and reported after the inspection, including potential violations, actions taken to address potential violations, and compliance assistance provided.
- Facilities receiving compliance assistance are not shielded from possible enforcement actions for violations identified during the compliance inspection.

Please distribute this policy widely throughout the organization to all EPA employees, EPA contractors, and EPA grantees that conduct inspections. If you have questions, please call the Compliance Assessment and Media Programs Division (CAMPD) at 202-564-2300.

Attachments: National Policy: A) Background and Sources of Information; and B) U.S. EPA Compliance Assistance Resources

**Addressees:** Regional Enforcement Division Directors, Regions 1, 2, 4, 6, and 8  
Regional Science and Technology Division Directors, Regions 1-10  
Regional Media Division Directors, Regions 1-10  
Regional Enforcement Coordinators, Regions 1-10  
Regional Compliance Assistance Coordinators, Regions 1-10  
David S. Evans, Director, Oil Program Center  
Steve Page, Director, Office of Air Quality Planning and Standards  
Brian McLean, Director, Office of Atmospheric Programs  
James Jones, Director, Office of Pesticide Programs  
Charles Auer, Director, Office of Pollution Prevention and Toxics  
Debbie Dietrich, Director, Chemical Emergency Preparedness and Prevention Office

Robert Springer, Director, Office of Solid Waste  
Cliff Rothstein, Director, Office of Underground Storage Tanks  
Cynthia Dougherty, Director, Office of Ground Water and Drinking Water  
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Diana Love, Director, NEIC  
Anne N. Miller, Director, OFA  
Susan E. Bromm, Director, OSRE

## NATIONAL POLICY

### The Role of the EPA Inspector in Providing Compliance Assistance During Inspections

#### Summary of Policy

**The main purpose of EPA conducting compliance inspections is to determine compliance with environmental regulations and enforcement agreements.**

This policy clarifies, but does not change, the existing practice of providing appropriate compliance assistance during inspections (recent results from the Inspection Conclusion Data Sheet project indicate that inspectors currently provide assistance during 75% of compliance inspections). This policy applies during the course of the on-site compliance inspection and only to EPA inspectors as defined under the Inspection Process section. Here is a summary of the main points:

- EPA compliance inspectors are encouraged to provide appropriate general, and limited site-specific, compliance assistance, consistent with the primary purpose of compliance determination, as time allows. Examples of general and site-specific compliance assistance are provided in the Policy.
- The Policy is not intended to address every inspection scenario or situation. The Policy does not supplant the need for prudent judgement by EPA inspectors, based on their knowledge, experience, and expertise.
- EPA inspectors should **not** provide site-specific interpretive technical assistance during compliance inspections.
- EPA inspectors should **not** provide site-specific interpretive legal assistance during compliance inspections.
- EPA inspectors should not make applicability determinations in the field.
- EPA inspectors should only provide assistance on state requirements that are identical to federal environmental regulations.
- Specific activities occurring during the inspection should be documented and reported after the inspection, including potential violations, actions taken to address potential violations, and compliance assistance provided.
- Facilities receiving compliance assistance are not shielded from possible enforcement actions for violations identified during the compliance inspection.
- Facilities are subject to potential enforcement action, even if they correct potential violations observed during the compliance inspection.

This policy was developed based on information sources (Attachment A), tips from a Region III inspector, comments from the Regions/HQ offices, and the Region VII Documentation Guidelines for Compliance Related Field Activities.

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- Index** This Policy includes the following:
- Introduction
  - Inspection process
  - Definition for this policy
  - Appropriate general assistance
  - Inappropriate assistance
  - Site-specific examples
  - Documentation
  - Reporting
- 

**Introduction** In 1997, a workgroup of Headquarters and regional compliance inspectors and managers was formed to discuss and report on the proper role of the EPA inspector in providing compliance assistance. The workgroup developed a report that was circulated to the Regions. However, the 1997 report was never communicated as a national policy that EPA inspectors should follow. It was issued only as a guide. **This national policy document supercedes the 1997 report.**

This national policy describes the appropriate role of the EPA inspector when providing compliance assistance. The Regions and HQ offices played a significant role in formulating this revised policy. Their comments are incorporated in this final Policy.

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- Inspection Process**
- During every compliance inspection, EPA inspectors (*i.e.*, EPA employees, contractors, and SEE enrollees, as well as state and tribal inspectors using federal credentials to conduct inspections) are tasked primarily with determining compliance and, secondarily, with determining the appropriate level of compliance assistance to provide to the facility being inspected. Generally, an EPA inspector conducts the following activities during an inspection:
- presents credentials and gains access to the facility;
  - identifies a facility representative with knowledge and authority to answer questions, and conducts interviews with various facility personnel;
  - announces the purpose of the inspection and, in some cases, presents a notification of inspection;
  - takes environmental samples when appropriate;
  - reviews a variety of records, reports, and other written documentation;
  - conducts an on-site review of the physical buildings, processes, pollution

- control equipment, and monitoring practices;
- makes notes of observations and interviews and takes photographs; and
- conducts a closing or exit conference.

At any time during these activities, the EPA inspector could be asked general and/or site-specific compliance-related questions. This policy provides guidance to EPA inspectors on how to respond to these questions and what types of assistance should, and should not be, provided.

*Caution:* If the facility fixes or corrects potential violation(s) observed during the inspection, the EPA inspector should make note of it in the inspection report. However, the facility is still subject to an enforcement action if the potential violation is deemed appropriate, and there is ample evidence documenting it. **Under no circumstances** should the EPA inspector tell the facility that it is exempt from enforcement actions if the facility corrects or fixes potential violations observed during the inspection.

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**Definition for  
this Policy**

**While EPA has a broader definition of Compliance Assistance for other purposes, this policy defines compliance assistance as:**

- Providing tools or regulatory assistance to the facility during an on-site compliance inspection to help the facility understand and comply with federal environmental regulations/requirements.

Compliance assistance for this policy does **not** include the following two situations:

- EPA inspectors may observe situations where there are significant problems that rise to the level of an imminent and substantial endangerment to human health or the environment. If the inspector believes such a situation exists, he/she must notify the facility during the inspection and refer the facts to the appropriate office for subsequent action. This is an obligation EPA inspectors assume as part of their normal duties.
- EPA inspectors may share information about, or provide a review of the compliance status of the facility including a preliminary evaluation of some, but possibly not all, of the potential violations observed during the closing conference. These preliminary findings could change at a later date subject to research, management or legal review, or new information received by the Agency. This information is part of the routine compliance and enforcement process and is not considered compliance assistance.



Regional and HQ inspection programs vary on whether EPA inspectors share initial inspection results, and even final inspection reports, with facility owners/operators. This national policy does not alter these existing regional or HQ inspection program practices or policies.

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**Appropriate  
General  
Assistance**

EPA compliance inspectors are encouraged to provide general compliance assistance during the compliance inspection. The following examples illustrate appropriate general compliance assistance during inspections:

- Providing physical copies of environmental statutes or regulations, conveying a general explanation of where to obtain the regulatory requirements, and providing information on where to find regulatory interpretations (*e.g.*, CAA Applicability Determination Index);
- Providing information including prepared guidance, manuals, and technology transfer documents;
- Providing information on what assistance can be obtained from EPA, State, local assistance programs, trade associations, and other organizations;
- Informing facilities regarding the physical equipment or processes and reports and/or records they need to maintain, as well as a general idea of what these documents should contain to ensure compliance;
- Distributing the small business information sheet with information on web sites, hotlines, and other materials;
- Providing prepared literature on pollution prevention techniques and opportunities, environmental management practices, and innovative technologies;
- Providing information on visible compliance problems (*e.g.*, labeling, aisle space), which do not pose any issues of first impression requiring legal or technical interpretation by the inspector, potentially enabling the facility to undertake quick action to remedy the non-compliance problem;
- Providing facilities with the website for the EPA Audit Policy and Small Business Policy to encourage self-auditing;
- Providing suggestions from published material developed and recognized by EPA on simple techniques and concepts to reduce or eliminate pollution (*e.g.*, housekeeping tips);

- Sharing information from published material developed and recognized by EPA on control practices and equipment used within a specific sector to comply with environmental regulations and potentially reduce their regulatory burden;
- Providing information published material developed and recognized by EPA on recognized industry or sector-based practices and concepts to reduce or eliminate pollution (*e.g.*, chemical substitution, equipment changes);
- Explaining regulations or guidance that describe how to collect a sample, but not providing advice on the number or location of samples necessary to meet “representative” criteria; and
- Mentioning to regulated facilities that state requirements, which may apply to them, may be different than federal requirements.

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### **Inappropriate**

#### **Assistance**

EPA inspectors should **not** provide site-specific interpretive technical assistance, nor should they provide site-specific interpretive legal assistance during compliance inspections. Legal assistance involves providing advice to the facility on how to deal with EPA or the state on a potential violation or enforcement action, or stating that no action will be taken if potential violations are corrected by the facility.

Examples of **inappropriate** site-specific technical and legal assistance that should **NOT** be provided during EPA compliance inspections include:

- Providing information on specific commercial consultant services, or recommending a specific product or consultant providing a service;
- Providing interpretive site-specific legal or technical advice on how a site or facility can achieve compliance with environmental regulations;
- Providing interpretations that do not already exist in writing or are not written agency policy;
- Providing determinations of whether a facility, unit, waste, or piece of equipment is subject to federal environmental requirements, providing regulatory interpretations, or approving alternative monitoring approaches. These are typically known as applicability determinations;
- Providing specific design information on a facility's particular problem, engineering design, or materials management process;

- Divulging information that could be classified as confidential business information;
- Advising on technical solutions, such as process changes that should be made or types of equipment that should be purchased; and
- Offering opinions on recommendations made by others, particularly state, tribal, or local inspectors. EPA inspectors should only provide assistance on state requirements that are identical to federal environmental regulations.

The above examples are not appropriate for the following reasons:

**Complexity** – Due to the scope of regulatory requirements, routine changes to manufacturing processes, technological advances, and limited time for reviewing and observing on-site procedures and practices, EPA inspectors may not always have the information and time needed to provide appropriate compliance assistance. Also, the facility owner or operator may provide EPA inspectors with incorrect or misleading information. This lack of, or incorrect, information may lead the EPA inspector to make statements that do nothing to improve the facility’s operations or its ability to achieve compliance with environmental requirements.

**Potential legal implications** – It may affect the Agency’s ability to develop and prosecute civil and criminal enforcement actions. For example, if a facility relied upon assistance that the EPA inspector provided to initiate action to achieve compliance and a subsequent enforcement action was taken for non-compliance or imminent and substantial endangerment resulting from that assistance, it could cause problems in successfully prosecuting the case and achieving environmental compliance. The Office of Regional Counsel or Office of Regulatory Enforcement should be consulted if this issue arises during, or after, a compliance inspection.

**Potential to develop new policy in the field** – Policy decisions at one facility can have a precedential effect on all other facilities. It is important that EPA inspectors follow established procedures for developing national compliance and enforcement policies. EPA inspectors may not have all of the facts or the authority necessary to make policy decisions in the field. They may need to consult existing guidance and obtain technical advice to ensure consistency on how to address the issue, which may not be available during the inspection.

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**Site-Specific  
Examples**

The following examples are provided to assist the EPA inspector in identifying appropriate and inappropriate site-specific assistance during a compliance inspection. These examples are illustrative only and do not represent the entire

spectrum of all possible site-specific compliance assistance situations.

**Example 1 - Missing Labels:** An inspector on a tour of a facility observes a number of electric transformers on-site. The transformers have no labels posted on them. The inspector inquires as to the type of transformers. The plant operator states that the transformers contain polychlorinated biphenyls (PCBs).

*Appropriate assistance*

The inspector tells the facility, “the regulations require that you will need to put labels on transformers containing PCB’s. The labels must say ‘Caution Contains PCBs and other specific language.’” The inspector directs the facility to the specific regulatory citation for the exact wording for the labels.

*Inappropriate assistance*

The inspector either places the labels on the transformers for the facility or recommends a specific company or brand of label by saying, “here is X company who sells and can provide you with the correct labels.”

**Example 2 - Open Containers** – In the aerosol fill area of a facility, the inspector observes a 55-gallon satellite accumulation container that is open. The inspector verifies that the container is full. A plant operator informs the inspector that the container is used to collect spent line flushing solvent (lacquer thinner) used to wash paint out of the fill equipment. The inspector asks the plant operator if the spent solvent is classified a hazardous waste by the company. The plant operator affirms it is classified a hazardous waste.

*Appropriate assistance*

The inspector tells the facility, “the regulations specify that you need to make sure containers holding hazardous waste that are full are closed except when it is necessary to add or remove waste.” The inspector directs the facility to the specific regulatory citation requiring the containers to be closed. The inspector also discusses standard industry practices from published material developed and recognized by EPA to ensure proper handling of hazardous waste.

*Inappropriate assistance*

The inspector tells the facility that if it fails to keep containers holding hazardous waste closed, it will have to change its process to avoid generating the waste. Alternatively, the inspector suggests a different process design for the facility that will allow waste to be generated but will keep the containers closed. The inspector advises the facility on how to avoid penalties for drums remaining open.

**Example 3 - Sludge Deposits** – The state waste water permit for a facility requires that “[w]aters shall be free from substances in sufficient amounts to cause formation of putrescent, unsightly, or harmful bottom deposits.” At the facility’s outfall, the inspector observes the receiving stream to have 4-5 inches of sludge deposit at the bottom, as well as significant bloodworm populations. After

discussion with the facility, the facility operator signs a statement that the facility has been losing solids to the stream for four months due to an increased organic load from a meat packing company.

*Appropriate assistance*

The inspector inquires whether there are other discharges from the facility, what treatment processes and controls are in place to prevent solids from reaching the outfalls, and what problems have occurred. The inspector asks the facility about its understanding of permit conditions regarding sludge deposits in the receiving stream, and whether the facility is meeting its permit conditions. The inspector tells the facility that it should limit solids reaching the outfall to meet its state permit requirements. The inspector directs the facility to the specific permit language regarding protection of the receiving stream and to agency guidance discussing wastewater requirements and various treatment methods for solids.

*Inappropriate assistance*

The inspector tells the facility it will have to stop accepting waste from the meat packing plant to meet the permit limits. Alternatively, the inspector suggests a different process design for the facility that will prevent solids from reaching the outfall. The inspector advises the facility on how it can renegotiate its permit with the state.

**Example 4 - Chromate Coating Process** – A steel plant facility states it is “galvanizing” steel with a 55% aluminum and 45% zinc coating followed by a chromate dip. The inspector consults the EPA development document and concludes that the chromate coating process is actually “electroplating” and that residues from treating the spent chromate solution would be a listed hazardous waste. If the process is defined as “electroplating”, the facility could have significant noncompliance with hazardous waste requirements.

*Appropriate assistance*

The inspector asks the facility what processes and controls it has in place for handling the spent chromate solution. The inspector inquires whether the facility has looked into whether the spent chromate solution requires special handling as hazardous waste, what it found, and the rationale for operating the controls that are currently being implemented. The inspector asks the facility to explain why it determined that the process is “galvanizing” rather than “electroplating”.

The inspector tells the facility that there are some questions about the process, specifically its definition of the process as “galvanizing” rather than “electroplating”. The inspector states that an applicability determination will have to be made, after a review and research, as part of evaluating the facility’s compliance status and consultation with EPA management and legal counsel. The Agency may also request additional information about the process.

The inspector directs the facility to available agency, state, or local materials and

websites dealing with galvanizing, electroplating, and chromate coating processes, such as the Metal Finishing Compliance Assistance Center (1-800-AT-NMFRC or <http://www.nmfrc.org>), the Self-Audit and Inspection Guide for Facilities Conducting Cleaning, Preparation, and Organic Coating of Metal Parts (EPA 305-B-95-002, August 1998), and/or the CAA Applicability Determination Index at <http://www.epa.gov/Compliance/planning/data/air/adi.html>.

*Inappropriate assistance*

The inspector tells the facility it needs to stop operating the galvanizing process until the Agency determines whether the operation generates a hazardous waste. Alternatively, the inspector advises the facility to modify its process to allow it to be defined as a “galvanizing” process.

**Example 5 - Record keeping** – An inspector observes that a facility did not maintain good air emission monitoring records over a two-year period. The managers at the facility had a system to record readings from their continuous monitoring system, but no one at the facility had direct responsibility to ensure the readings were properly recorded every day. A review of the records revealed that a daily report was being used for several days of readings. The standards specifies separate records for each 24-hour period.

*Appropriate assistance*

The inspector tells the facility: “the underlying standards clearly specify that separate records must be maintained for each 24-hour period.” The inspector directs the facility to the standards requiring the record keeping requirements.

*Inappropriate assistance*

The inspector tells the facility that to ensure the records are maintained it should include the responsibility in the plant engineer’s job description.

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**Documentation** EPA inspectors should document in their field notes, and subsequent inspection reports, the following information:

- any and all actions actually observed that were taken by the facility to come into compliance; and
- any assistance provided (both written and oral) to the facility.

In FY 2003, some EPA inspection programs (CAA-Stationary Source, CWA-NPDES, TSCA lead-based paint, Good Laboratory Practices, and CAA-Mobile Source) are required to complete an Inspection Conclusion Data Sheet (ICDS). The ICDS form is designed to capture information on deficiencies observed and communicated, actions taken to address deficiencies, and compliance assistance provided during inspections.

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## Reporting

EPA currently has two existing databases that capture instances where EPA inspectors provide compliance assistance during inspections.

1. The Integrated Compliance Information System has a data field for capturing compliance assistance during inspections. In a December 4, 2002 memo to the Regions, Headquarters described the process for reporting the ICDS information.
  - In FY 2003, for the five regional and HQ inspection programs targeted to complete the ICDS, the regions had the option of using either entering the data into ICIS or completing and sending a manual form as part of the mid-year and end-of-year RECAP request.
  - In FY 2004 and later years, additional media-specific inspection programs (*e.g.*, RCRA Hazardous Waste and TSCA) will be added to the ICDS reporting.
  - The Regional Compliance Assistance Tracking System (RCATS) tracks **only** the number and type of tools distributed during on-site activities, including inspections. RCATS does not capture the other ICDS information (deficiencies observed and communicated, specific actions taken to address deficiencies, and site-specific compliance assistance).

The preferred approach is the Regions and HQ offices conducting compliance inspections to use ICIS to report general and site-specific compliance assistance provided during inspections.

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*Attachment A:* Background Sources of Information and SBREFA Information Sheet

*Attachment B:* SBREFA Information Sheet (revised)

**ATTACHMENT A**  
**Role of the EPA Inspector in Providing Compliance Assistance During Inspections**  
*Background and Sources of Information*

- Sources** This policy was developed based on the following sources of information:
- Role of the EPA Inspector in Providing Compliance Assistance Final Report, July, 1997.
  - Regional Inspector Dialogues, February-May, 1998.
  - National EPA Inspector Workshop, November 28-30, 2000.
  - National EPA Inspector Workshop, December 11-13, 2001.
  - Informal discussions between OECA managers, staff and the Regions.
  - SBREFA law and handout.
  - Draft Region III Compliance/Corrective Assistance Tips for Inspectors, Summer, 2002.
  - Documentation Guidelines for Compliance Related Field Activities, October 17, 2002, Region VII Enforcement Coordination Office.

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**Background** In March, 1995 the Office of Compliance initiated a headquarters and regional work group co-chaired by Region III to review the traditional roles and assess innovative roles for EPA compliance monitoring inspectors with regard to providing compliance assistance and technical assistance to regulated facilities and to facilitate multi-media and sector-based activities.

The reader is encouraged to obtain a copy of the 1997 report titled the “Role of the EPA Inspector in Providing Compliance Assistance” and read it as a main companion piece to this policy. The report is available on the OC Inspector Website, under Reference Materials. The URL for the website is:  
<http://intranet.epa.gov/oeca/inspector>.

The workgroup produced a report that discussed options for providing on-site compliance assistance during inspections, implementation issues, conclusions and recommendations. The workgroup conclusions were:

- On-site compliance assistance during inspections can be viewed as a continuum from the simple to more complex. The most technically complex and site-specific level of assistance, Tier III, is not an appropriate EPA inspection activity, but the use of any compliance assistance depends on the training and expertise of the particular inspector in techniques and substance.
- To be most effective, EPA decisions about when and how to use compliance assistance to address an environmental problem or non-compliance situation should be made during up-front planning and targeting processes, particularly in the development of sector-based strategies.



Since October 1, 2001, the Regions have been completing ICDS forms for the CAA-Stationary, CWA-NPDES, Lead-based paint, and Good Laboratory Practices (GLP) inspections. The Office of Compliance recently sent a memo to the Regions summarizing the results of the mid-year data. The results showed that EPA inspectors provided compliance assistance on 77% of a total of 1269 inspections for the first half of FY 2002 in the above programs.

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**Inspector's  
Guide**

OC expects to finalize the Inspector's Compliance Assistance Resource Guide in the late 2002 or early 2003. This guide will provide information to EPA inspectors on how to use the compliance assistance resources that OECA has developed. These resources range from hard copy documents to interactive on-line tools. The Guide's main purpose is to enable EPA inspectors to know what is available to provide to inspected facilities. The Guide includes information on:

- Sector Notebooks
- Compliance Assistance Centers
- Compliance Assistance Clearinghouse
- Audit Protocols
- Sector-specific tools

The draft guide can be found at <http://www.ergweb.com/projects2/inspectorguide/>.

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**SBREFA**

The Small Business Regulatory Enforcement Fairness Act (SBREFA) was signed into law on March 29, 1996. The Act required agencies conducting enforcement at facilities "subject to an audit, on-site inspection, compliance assistance effort, or other enforcement related communication or contact by agency personnel" have a means to comment on such enforcement actions.

To implement this provision, OECA has developed a revised SBREFA Information Sheet (following attachment). SBREFA information should be provided when EPA has its initial enforcement contact with a small business, which may or may not be at the time of the inspection. A small business is defined by the Small Business Administration and is based on the SIC/NAICS code, number of employees, and annual receipts. The inspector should distribute the SBREFA sheet if he/she is uncertain whether the business meets the definition of a "small business".

## ATTACHMENT B

### U.S. EPA Compliance Assistance Resources

If you own a small business, the United States Environmental Protection Agency (EPA) offers a variety of compliance assistance resources and tools to assist you in complying with federal and State environmental laws. These resources can help you understand your environmental obligations, improve compliance and find cost-effective ways to comply through the use of pollution prevention and other innovative technologies.

#### **Hotlines, Helplines, and Clearinghouses**

EPA sponsors approximately 89 free hotlines and clearinghouses that provide convenient assistance regarding environmental requirements.

**The National Environmental Compliance Assistance Clearinghouse** provides quick access to compliance assistance tools, contacts, and planned activities from the U.S. EPA, states and other compliance assistance providers:  
<http://www.epa.gov.clearinghouse>

**Pollution Prevention Clearinghouse**  
<http://www.epa.gov/opptintr/library/ppicindex.htm>

**EPA's Small Business Ombudsman Hotline** Can provide a list of all the hot lines and assist in determining the hotline best meeting your needs. (800) 368-5888

**Emergency Planning and Community Right-to-Know Act** (800) 424-9346

**National Response Center** (to report oil and hazardous substance spills) (800) 424-8802

**Toxics Substances and Asbestos Information**  
(202) 554-1404

**Safe Drinking Water**  
(800) 426-4791

**Stratospheric Ozone and Refrigerants**  
(800) 296-1996

**Clean Air Technology Center**  
(919) 541-0800

**Wetlands Hotline**  
(800) 832-7828

#### **EPA Websites**

EPA has several Internet sites that provide useful compliance assistance information and materials for small businesses. If you don't have access to the

Internet at your business, many public libraries provide access to the Internet at minimal or no cost.

**EPA's Home Page**  
<http://www.epa.gov>

**Small Business Assistance Program**  
<http://www.epa.gov/ttn/sbap>

**Office of Enforcement and Compliance Assurance**  
<http://www.epa.gov/compliance>

**Compliance Assistance Home Page**  
<http://www.epa.gov/compliance/assistance>

**Office of Regulatory Enforcement**  
<http://www.epa.gov/compliance/civil/index/htm>

**Office of Site Remediation Enforcement**  
<http://www.epa.gov/compliance/cleanup>

**Innovative Programs for Environmental Performance**  
<http://www.epa.gov/partners>

**Small Business Ombudsman**  
[www.sba.gov/ombudsman](http://www.sba.gov/ombudsman)

**Compliance Assistance Centers**  
In partnership with industry, universities, and other federal and state agencies EPA has established national Compliance Assistance Centers that provide Internet and "faxback" assistance services for several industries with many small businesses. The following Compliance Assistance Centers can be accessed through the Center's gateway at <http://www.assistancecenters.net> or by calling the phone numbers below and at their respective websites.

**Metal Finishing**  
(1-800-AT-NMFRC or <http://www.nmfrc.org>)

**Printing**  
(1-888-USPNEAC or <http://www.pneac.org>)

**Automotive Service and Repair**  
(1-888-GRN-LINK or <http://www.ccar-greenlink.org>)

### **Agriculture**

(1-888-633-2155 or <http://www.epa.gov/oeca/ag>)

### **Printed Wiring Board Manufacturing**

(1-734-995-4911 or <http://www.pwbr.org>)

### **The Chemical Industry**

(1-800-672-6048 or <http://www.chemalliance.org>)

### **The Transportation Industry**

(1-888-4509-0656 or <http://www.transource.org>)

### **The Paints and Coatings Center**

(1-800-286-6372 or <http://www.paintcenter.org>)

Three new centers are under development for the auto salvage sector, the construction industry, and the U.S. Mexican border waste issues.

### **State Agencies**

Many state agencies have established compliance assistance programs that provide on-site and other types of assistance. Contact your local state environmental agency for more information. For assistance in reaching state agencies, call EPA's Small Business Ombudsman at (800)-368-5888 or visit the Small Business Environmental homepage at <http://www.smallbiz-enviroweb.org/state.html>.

### **Compliance Incentives**

EPA provides incentives for environmental compliance. By participating in compliance assistance programs or voluntarily disclosing and promptly correcting violations, businesses may be eligible for penalty waivers or reductions. EPA has two policies that potentially apply to small businesses: the Audit Policy (<http://www.epa.gov/oeca/auditpol.html>) and the Small Business Policy (<http://www.epa.gov/oeca/smbusi.html>). These do not apply if an enforcement action has already been initiated.

### **Commenting on Federal Enforcement Actions and Compliance Activities**

The Small Business Regulatory Enforcement Fairness Act (SBREFA) established an ombudsman ("SBREFA Ombudsman") and 10 Regional Fairness Boards to receive comments from small businesses about federal agency enforcement actions. The SBREFA Ombudsman will annually rate each Agency's responsiveness to small businesses. If you believe that you fall within the Small Business Administration's definition of a small business (based on your North American Industry Classification System (NAICS)

designation, number of employees or annual receipts, defined at 13 CFR 121.201; in most cases, this means a business with 500 or fewer employees), and wish to comment on federal enforcement and compliance activities, call the SBREFA Ombudsman's toll free number at 1-888-REG-FAIR (1-888-734-3247).

Every small business that is the subject of an enforcement action is entitled to comment on the Agency's actions without fear of retaliation. EPA employees are prohibited from using enforcement or any other means of retaliation against any member of the regulated community because the regulated community previously commented on its activities.

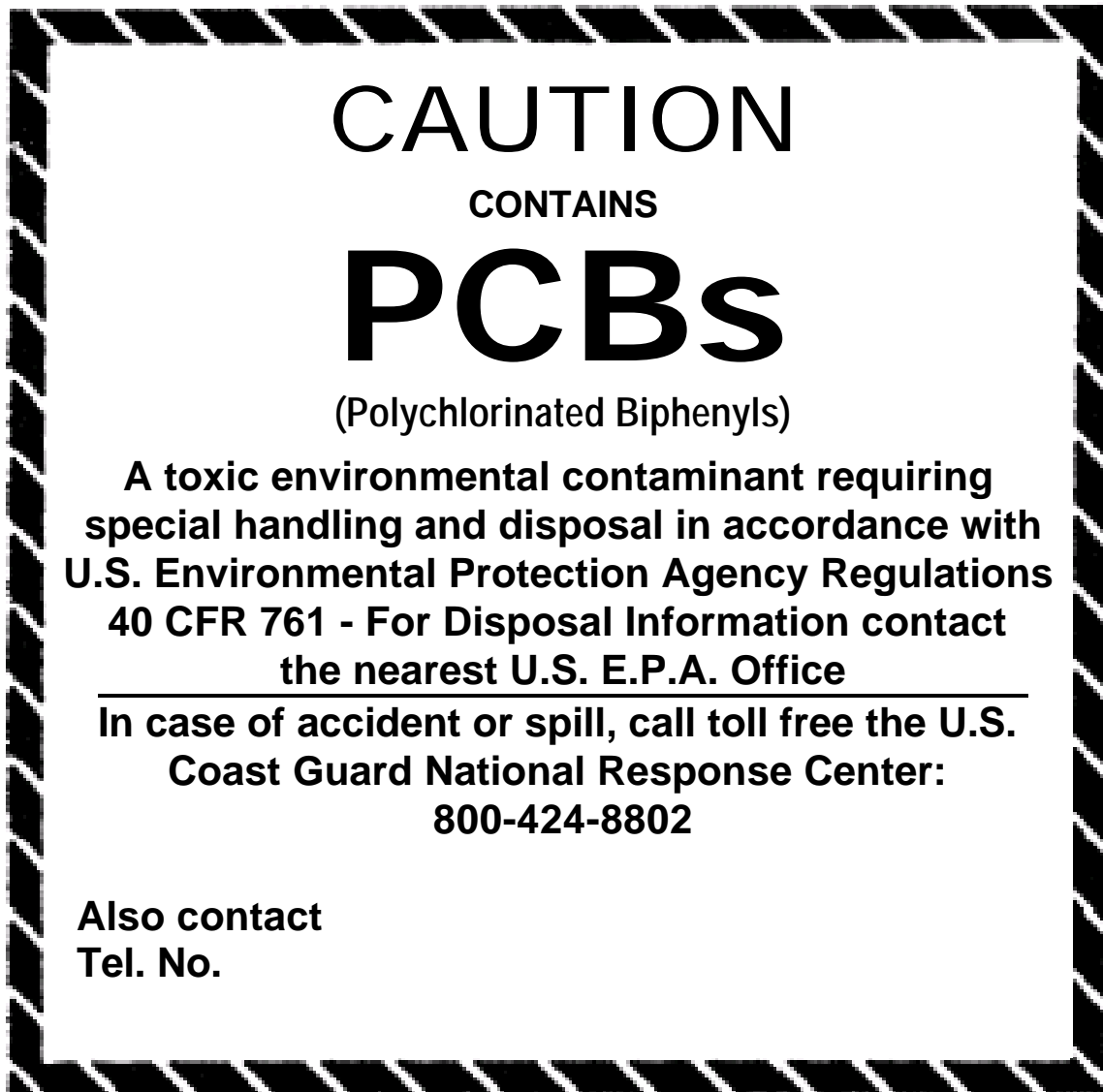
### **Your Duty to Comply**

If you receive compliance assistance or submit comments to the SBREFA Ombudsman or Regional Fairness Boards, you still have the duty to comply with the law, including providing timely responses to EPA information requests, administrative or civil complaints, other enforcement actions or communications. The assistance information and comment processes do not give you any new rights or defenses in any enforcement action. These processes do not affect EPA's obligation to protect human health or the environment under any of the environmental statutes it enforces, including the right to take emergency actions when appropriate. Those decisions will be based on the facts in each situation. The SBREFA Ombudsman and Fairness Boards do not participate in the resolution of EPA's enforcement actions. Also remember that to preserve your rights, you need to comply with all rules governing the enforcement process.

**EPA is disseminating this information to you without making a determination that your business or organization is a small business as defined by Section 222 of the Small Business Regulatory Enforcement and Fairness Act (SBREFA) or related provisions.**

# Appendix C

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

NOV 25 2003

OFFICE OF  
ENFORCEMENT AND  
COMPLIANCE ASSURANCE

**MEMORANDUM**

**SUBJECT:** Fiscal Year 2004 Inspection Conclusion Data Sheet Reporting Forms

**FROM:** Michael M. Stahl  
Director  
Office of Compliance

A handwritten signature in black ink, appearing to read "Michael M. Stahl", written over the printed name and title.

**TO:** Regional Enforcement Division Directors, Regions 1, 2, 4, 6 and 8  
Regional Media Division Directors, Regions 1-10  
Regional Science and Technology Division Directors, Regions 1-10

**Purpose** The purpose of this memorandum is to provide the forms for fiscal year 2004 Inspection Conclusion Data Sheet (ICDS) data collection/reporting. ICDS reporting will continue to be required for the following inspection/evaluation programs in 2004:

- Clean Air Act (CAA) Stationary Source
- Clean Water Act NPDES, excluding pretreatment inspections
- Good Laboratory Practices (GLP)
- Toxic Substances Control Act (TSCA) lead-based paint
- Clean Air Act Mobile Source

and for the following new programs (number of 2003 inspections in parentheses):

- Resource Conservation and Recovery Act Subtitle C (1643)
- Underground Storage Tanks (1327)
- TSCA core, PCBs and asbestos (1090)
- CAA 112 (r) (632)

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**Reporting** The regions and headquarters programs have two options for reporting the FY 2004 ICDS information:

- **Manual reporting:** Submit summary ICDS information at mid-year (April, 2004) and end-of-year (October, 2004) using the form in Attachment A. First-line supervisors need to review the ICDS forms prior

to compiling the ICDS data for mid-year and end-of-year reporting to verify its completeness and accuracy.

- **Integrated Compliance Information System (ICIS):** Use ICIS to enter the ICDS data. HQ will then pull the ICDS information from ICIS for mid-year and end-of-year reporting.

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**Goal 5** One reason to continue to expand ICDS to new media programs is the new structure of the EPA Strategic Plan. Under Goal 5, Compliance and Environmental Stewardship, the sub-objective for Monitoring and Enforcement includes a strategic target for the outcomes from compliance inspections. The strategic target is listed as “the percentage of regulated entities taking complying actions as a result of compliance monitoring.” The measure for this strategic target is dependent upon data collected from the ICDS.

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**ICDS Forms** **Attachment A includes:**

- Changes to the ICDS manual form;
- Procedures for reporting ICDS information manually; and the
- FY 2004 Inspection Conclusion Data Sheet Manual Reporting Form

**Attachment B includes:**

- FY 2004 Process for Entering ICDS Information into ICIS;
- Step-by-Step Process for Entering ICDS Information Into ICIS; and the
- FY 2004 Inspection Conclusion Data Sheet Form for ICIS Reporting

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**Data Quality** We continue to emphasize it is critically important for regional and HQ first-line supervisors (or designated alternates) to review either the manual ICDS forms prior to compiling the ICDS data, or the ICDS information entered into ICIS to verify its completeness and accuracy.

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If you have questions about this memorandum or the Attachments, please call Ken Gigliello at 202-564-7047. We thank you for your attention to this memorandum.

Attachment A: FY 2004 Inspection Conclusion Data Sheet (ICDS) Manual Reporting Form  
Attachment B: FY 2004 Process for Entering ICDS Information into ICIS

cc: OC and ORE Division Directors  
Enforcement Coordinators, Regions 1-10  
MOA Coordinators, Regions 1-10  
Field Operations Group, Regions 1-10

**FY 2004 Inspection Conclusion Data Sheet Manual Reporting Form**

**Changes to the Form in FY 2004:**

The ICDS form has been changed to include the new programs added in FY 2004. Additional changes should make it easier for the regions or HQ program to compile the data for mid-year and end-of-year reporting and minimize reporting errors. EPA inspectors and first-line supervisors (or designated alternates) should find it easier to completely and accurately record the ICDS information. The changes include:

- Added RCRA Subtitle C, UST, TSCA core, PCBs and asbestos, and CAA112 (r) to form;
- Modified the question dealing with observing and communicating deficiencies into two (2) separate questions;
- Modified the two questions on compliance assistance to reflect the national policy of the Role of the EPA Inspector in Providing Compliance Assistance During Inspections; and
- Revised the ICDS instructions.

**FY 2004 Reporting Process:**

- After completing the revised attached form, EPA inspectors should forward the form to their first-line supervisor or designated alternate. The first-line supervisor or designated alternate should review the forms for accuracy and completeness.
- The first-line supervisor or designated alternate should compile the results from the individual ICDS forms completed by the inspectors and fill in the numbers on the “ICDS DATA REPORTING FORM FOR FY 2004 MID-YEAR and EOY”
- The completed “ICDS DATA REPORTING FORM FOR FY 2004 MID-YEAR and EOY” should be forwarded to OECA at mid-year (April, 2004) and end-of-year (October, 2004).



**FY 2004 EPA MANUAL INSPECTION CONCLUSION DATA SHEET (ICDS) FORM**  
*Instructions and Definitions for Completing the Information Follow*

1. **Region:** \_\_\_\_\_ **Facility Name/Location:** \_\_\_\_\_

2. **General Facility Permit ID or Media-Specific Permit ID number (e.g. NPDES permit #):**  
 \_\_\_\_\_

3. **SIC (4-digit)**     **OR** **NAICS Code (5-digit):**

4. **Date of Inspection:** \_\_\_\_\_ (mm/dd/yyyy)

5. **Media Type (check one only)**

CAA-Stationary  CWA-NPDES  GLP  TSCA Lead Paint  CAA 112r   
 CAA-Mobile Sources  RCRA  UST  TSCA core, PCBs, asbestos

6. **Deficiencies:** Did you observe deficiencies during inspection?  Yes  No *[N/A is not allowed]*

- a. *If YES, go to #7*  
 b. *If NO, go to #9*

7. **If YES:** Did you communicate the deficiencies to the facility during the inspection?  Yes  No

8. **Actions Taken:** Did you observe or see the facility take any actions during the inspection to address the deficiencies communicated?  Yes  No *[N/A is not allowed]*

- a. *If NO, go to #9*  
 b. *If YES, check the action(s) taken, or describe any other actions taken. (Check all that apply)*

**Action(s) taken**

- \_\_\_\_ Verified compliance with previously issued enforcement action -part or all conditions  
 \_\_\_\_ Corrected recordkeeping deficiencies  
 \_\_\_\_ Corrected monitoring deficiencies  
 \_\_\_\_ Completed a notification or a report  
 \_\_\_\_ Requested a permit application  
 \_\_\_\_ Implemented new or improved management practices or procedures  
 \_\_\_\_ Improved pollutant identification (e.g., labeling, manifesting, storage, etc.)  
 \_\_\_\_ Reduced pollution (e.g., use reduction, industrial process change, emissions or discharge change, etc.). *Specify the pollutant(s) reduced only if this action is checked.*

**Water:** Ammonia  BOD  COD  TSS  O/G  TC  DO  Metals  CN

**Air:** NO<sub>x</sub>  SO<sub>2</sub>  PM  VOC  Metals  HAPs  CO

**List other actions observed or other pollutants reduced:** \_\_\_\_\_

9. **Assistance:** Did you provide *general* assistance based on national policy? Yes  No   
 Did you provide *site-specific* assistance based on national policy?  Yes  No  
*Note:* EPA inspectors are **not required** to provide compliance assistance.

**Optional Information:** Describe actions taken or assistance provided to assist the facility.  
 \_\_\_\_\_  
 \_\_\_\_\_

### **NOTE TO EPA INSPECTORS:**

The main purpose of EPA inspections/evaluations is to determine compliance with environmental regulations and enforcement agreements. Secondary purposes include providing a field presence to create a credible deterrent and providing assistance, when appropriate, to help facilities achieve compliance.

- The ICDS is used to identify observable corrections to deficiencies and compliance assistance activities. ICDS is **NOT** designed to capture all of the observations, findings, and other data contained in the final inspection report. Deficiencies identified as potential violations, and actions to address deficiencies noted on the ICDS must be included in the final EPA inspection report.
- ICDS information will be used to collect accomplishments of EPA's national inspection efforts, develop inspection outcomes for GPRA, and manage national compliance monitoring resources.
- The information will NOT be used to track individual EPA inspectors' performance.
- The ICDS should only be used for EPA-led inspections, not for state oversight inspections.

### **Instructions for each question:**

1. Region, Facility Name/Location: Enter the Region, and facility name/location (for unpermitted facilities).
2. Permit ID#: Enter either the Facility Registration System (FRS) permit ID or media-specific ID # (e.g., NPDES, CAA, or RCRA permit number).
3. SIC/NAICS Codes: Identify the SIC or NAICS code at (<http://www.commerce.gov>), (<http://www.osha.gov/oshstats/sicser.html>), (<http://www.census.gov/epcd/www/naics.html>), by CD-rom (PB98-502024- NTIS (800-553-6847), or OC Inspector Website (<http://intranet.epa.gov/oeca/inspector>))
4. Date of Inspection: Enter the beginning date of the inspection (e.g., 04/10/2004)
5. Media Type: Check the environmental media program inspection being conducted.
6. Deficiencies: Check YES or NO. EPA inspectors should follow the regional policy on when and how to inform facilities of deficiencies. Deficiencies are defined as potential violations. Deficiencies are NOT compliance determinations (further review is needed to determine violations). A list of potential deficiencies is on the ICIS compliance monitoring screen. (<https://caribou.rtpnc.epa.gov/ICIS/>)
7. Communication: Check YES or NO. N/A is not allowed.
8. Actions Taken: Check YES or NO. If Yes, check only action(s) actually observed/seen, or write in a short description of the action in the "Other" section. These are *not* compliance determinations. Check the box to specify the pollutant: *Ammonia* – NH<sub>3</sub>-N, ammonia nitrogen, ammonia as N, *BOD*-Biochemical Oxygen Demand, *COD*- Chemical Oxygen Demand, *TC*-Total Coliform, *TSS*- Total Suspended Solids, SS, Settleable solids, *O/G*- Oil and Grease, *DO*- Dissolved Oxygen, *NO<sub>x</sub>*- Nitrogen Oxides, *SO<sub>2</sub>*- Sulphur Dioxide, *PM*- Particulate Matter, *VOC*- Volatile Organic Compound, *CN*- Cyanide, *HAPs* – Hazardous Air Pollutants, *CO*- Carbon Monoxide, *Metals*- Hexavalent Chromium, Lead, Mercury, etc. Write in other pollutants if not listed. The Case Conclusion Data Sheet Training Booklet [November, 2000] provides additional information on actions taken. The Training Booklet can be obtained by calling the Office of Compliance(202-564-6004).
9. Compliance Assistance: Inspectors are **not required** to provide compliance assistance during inspections. Check YES or NO to the two questions. General compliance assistance involves distributing prepared information on regulatory compliance, P2 or other written materials/websites. Refer to National Policy: Role of the EPA Inspector in Providing Compliance Assistance During Inspections, June, 2003 for more information for examples of site-specific assistance. The policy is available on the EPA website ([www.epa.gov](http://www.epa.gov)), the Inspector Website (<http://intranet.epa.gov/oeca/inspector>), or calling (202-564-2300).

### **Data Collection Process:**

- Inspectors must complete the ICDS *immediately* after the inspection is conducted.
- Inspector should forward completed forms to first-line supervisor/designated alternate within five (5) days after returning from either a single inspection, or a series of inspections.
- The first-line supervisor/designated alternate **must** review the ICDS for completeness and accuracy and compile the ICDS information by media program to report ICDS results using the consolidated manual reporting form. The consolidated manual reporting form will be sent to HQ for **mid-year 2004 & end-of-year 2004 reporting**.

**ICDS DATA MANUAL REPORTING FORM FOR FY 2004 MID-YEAR AND EOY**  
**REPORT BY MEDIA PROGRAM**

**IMPORTANT NOTE:**

This is the only form the region must submit if they are using manual reporting instead of ICIS reporting.  
DO NOT SEND INDIVIDUAL ICDS FORMS TO OECA.

- Total number of on-site inspections/evaluations conducted \_\_\_\_\_
- Number of on-site inspections/evaluations where deficiencies were observed \_\_\_\_\_
- Number of inspections/evaluations where deficiencies were communicated to the facility  
\_\_\_\_\_
- Number of on-site inspections/evaluations where the facility took action to address deficiencies  
noted during the inspection or evaluation \_\_\_\_\_
- Total number of inspections/evaluations where general compliance assistance was provided  
\_\_\_\_\_
- Total number of inspections/evaluations where site-specific compliance assistance was provided  
\_\_\_\_\_
- Total number of SIC/NAICS codes inspections/evaluations \_\_\_\_\_
- List the SIC/NAICS codes and (# of inspections for each SIC/NAICS code):  
**SIC example:** 4513 (10), 3922 (2), 3713 (4), 1209 (6), 4522 (12)  
**NAICS example:** 45123 (18), 21456 (6), 32785 (3), 20575 (7)

## ATTACHMENT B

### FY 2004 Process for Entering ICDS Information into ICIS

If the regions and the HQ inspection/evaluation programs decide to use ICIS to report the ICDS information, they will also need to determine who will be responsible for entering the data into ICIS. There are two options:

1. Require EPA inspectors to enter the data directly into ICIS
2. Require central data processing personnel to enter the data into ICIS

While each approach has advantages and disadvantages, **HQ strongly supports data entry by EPA inspectors.** By enabling and requiring EPA inspectors to be responsible for ICIS data entry, it:

- eliminates the need for completing the ICDS form (inspectors may still want to complete the form)
- makes EPA inspectors more accountable for data quality of inspections, and
- encourages EPA inspectors to utilize the ICIS data system more fully

#### **If EPA inspectors will be responsible for ICIS data entry:**

The EPA inspectors will need to be provided access to ICIS and will need some training from the regional/HQ ICIS coordinator. EPA inspectors will **not** be required to complete the ICDS form since all of the ICDS information should be included in the inspector's notes to complete the ICIS data entry process. EPA inspectors can choose to complete the form in the field directly after the inspections to facilitate ICIS data entry at a later date.

#### **If non-EPA inspectors (regional data entry personnel) will be responsible for ICIS data entry:**

EPA inspectors will have to complete the longer ICDS form to enable the data entry personnel to efficiently enter the ICDS data into ICIS. After completing the longer form, EPA inspectors should forward it to their first-line supervisor or designated alternate. The first-line supervisor or designated alternate should review the forms for accuracy and completeness, and then forward the forms to the central data entry personnel. Inspectors can photocopy the ICDS form for their inspections.

## Step-by-Step Process for Entering ICDS Information Into ICIS

**The data fields below are required for ICDS.** Not all ICIS data fields are required to be entered for ICIS. Regions may decide to enter additional data fields for their own purposes.

- Acquire access to the ICIS data system through the regional or HQ ICIS contact
- Log onto the ICIS system: <https://caribou.rtpnc.epa.gov/ICIS/> with a user ID & password
- Click on "Data Entry"
- Click on "Add Compliance Monitoring"
- Complete the data fields on the ICIS screens. The majority of the data fields have pull down menus to assist in making data entry simple and straightforward.

### **The data fields that need to be completed for ICDS information are:**

1. Compliance Activity Type (Select Compliance Inspection **only**)
2. Compliance Monitoring Activity Name (Type in the name of facility, site, etc.)
3. Compliance Monitoring Type (There is a long list segregated by statute. Click on **only** one compliance monitoring type - e.g., Clean Air Act Full Compliance Evaluation FCE, RCRA Compliance Evaluation Inspection CEI, etc.)
4. Region (Select the appropriate region)
5. Facilities (enter the facility name)
6. Federal Statutes (Select either the CAA, CWA, RCRA, or TSCA)
7. Sections (Select the appropriate statutory section that was inspected)
8. SIC and NAICS code (Select the appropriate SIC or NAICS code inspected)
9. Compliance Monitoring Action Reason (Select on either Agency priority, Citizen compliant, Core program, selected monitoring action, or random evaluation/inspection)
10. Compliance Monitoring Action Type (Select EPA **only**)
11. Select Yes, if you observed deficiencies during the inspection/evaluation.
12. Select Yes, if you communicated the deficiencies to facility during inspection
13. If Yes to question #12, click on Edit Deficiencies and select the deficiencies observed during the inspection/evaluation listed from the pull down menu.
14. Click Yes or No on whether actions were taken by the facility to address deficiencies observed? You **must** select NO if the answer to question #12 was NO.
15. If Yes to question #14, click on Edit Corrective Actions and select the appropriate actions listed on the pull down menu
16. If one of the actions taken was "Reduced Pollution", click on Edit Water Pollutants or Edit Air Pollutants and select the pollutants reduced.
17. Click Yes or No on whether general compliance assistance was provided during the inspection or evaluation
18. Click Yes or No on whether site-specific compliance assistance was provided during the inspection or evaluation
19. The inspector can add comments about the inspection or evaluation in the optional "Summary of Comments".
20. **Hit "Save" and the ICDS information entered is saved in the ICIS system**

**FY 2004 Inspection Conclusion Data Sheet (ICDS) Form for ICIS Reporting**

- \* Data elements required to be completed for the ICIS system
  - \*\* Data elements required for Inspection Conclusion Data Sheet reporting
- Data elements that do not have asterisks are *optional*

***For Data Entry Staff Use Only***

- Date Information is Entered into ICIS (mm/dd/year): \_\_\_\_\_

**EPA Inspector Name:** \_\_\_\_\_

**EPA Inspector Phone # (include entire phone # 404-566-9000):** \_\_\_\_\_

**THIS FORM MIRRORS THE FORMAT OF THE ICIS DATA ELEMENTS**

1. \*Compliance Activity Type: (enter Compliance Inspection only) \_\_\_\_\_

2. \*Compliance Monitoring Activity Name: \_\_\_\_\_

**3. \*Compliance Monitoring Type:** Circle ONLY ONE of the following choices:

- |  |  |
|--|--|
| CLEAN AIR ACT (CAA)                                | CWA Pretreatment Industrial User Sampling Inspection |
| CAA Asbestos Demolition and Renovation             | CWA Reconnaissance Inspection (RI)                   |
| CAA Case Development Inspection                    | CWA Sanitary Sewer Overflow (SSO) inspection         |
| CAA Full Compliance Evaluation (FCE )              | CWA Section 311 SPCC Inspection                      |
| CAA Partial Compliance Evaluation (PCE)            | CWA Section 311 SPCC Plan Review                     |
| CAA Stack Test                                     | CWA Stormwater inspection                            |
| CAA 112 (r)(7) Desk Audit                          | CWA Toxics Sampling inspection                       |
| CAA 112 (r) (7) Inspection (i.e., site visit)      | CWA Section 404 Wetlands                             |
| CAA 112 General Duty Clause inspection             | CWA Sewage Sludge Inspection                         |
| CAA CFR Section 68.220 Desk Audit                  |  |
| CAA CFR Section 68.220 Site Visit                  | <b>EPCRA</b>   |
| CAA CFR Section 608 Stratospheric Ozone inspection | EPCRA 313 Data Quality Inspection                    |
| CAA CFR Section 609 Stratospheric Ozone inspection | EPCRA 313 Non/Late reporter Inspection               |
| CAA Motor vehicle fuels (Section 211)              | EPCRA 304/CERCLA 103 Inspection                      |
| CAA Motor vehicle/engine (Section 203)             | EPCRA 311/312 inspection                             |
| CAA Wood Heater Evaluation                         |  |

**CLEAN WATER ACT (CWA)**

- |  |  |
|--|--|
| CWA Compliance Evaluation Inspection (CEI )          | FIFRA Good Laboratory Practices                  |
| CWA Compliance Biomonitoring Inspection (CBI)        | FIFRA Agricultural Use inspection                |
| CWA Compliance Schedule Evaluation (CSE)             | FIFRA Agriculture Use follow-up inspection       |
| CWA Compliance Sampling Inspection (CSI)             | FIFRA Non-Agriculture Use inspection             |
| CWA Case Development Inspection (CDI)                | FIFRA Non-Agriculture Use follow-up inspection   |
| CWA Combined Sewer Overflow (CSO) inspection         | FIFRA Experimental Use inspection                |
| CWA Concentrated Animal Feeding Operation inspection | FIFRA Producing Establishment inspection         |
| CWA Diagnostic Inspection (DI)                       | FIFRA Marketplace inspection                     |
| CWA Performance Audit Inspection (PAI)               | FIFRA Import inspection                          |
| CWA Pretreatment Audit                               | FIFRA Export inspection                          |
| CWA Pretreatment Compliance Inspection (PCI)         | FIFRA Certified applicator inspection            |
| CWA Pretreatment Industrial User Non-sampling Insp.  | FIFRA Use Restricted Pesticide Dealer inspection |
|  | FIFRA Worker Protection Standards inspection     |

**RCRA Hazardous or UST**

- RCRA or UST Compliance Evaluation Inspection (CEI )
- RCRA or UST Compliance Schedule Evaluation (CSE)
- RCRA or UST Compliance Sampling Inspection (CSI)
- RCRA Comp. Groundwater Monitoring Evaluation(CME)
- RCRA Corrective Action Oversight (CAO)
- RCRA Laboratory Audit Inspection
- RCRA Non-Financial Record Review
- RCRA Operation and Maintenance Inspection (OAM)
- RCRA or UST Case Development Inspection (CDI)
- RCRA or UST Follow-up inspection
- RCRA Illegal operators inspection
- RCRA or UST Focused Compliance Inspection (FCI)
- RCRA or UST Citizen complaint inspection

- TSCA AHERA, SEE conducted
- TSCA Section 6 Asbestos Ban, Federal conducted
- TSCA Section 6 Asbestos Ban, SEE conducted
- TSCA Asbestos MAP, federally conducted
- TSCA Asbestos MAP, SEE conducted
- TSCA Section 6 Asbestos Worker Protection, federally conducted
- TSCA Section 6 Asbestos Worker Protection, SEE conducted
- TSCA Good Laboratory Practices
- TSCA Core (Sections 5 and/or 8)
- TSCA Polychlorinated Biphenyls (PCBs)
- TSCA Section 1018 Lead Paint
- TSCA Section 12/13 Imports/Exports
- TSCA Section 402/404 inspections
- TSCA Section 406 inspections

**SDWA (Public Water Supply & UIC)**

- SDWA Sanitary survey
- SDWA UIC inspection

**OTHER**

- Other Oversight Inspection
- Statistically valid non-compliance rate inspection

**TSCA**

- TSCA AHERA, federally conducted

4. \*Region: \_\_\_\_

5. \*Facilities Name and Location: \_\_\_\_\_

6. Planned Start: \_\_\_\_\_ (mm/dd/yyyy)

7. Planned End: \_\_\_\_\_ (mm/dd/yyyy)

8. \*\*Actual Start: \_\_\_\_\_ (mm/dd/yyyy)

9. \*\*Actual End: \_\_\_\_\_ (mm/dd/yyyy)

10. \*Federal Statutes: *Check only ONE of the following:*

- CAA \_\_\_\_ CWA \_\_\_\_ CERCLA \_\_\_\_ EPCRA \_\_\_\_ FIFRA \_\_\_\_ MCBRMA \_\_\_\_  
 RCRA \_\_\_\_ SDWA \_\_\_\_ TSCA \_\_\_\_

11. \*Sections: **Circle or check the statutory section that applies to the inspection or the evaluation**

**Statute                      Statutory Section**

**Clean Air Act (CAA):**

- CAA 110                      State Implementation Plans (SIPs)- National Primary & Secondary Ambient Air Quality Standards
- CAA 111                      Standards of Performance for New Stationary Sources (NSPS)
- CAA 112                      National Emission Standards for Hazardous Air Pollutants (NESHAPS/MACTs)
- CAA 112(r)(1)              Prevention of Accidental Release/General Duty Clause
- CAA 112(r)(7)              Prevention of Accidental Release/Risk Management Plans
- CAA 118                      Control of Pollution from Federal Facilities    Control of Pollution from Federal Facilities
- CAA 129                      Solid Waste Fuel Combustion
- CAA 183(e)(A)              Federal Ozone Measures - Best Available Controls
- CAA 183(e)(B)              Federal Ozone Measures – Consumer or Commercial Products

CAA 183(f)	Federal Ozone Measures – Tank Vessel Standards
CAA 202	Emission Standards for New Motor Vehicles or New Motor Vehicle Engines
CAA 203	Prohibited Acts – Motor Vehicle & Motor Vehicle Engines
CAA 207	Compliance by Vehicles and Engines in Actual Use
CAA 208	Information Collection from Motor Vehicle Manufacturers
CAA 211	Regulation of Fuels for Motor Vehicle and Engines
CAA 213	Emission Standards for Nonroad Engines and Vehicles
CAA 219	Urban Bus Standards and Retrofit Requirements
CAA 608	Stratospheric Ozone– National Recycling & Emission Reduction Program
CAA 609	Stratospheric Ozone – Servicing of Motor Vehicle Air Conditioners
CAA 610	Stratospheric Ozone– Nonessential Products Containing Chlorofluorocarbons
CAA 611	Stratospheric Ozone – Labeling
CAA Part C	Prevention of Significant Deterioration (PSD) of Air Quality
CAA Part D	Requirements for Non Attainment Areas/SIP Provisions
CAA Title IV	Acid Rain
CAA Title V	Operating Permits

### **Clean Water Act (CWA)**

CWA 301/307	Effluent Limitations – NPDES Toxic and Pretreatment Effluent Standards
CWA 301/311	Effluent Limitations – Oil and Hazardous Substance Liability Effluent Limitations
CWA 301/404	Effluent Limitations –Permits for Dredged or Fill Material
CWA 308(a)(B)	Records and Reports; Inspections – Sanitary Sewer Overflows
CWA 308(a)(B)	Records and Reports; Inspections – Combined Sewer Overflows
CWA 308(a)(B)	Records and Reports; Inspections – Stormwater
CWA 308(a)(B)	Records and Reports; Inspections – Concentrated Animal Feeding Operations
CWA 308(a)(B)	Records and Reports; Inspections – Biosolids/Sewage Sludge
CWA 308(a)(B)	Records and Reports; Inspections – Aquaculture
CWA 308(a)(B)	Records and Reports; Inspections – Other Permit Violations, Base Program Limits, Reporting, Schedule
CWA 308(a)(B)	Records and Reports; Inspections – Information Requests

### **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**

CERCLA 103(a)	Notification requirements respecting released substances
CERCLA 104(e)	Information gathering and access
CERCLA 106	Abatement actions – Response Actions by Potentially Responsible Parties
CERCLA 107(a)	Liability – Cost Recovery

### **Emergency Planning and Community Right to Know Act (EPCRA)**

EPCRA 302	Substances and Facilities Covered and Notification
EPCRA 303	Comprehensive Emergency Response Plans
EPCRA 304	Emergency Notification Section 313 program
EPCRA 311	Material Safety Data Sheets
EPCRA 312	Emergency and Hazardous Chemical Inventory Forms
EPCRA 313	Toxic Chemical Release Forms (TRI)
EPCRA 325	Enforcement: Civil & Administrative Penalties, & Procedures for Administrative Penalties including subpoenas

### **Mercury Containing Battery Recycling Management Act (MCBRMA)**

MCBRMA 103A	Rechargeable Batteries, Rechargeable Consumer Products, Easy Removability and Labeling
MCBRMA 6	Records, Reports, Access – Battery Recycling



**Resource Conservation and Recovery Act (RCRA) & Underground Storage Tanks (UST)**

RCRA 3002	Standards Applicable to Generators of Hazardous Waste
RCRA 3003	Standards Applicable to Transporter of Hazardous Waste
RCRA 3004	Standards Applicable to Owners/Operators of Hazardous Waste Treatment, Storage & Disposal Facilities
RCRA 3005	Permits for Treatment, Storage or Disposal of Hazardous Waste
RCRA 3010	Notification of Hazardous Waste Activity
RCRA 3013	Monitoring, Analysis, Testing
RCRA 3014	Restrictions on Recycled Oil
RCRA 3017	Export of Hazardous Wastes
RCRA 3020	Interim Control of Hazardous Waste Injection
RCRA 7003	Interim Control of Hazardous Waste Injection
RCRA 9002	Notification of Underground Storage Tanks
RCRA 9003	Release, Detection, Prevention, and Correction Regulations
RCRA 9005	Inspections, Monitoring, Testing and Corrective Action
RCRA 9006	Federal Enforcement: Compliance Orders, Procedure, Contents, Civil Penalties

**Toxic Substances Control Act (TSCA)**

TSCA 4	Testing of Chemical Substances and Mixtures
TSCA 5	Manufacturing and Processing Notices
TSCA 6	Regulation of Hazardous Chemical Substances and Mixtures (includes PCBs and asbestos)
TSCA 7	Imminent Hazards
TSCA 8	Reporting and Retention of Information
TSCA 11	Inspections and Subpoenas
TSCA 12	Exports
TSCA 13	Entry into Customs Territory of the U.S.
TSCA 14	Disclosure of Data
TSCA 15	Prohibited Acts
TSCA 203	EPA Regulations -- Asbestos in Schools
TSCA 206	Contractor and Laboratory Accreditation
TSCA 208	Emergency Authority

12. **\*\*Citations: Enter the regulatory citation(s) that apply to the inspection conducted**

13. **\* Programs: No entry needed.** This data element is automatically populated by the ICIS data system based on the information provided in items #10 and #11.

14. **\*\*SIC (4-digit) \_\_\_\_\_ or NAICS Code (5-digit): \_\_\_\_\_**

15. **Media Monitored: Check only ONE of the following:**

- Air \_\_\_\_\_
- Animals (only applies to FIFRA) \_\_\_\_\_
- Humans (only applies to FIFRA) \_\_\_\_\_
- Land (includes RCRA waste, FIFRA Pesticides, TSCA Asbestos and PCBs) \_\_\_\_\_
- Plants (only applies to FIFRA) \_\_\_\_\_
- Schools/Housing/Buildings (includes TSCA lead paint and asbestos) \_\_\_\_\_
- Soil (CERCLA and RCRA Corrective Action, TSCA PCBs, UST soil, UIC remedial activities) \_\_\_\_\_
- Water (biosolids and other sludges) \_\_\_\_\_      Water (drinking) \_\_\_\_\_      Water (ground) \_\_\_\_\_
- Water (navigable) \_\_\_\_\_      Water (sediment) \_\_\_\_\_      Water (stormwater) \_\_\_\_\_
- Water (wastewater to or from POTW) \_\_\_\_\_      Water (wetlands) \_\_\_\_\_

**16. \*Compliance Monitoring Action Reason: (Check only one of the following)**

Agency Priority \_\_\_\_\_ Citizen Complaint/Tip \_\_\_\_\_ Core Program \_\_\_\_\_  
Selected Monitoring Action \_\_\_\_\_ Random Evaluation or Inspection \_\_\_\_\_

**17. \*Compliance Monitoring Agency Type: \_\_\_\_\_ (EPA is only choice)**

**18. If State, local or tribal lead, did EPA assist:** Does not apply to ICDS activities. Leave the box blank.

**19. Number of days physically conducting the activity:** \_\_\_\_\_

**20. Number of hours spent physically conducting the activity:** \_\_\_\_\_

**21. Compliance Monitoring Action Outcome: Check *one* (if known at the time of the activity):**

Administrative \_\_\_\_\_ Immediately corrected \_\_\_\_\_ Judicial \_\_\_\_\_ No violation \_\_\_\_\_  
No compliance monitoring (access denied) \_\_\_\_\_ No compliance monitoring (facility shutdown) \_\_\_\_\_  
Not immediately corrected \_\_\_\_\_ Notice of Determination \_\_\_\_\_ Under review \_\_\_\_\_  
Withdrawn \_\_\_\_\_

**22. MOA Priorities: (Circle only one that apply from the following)**

CAA Air Toxics and NSR/PSD - Coal-Fired Power Plant(SIC 4911)	RCRA - Permit Evaders (RCRPE)
CAA Air Toxics and NSR/PSD - NSR	SDWA Microbial - SWTR Violations (SWTR)
CAA Air Toxics and NSR/PSD - PSD	SDWA Microbial - TCR Violations (PWTCR)
Petroleum Refining - Benzene Waste (BENZW)	Wet Weather - CAFO (AFLOT)
Petroleum Refining - LDAR (LDAR)	Wet Weather - Combined Sewer Overflow (CSO)
Petroleum Refining - Refinery Fuel Gas (REFFG)	Wet Weather - Sanitary Sewer Overflow (SSO)
RCRA - Misidentified Wastes (RMISWT)	Wet Weather - Stormwater (STORM)

**23. Regional Priorities: (Check only one that apply from the following)**

Agriculture	FIFRA Distributor Registrants Comp.with FIFRA Section 3
Consumer Confidence Rule (CCR) under Safe Drinking Water Act	Endangered Ecosystems
EPCRA and CAA Section 112(r) Accident History by Facility	Lead-Based Paint
EPCRA and CAA Section 112(r) Accident History by Sector	RCRA Permit Evaders
EPCRA and CAA Section 112(r) St. Louis Project	Sensitive Populations

**24. \*\*Did you observe deficiencies (potential violations) during the on-site inspection?**  Yes  No

**\*\*If you observed deficiencies, did you communicate them to facility during the inspection?**

Yes  No

**\*\*If deficiencies were observed select one or more of the following:**

Potential violation of a compliance schedule in an enforceable order \_\_\_\_\_  
Potential failure to maintain a record or failure to disclose a document \_\_\_\_\_  
Potential failure to maintain/inspect/ repair equipment including meters, sensors, and recording equipment \_\_\_\_\_  
Potential failure to complete or submit a notification, report, certification, or manifest \_\_\_\_\_  
Potential failure to obtain a permit, product approval, or certification \_\_\_\_\_  
Potential failure to follow a required sampling or monitoring procedure or laboratory procedure \_\_\_\_\_  
Potential failure to follow or develop a required management practice or procedure \_\_\_\_\_  
Potential failure to identify and manage a regulated waste or pollutant in any media \_\_\_\_\_  
Potential failure to report regulated events such as spills, accidents, etc. \_\_\_\_\_  
Potential incorrect use of a material (e.g., pesticide, waste, product) or use of improper/unapproved material \_\_\_\_\_  
Potential failure to follow a permit condition(s) \_\_\_\_\_  
Potential excess emission in violation of a regulation \_\_\_\_\_

27. **\*\*Did you observe or see the facility take any actions during the inspection to address the deficiencies communicated to the facility?**     Yes     No

If YES, check only the action(s) actually observed/seen and/or write a short description of the action in the "optional" section. (Check all of the actions that apply)

**Action(s) taken**

- \_\_\_\_\_ Complete(d) a Notification or Report
- \_\_\_\_\_ Correct(ed) Monitoring Deficiencies
- \_\_\_\_\_ Correct(ed) Record Keeping Deficiencies
- \_\_\_\_\_ Implemented New or Improved Management Practices or Procedures
- \_\_\_\_\_ Improved Pollutant Identification (e.g., Labeling, Manifesting, Storage, etc.)
- \_\_\_\_\_ Reduced Pollution (e.g., Use Reduction, Industrial Process Change, Emissions or Discharge Change, etc.)
- \_\_\_\_\_ Request(ed) a Permit Application or Applied for a Permit
- \_\_\_\_\_ Verify (ied) Compliance with Previously Issued Enforcement Action - Part or All Conditions

*The following common air or water pollutant(s) should only be checked if the "Reduced Pollution" action was checked.*

Water: Ammonia  BOD  COD  TSS  O/G  Total Coliform  D.O.  Metals  Cyanide   
 Other \_\_\_\_\_

Air: NOx  SO2  PM  VOC  Metals  HAPs  CO   
 Other \_\_\_\_\_

28. **Did you provide general compliance assistance in accordance with the policy on the Role of the EPA Inspector in Providing Compliance Assistance During Inspections?**     Yes     No
29. **Did you provide site-specific compliance assistance in accordance with the policy on the Role of the EPA Inspector in Providing Compliance Assistance During Inspections?**     Yes     No  
**Note: This form does not require EPA inspectors to provide compliance assistance.**

**Optional Information: Describe actions taken by the facility or assistance provided to the facility:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## NOTE TO EPA INSPECTORS

The main purpose of EPA inspections/evaluations is to determine compliance with environmental regulations and enforcement agreements. Secondary purposes include providing a field presence to create a credible deterrent and providing assistance, when appropriate, to help facilities achieve compliance.

- The ICDS is designed to identify readily observable corrections to deficiencies and compliance assistance activities. ICDS is NOT designed to capture ALL of the observations, findings, and other data contained in the final inspection report. Deficiencies identified as potential violations, and actions to address deficiencies noted on the ICDS must be included in the final inspection/evaluation report.
- ICDS information will be used to collect accomplishments of EPA's national inspection/evaluation efforts, develop outcomes for GPRA, and manage national compliance monitoring resources.
- The information will NOT be used to track individual EPA inspector's performance.
- The ICDS should only be used for EPA-led inspections or evaluations, not for oversight inspections of the states.

### **Instructions for Each Question:**

1. **Compliance Activity Type:** EPA inspectors should only enter compliance inspection. This choice includes Clean Air Act Full Compliance Evaluations (FCEs) and Partial Compliance Evaluations (PCEs)
2. **Compliance Monitoring Activity Name:** Enter the actual name of the facility inspected/evaluated
3. **Compliance Monitoring Type:** There are a number of choices listed in alphabetical order by statute. Circle the appropriate choice pertaining to the type of inspection or evaluation conducted. Circle only one choice.
4. **Region:** Enter the EPA region or HQ associated with the inspection/evaluation.
5. **Facilities:** Enter the facility name. If the facility is in FRS, it will automatically populate when you enter sufficient information. If the facility is not in FRS, the data entry person will have to create a new facility to link to FRS.
6. **Planned Start Date of Inspection:** Enter the planned start of the inspection/evaluation
7. **Planned End Date of Inspection:** Enter the planned end date of the inspection/evaluation
8. **Actual Start Date of Inspection:** Enter the actual start date of the inspection/evaluation
9. **Actual End Date of Inspection:** Enter the actual end date of the inspection/evaluation
10. **Federal Statutes:** Check only one of the statutes listed that applies to the inspection/evaluation being conducted.
11. **Sections:** Enter the section(s) of law(s) that authorize the compliance inspection/evaluation. **Examples:** Solid Waste Disposal Act Section 302 for RCRA generator inspections, Clean Air Act Section 112 for MACT partial compliance evaluations, and CWA Section 308 for NPDES inspections. NOTE: When selecting a statute from the previous data element, ICIS provides a pull down list of the statutory sections available for that statute.
12. **Citations:** Enter the regulatory citations that were inspected or evaluated during the on-site activity.  
**Examples:** RCRA:40 CFR 262.11 and 40 CFR 265.31  
CAA: 40 CFR 63.1254 and 40 CFR 60.703  
CWA:40 CFR 129.8 and 40 CFR 122.41
13. **Programs:** This data element is automatically generated by ICIS when completing items #10 and #11.
14. **SIC/NAICS Codes:** Identify the code corresponding to the facility. Guidance on how to identify SIC or NAICS codes can be downloaded at (<http://www.doc.gov>), CD-rom (PB98-502024) by calling NTIS (800-553-6847), or Inspector Website (<http://intranet.epa.gov.oeca/oc/metd/inspector>).
15. **Media Monitored:** Check one or more of the fifteen (15) choices listed.
16. **Compliance Monitoring Action Reason:** Check only one of the five (5) reasons for performing the inspection/evaluation.

17. **Compliance Monitoring Agency Type:** Write in EPA. This is the only choice that should be entered
18. **If State, local or tribal lead, did EPA assist:** Does not apply to ICDS activities. Leave the box blank.
19. **Number of days physically conducting the activity** Enter the number of days to conduct the inspection/evaluation
20. **Number of hours spent physically conducting the activity:** Enter the number of hours it took to conduct the inspection/evaluation
21. **Compliance Monitoring Action Outcome:** Check *one* of the outcomes associated with the inspection/evaluation (if known at the time of the inspection or evaluation)
22. **MOA Priorities:** These are the national priorities. Choose only one that applies to the inspection/evaluation
23. **Regional Priorities:** These are the regional priorities. Choose only one that applies to the inspection or evaluation.
24. **Did you Observe Deficiencies:** Check YES or NO.
25. **Communicating Deficiencies:** If Yes to question #24, did you communicate the deficiencies to the facility? Check YES or NO. EPA inspectors should follow the Regional policy on when and how to inform facilities of deficiencies. Deficiencies are defined as readily observable violations of statues, permits, or regulations. Deficiencies are NOT compliance determinations (further review by a compliance officer or attorney is needed to determine actual violations).
26. **Deficiencies Observed:** Check one or more of the eleven (11) choices.
27. **Actions Taken:** Check YES if you observed the facility taking actions. Check only the action(s) actually observed/seen, or write a short description of the action in the “Optional” section. These are *not* compliance determinations. **If the Reduced Pollution Box is checked, specify the pollutant(s):** *Other -- any pollutant besides listed below. Ammonia* – NH<sub>3</sub>-N, ammonia nitrogen, ammonia as N, *BOD*-Biochemical Oxygen Demand, *COD*- Chemical Oxygen Demand, *TC*-Total Coliform, *TSS*- Total Suspended Solids, SS, Settleable solids, *O/G*- Oil and Grease, *DO*- Dissolved Oxygen, *NO<sub>x</sub>*- Nitrogen Oxides, *SO<sub>2</sub>*- Sulphur Dioxide, *PM*- Particulate Matter, *VOC*- Volatile Organic Compound, *CN*- Cyanide, *HAPs* – Hazardous Air Pollutants, *CO*- Carbon Monoxide, *Metals*- Hexavalent Chromium, Lead, Mercury, etc. You can write in other pollutants if not listed. The Case Conclusion Data Sheet Training Booklet [November, 2000] provides additional information on actions taken. The Training Booklet can be obtained by calling the Office of Compliance at 202-564-6004.
28. **General Compliance Assistance:** Check YES if the EPA inspector provided general compliance assistance during the inspection or evaluation. Inspectors are **not** required to provide compliance assistance during inspections. General compliance assistance includes distributing or sharing information on industry regulatory compliance, pollution prevention, or technical written assistance materials or websites and EPA, state and local assistance programs.
29. **Site-Specific Compliance Assistance:** Check YES if the EPA inspector provided site-specific compliance assistance during the inspection or evaluation. Inspectors are **not** required to provide compliance assistance during inspections. Site-specific compliance assistance is defined in the National Policy on the Role of the EPA Inspector in Providing Compliance Assistance During Inspections, dated June 25, 2003.

**Data Collection Process:**

- Inspectors should complete the ICDS form *immediately* after the inspection or evaluation is completed.
- Completed forms should be forwarded to the first-line supervisor or designated alternate within five (5) days after returning from either a single inspection/evaluation or a series of inspections/evaluations.
- The first-line supervisor or designated alternate should review the ICDS for completeness and accuracy.
- The first-line supervisor or designated alternate should then forward the form to the central data entry personnel for entry of the data into ICIS.

# Appendix E

## PCB Manufacturers and Trade Names

Manufacturer	PCB Fluid Trade Name
Aerovox	Hyvol
Allis-Chalmers	Chlorextol
American Corporation	Asbestol
Axel Electronics	-
Bayer (Germany)	Clophen
Caffaro (Italy)	DK, Fenclor, Inclor
Capacitor Specialists	-
Chernko (Czechoslovakia)	-
Cornell Dubilier	Dykanol
Dings Company	-
Electrical Utilities Corporation	Eucarel
Electro Engineering Works	-
Electromagnetic Filter Company	-
Envirotech Buell	-
Eriez Magnets	Pyranol
ESCO Manufacturing Company	Askarel*
Ferranti-Packard Limited	Askarel*
General Electric	Pyranol
Geneva Industries	-
H.K. Porter	-
Helena Corporation	-
Hevi-Duty Electric	Askarel*
ITE Circuit Breaker	Non-Flammable Liquid

Manufacturer	PCB Fluid Trade Name
Jard Corporation	Clorphen
Kanegafuchi (Japan)	Kennechlor
Kuhlman Electric	Saf-T-Khul
Maloney Electric	-
McGraw Edison	Elemex
Mitsubishi (Japan)	Kennechlor, Santotherm
Monsanto (US and UK)	Aroclor
Monsanto (US)	Therminol, Pydraul, Santovac 1 and 2
Monsanto (UK and Japan)	Santotherm FR
Monsanto (UK and Europe)	Pyroclor
Niagara Transformer Corporation	Askarel*, EEC-18
P.R. Mallory & Company	Aroclor B
Power Zone Transformer	EEC-18
Prodelec (France)	Phenoclor, Pyralene
R.C. Upteraff	-
R.F. Interonics	-
Reliance Electric Company	-
Research-Cottrell	Askarel*
Sangamo Electric	Diactor
Sovol (USSR)	-
Sprague Electric Company	Chlorinol
Standard Transformer Corporation	-
Stens Magnetics	-
Tobe Deutschmann Labs.	-
Universal Manufacturing Corporation	Askarel*
Uptegraff Manufacturing Company	-
Van Tran Electric	-
Wagner Electric	No-Flamol
Westinghouse	Inerteen
York Electronics	-
-	Nepolin, Apirolio, Kaneclor

\* Generic name for non-flammable insulating liquids.

Note: This list is a compilation of information from several data sources.

# Appendix F

## PCBs in Underground Mines

Underground mines present potential hazards unique to the mining environment and specialized training is needed before an inspector goes underground. However, an understanding of mines is necessary before training is considered. Therefore, this appendix is divided into two major sections, "Use and Distribution of PCBs in Underground Mines," followed by "Training and Safety."

### Use and Distribution of PCBs in Underground Mines

As of January 1, 1982, PCBs used in mining equipment must be at a concentration under 50 ppm [§761.30(c)]. The discussion that follows explains how mines use PCBs. PCB electrical equipment may be found in mines because electrical systems in mines follow the same general pattern as any other industry.

#### General Description of Mines

All underground mines are categorized as either coal mines or metal/nonmetal mines. Each is different in their operation and in their use of electrical equipment. Underground coal is most frequently accessed via a ground-level entry leading to the coal seam. The entry, or "adit," may include an electric trolley for personnel, equipment, or coal transportation, or the transportation may be provided by rubber-tired vehicles. Often, coal is hauled out of the mine separately by a conveyor belt. Either way, all personnel and equipment access is via the adit, which may be level or inclined.

In "room-and-pillar" mining, the working area of the mine is divided into numerous sections by "pillars," or columns of coal, that are left intact during mining for roof support. These columns are left standing until the section is mined out, after which they too may be removed and the roof allowed to collapse. Another type of coal mining is called "longwall" mining, in which several hundred feet of a coal face is mined at once. As the machinery advances into the seam, the roof is allowed to collapse behind it. The transformers that power the underground equipment are located away from active working areas of the mine.

Coal mining also is done by hand, or with the use of hand-held equipment, when the seam is not thick enough for the use of mining equipment. Such "low-seam coal" will not be of concern to the PCB inspector since PCB electrical equipment will not be found underground in such mines.



Metal/nonmetal mines, which produce metal ores containing gold, silver, or lead, or nonmetal resources such as salt and other minerals, often gain access to the ore via adits. More often the access is gained via a vertical shaft. An elevator, which is used to transport both personnel and ore, is operated from a surface-level shaft house that contains electric motors, controls, and a hoist. The shaft may lead to a number of mining levels, much like an elevator in a building. Working levels can be 10,000 or more feet below the surface and constitute miles of drifts. Working levels are typically separated by 100 or more feet of rock. Transportation of material and people in the mine can be by diesel or electric vehicle, train or other means. Mines vary considerably in size, manpower, production capacity, and in the use of electrical equipment underground. Ore may undergo primary crushing and milling underground or on the surface. Whichever applies, ore or concentrates can be hoisted or pumped to the surface or can be transported horizontally, by train, truck or pipeline to the surface.

All mines have fresh air ventilation systems and personnel escape routes that are incorporated into the mining plan. Health and safety compliance is enforced by the Mine Safety and Health Administration (MSHA), which conducts unannounced quarterly inspections of each mine. Federal law provides for mandatory personal safety equipment and training, as discussed later in this appendix.

#### PCBs in Underground Equipment

Underground mines can have a high demand for electric power, both on the surface and underground. Both coal and metal/nonmetal mines may use high-voltage/high-amperage equipment on the surface for ventilation, shaft equipment, coal or rock loading facilities, and associated ore mills. PCB Transformers can be found at the mine's primary electrical substation (located on the surface), at areas of power use such as an associated mill, shaft house, or ore loading facility, or in the mine's equipment storage area. PCB Capacitors may be found in motor control boxes, transformer locations, loading facilities, or in storage areas.

Underground equipment can also have high-current requirements. Coal mining makes substantial use of electrical coal-cutting machines (such as "continuous miners"), conveyors, mobile loading machines, drilling machines shuttle cars, and water pumps. Metal/nonmetal mines may have a number of electrical applications underground, including vehicles, crushers, pumps, etc. These applications are significantly different from coal and thus these mines are discussed separately below.

**PCBs in Coal Mines.** In coal mines, high voltage (1,000 to 13,000 volts AC) from a mine's primary substation is typically cabled underground to smaller distribution substations to provide lower voltage for trolleys, continuous miners, conveyor belts, groundwater pumps, and other equipment. High-voltage cables are normally suspended from the roof, or "top," along primary access routes. Many coal mines have replaced transformers with "mobile power centers." These power centers are rectangular steel enclosures measuring approximately 22 feet long, 6

feet wide, and 3 feet tall. They are mounted on skids and contain a dry-type transformer. Coal mine operators prefer these units because they are designed for rugged use. According to industry sources, about 10 percent of them contain capacitors. Units that were manufactured up until the late 1970's may contain PCB Capacitors. One model that contains PCB capacitors is a 4,160 volt, 500 kV unit manufactured by Hubbel Ensign Company. Other models may have also been manufactured with PCB Capacitors, and there may be no indication on the enclosure that PCBs are located inside. Other manufacturers of mobile power centers include, but are not limited to, Line Power Manufacturing, Pemco, Service Machine Company, MCI Corporation, and Sasser.

Inspecting mobile power centers requires some planning because the units *must* be de-energized in order to look inside. If the mine is in production, it may not be possible to inspect the units that are in service until there is a change in work shift. Mines that operate around the clock normally have three shifts in each 24-hour period, with approximately one-half hour of nonproduction activity per shift. If the mine is on standby, meaning that it is not producing but the mine is being maintained by a small crew, then it should be possible to shut off power to all units for the purpose of inspection. It is reasonable for the inspector to request that the mine operator shut power to the units s/he intends to inspect, and that mine personnel remove the steel cover plates to enable you to look inside, when the unit is not in active service. Shutting power and removing the covers are routine operations. In some models, removal involves unbolting the top panels and sliding them to the side. Access to the inside may vary with the model.

The manufacturer's nameplate should provide information about the type of dielectric fluid in the capacitor. If they are PCB Capacitors, examine the casing and the area below the capacitor. Leaks may be common in these units because of their age and rugged use environment. As usual, follow standard precautions when inspecting electrical equipment. The capacitors will retain a charge after the power has been shut off. Do not place any part of your body within the mobile power center's enclosure.

PCBs were also used as a coolant in the electric motors of continuous coal miners and loaders manufactured by Joy from 1961 to 1973; some 652 of the units were still in service in 1973, requiring some 23,000 kilograms of PCBs per year for "topping off." Electric motors in mine equipment are usually rebuilt every 5 years or less. A mine that has been in uninterrupted operation since 1973 would not be expected to have PCB-filled electric motors today. However, there may be motors in storage. Also, a mine may have closed in the early 1980s and reopened recently, and may therefore contain such motors; or there may be older, disabled equipment abandoned in the mine. There is also evidence that PCB hydraulic fluid was used in mining equipment, although the amount and specific applications are not well documented.

Be aware that EPA has little information concerning the disposition of the PCB Transformers that were used in coal mines prior to the advent of dry-type mobile power centers. However,

there is reason to believe that some mine operators may have abandoned their PCB Transformers in the mine. Economics may have played a role in such abandonment due to the cost of mine labor. Like other equipment, the salvage value of PCB Transformers may have been less than the cost of removal. Also, after the enactment of TSCA and the PCB rules, PCB Transformers became increasingly less attractive on the transformer resale market. It is useful to inquire whether there are any liquid-filled transformers in the mine, even if the mine uses only the mobile power centers. It is possible that there are transformers stored or abandoned in nonproducing sections of the mine.

**PCBs in Metal/Nonmetal Mines.** Unlike coal mines, metal/nonmetal mines did not replace their PCB Transformers with mobile power centers. In 1981, the U.S. Bureau of Mines estimated that 1,300 PCB Transformers were in use in underground metal/nonmetal mines. This estimate was an extrapolation based on limited data. More recent data from the Centers for Disease Control (CDC), and from EPA's enforcement experience, suggests that this figure may have been low.

Metal/nonmetal mines will most likely have one or more shaft houses leading to different sections of the mine. If there is a shaft house or mine section that is not in operation, inquire about the location of electrical equipment there. Although it may not be possible to inspect the equipment, such information may be useful should an enforcement action be taken.

Ask the mine representative to show you the location of all liquid-filled capacitors and transformers. It is useful to examine the mine map before going underground, since the transformer locations may be indicated there. Transformers are typically located near the shaft entry at each level, or in a larger mine may be distributed throughout the mine section. Additional indication of transformer location can be determined by the size of the conductors. If you see large-gauge conductors leading somewhere, inquire about the equipment they serve and whether there are additional transformers there.

#### Additional Inspection Tips

It may be worthwhile to contact MSHA prior to inspection for information and planning purposes (you may also need to contact MSHA for specific certification and training, as described in the next section). For example, MSHA personnel can tell you how much time it may take to inspect a particular mine, what the shift schedules are, the general compliance policy of the owner/operator, and who you should expect at the entry conference. MSHA can also tell you whether the mine is in active operation or on standby and can supplement information provided in the PCB Checklist for many mines.

Most mines should have a mine map indicating the locations of electrical substations. It is helpful to review this map during the entry conference when planning your inspection underground.

Frequently, mines will keep scrap equipment in outdoor storage yards for spare parts. These areas may contain PCB Transformers, older mobile power centers with PCB Capacitors, electric motors, containers of PCB hydraulic fluid, and other equipment with PCBs. Inspecting this area before entering the mine can give you a sense of the equipment being used underground. Inspectors should also inquire about underground storage areas, particularly in large or old mines.

## **Training and Safety**

Inspections at mines are essentially the same as inspections at any facility that uses or stores PCB electrical equipment. The main difference is the equipment and training needed to enter a mine. This section describes the equipment and training requirements.

### General

MSHA accident data indicates that mining is one of the most hazardous industrial occupations in the United States. While mine safety is strictly regulated under Federal and State law, there are hazardous conditions in an operating mine that are not encountered in other facilities. Specialized training is needed for EPA inspectors. This section will identify the regulatory training requirements for mine entry, and where the inspector can obtain training.

### Equipment

30 CFR Parts 48, 57, and 75 set forth a number of health and safety requirements for both coal and metal/nonmetal mines. This section describes the general requirements that apply to persons who enter a mine.

- **Breathing Devices**

- Self-Contained Self-Rescuers (Coal)

Under 30 CFR 75.1714, all persons who enter an underground coal mine must carry or have within easy reach a self-contained self-rescuer (SCSR). These units are carried on the belt and provide oxygen in the event of fire. The units produce oxygen via a chemical reaction; some units may have oxygen tanks. Oxygen production continues for at least one hour, providing the user more time to reach the surface through the designated escape passageways. Training in the use of this equipment can be provided by the mine operator, or by the local MSHA office.

- **Self-Rescuers (Metal/Nonmetal)**

Under 30 CFR 57.15030, all persons who enter an underground metal/nonmetal mine must carry a self-rescuer (SR). Unlike SCSR's, these units merely convert carbon monoxide to carbon dioxide. They are smaller and easier to operate than SCSR's. However, they cannot be used in coal mines. The mine operator or the local MSHA office can provide training in the use of this equipment.

- **Steel-Reinforced Footwear**

Persons entering a mine must, at a minimum, wear boots with steel-reinforced toes. In some States the law requires full reinforcement from the toe to the top of the instep.

EPA inspectors normally carry steel-toe boots. The inspector may want to consider obtaining fully-reinforced boots, and if the mine is wet, to use boots made of a waterproof material.

- **Lamps**

Miners carry battery-powered cap lamps that attach to the hardhat. Hardhats intended for mining use have a clip to which the lamp is attached. The battery is carried on a belt.

- **Tags**

All persons entering an underground mine must leave their identification tag at the mine's main office. The tag is usually made of brass and is stamped with the person's name and social security number. Alternatively, the inspector can leave a slip of paper at the mine office with the same information. This records the inspector's entry into the mine in the event of a mine emergency.

- **Hardhats**

Hardhats are required when on mine property. Hardhats intended for mining have a clip to which the cap light is attached. In some mines, a distinctively-colored hardhat is required for all visitors, as they are for all new miners, which the mine's management may want to provide for inspectors.

- **Eye Protection**

All persons are required to wear safety glasses, goggles or face shields or other suitable protective devices when in or around an area of a mine where a hazard exists which could cause injury to unprotected eyes.

### Training and Supplies

Under 30 CFR 48.31, mine operators must provide training for new miners in the following areas:

- Hazard recognition and avoidance
- Emergency and evacuation procedures
- Safe working procedures
- Self-rescuer and respiratory devices
- Such other instruction as determined by the MSHA District Manager.

This training is focused on personnel who will be working in the mine and thus exposed to hazards associated with mine production activities. **Other than training in the use of SCSRs or SRs, there are no similar training requirements for EPA inspectors or other temporary visitors in the mine.** An inspector can obtain this training at the mine just prior to an inspection. Mine operators can often supply all necessary equipment except for boots. The principal safety precaution for all mine visitors is to accompany a mine representative at all times, however, the inspector may still be asked to sign a release absolving the company of any liability should the inspector be injured. In general, EPA's policy is that inspectors should not sign such releases. In addition, before an EPA inspector enters a mine, s/he should become familiar with mine operations and general safety procedures. The following sections describe the training resources available to the EPA inspector.

**Mine Safety and Health Administration.** MSHA District, Subdistrict, and Field Offices can be consulted for training prior to conducting an inspection.<sup>1</sup> MSHA can provide training in the use of SCSRs (coal) and SRs (metal/nonmetal), and the equipment should be available on loan.<sup>2</sup>

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<sup>1</sup>The EPA Regional Office should have a copy of the MSHA Directory; alternatively, the MSHA Headquarters Office can provide the inspector with the local MSHA contact for training purposes. The inspector may contact the Coal Mine Safety and Health Division at (703)235-9423 and the Metal/Nonmetal Mine Safety and Health Division at (703)235-1565.

<sup>2</sup>A training video entitled "An Efficient Method for Donning the SR-100," a type of SCSR, has been distributed to the Regional Pesticides and Toxics Branches.

The inspector may also borrow hard hats, cap lamps, and utility belts, and obtain information on vendors that supply name tags. In addition, the MSHA local office may be able to provide mine-specific training in hazard recognition and avoidance, and the mine's emergency evacuation procedures.

MSHA also operates the National Mine Health and Safety Training Academy, which is an excellent training facility in Beckley, West Virginia. The facility offers a wide range of training courses. These courses are offered free or at low cost to government inspectors and the facility provides room and board. EPA inspectors should take "Introduction to Mining" offered by the Academy to become familiar with the various mining operations and general safety procedures. The Academy continually develops and modifies its safety training programs, and may suggest additional training courses depending on the timing and availability of the courses offered. The address and telephone number are as follows:

U.S. Department of Labor  
Mine Safety and Health Administration  
National Mine Health and Safety Academy  
1301 Airport Road  
Beaver, West Virginia 25813-9426

(304) 256-3257

**U.S. Environmental Protection Agency.** There are several EPA inspectors who have experience in underground mine inspection. In addition to the training available through MSHA, it may be possible for the experienced inspectors to train new inspectors in the field. Contact the Office of Enforcement and Compliance Assurance/Office of Compliance/Compliance Assessment and Media Programs Division/Compliance Monitoring and Water Programs Branch, for further information.

# Appendix G

## PCBs in Natural Gas Pipelines

### Background

Major interstate natural gas pipelines (NGPs) transport natural gas from production areas on the Gulf Coast and western US to local distribution companies (LDCs) that distribute the natural gas to industrial and urban customers. PCBs were used in turbine and air compressors as a hydraulic/lubricant and a plug valve sealant by some large interstate natural gas transmission pipeline companies and by some smaller LDCs. Some pipeline companies may have had PCB Transformers and/or PCB Capacitors at large compressor stations and/or maintenance facilities.

Between 1950 and the early 1970's, Monsanto manufactured and sold several brands of hydraulic/lubricant oils containing PCBs. These included Turbinol 153 that contained 6.4% Aroclor 1221 and 81.5% Aroclor 1242, Santovac 1 and 2 containing 100% 1248 and 1254, respectively. In addition, several Pydraul-brand oils containing both PCBs and PCTs (polychlorinated terphenyls) containing Aroclors 1221, 1242, 1248, and 1254 with PCB content ranging between 20% and 70%. Note that the early PCT oils were found to be contaminated with PCBs between 2 and 10% and therefore should be assumed to contain PCBs.

At some compressor stations, the PCBs above were used in large turbine compressors. As part of the normal operation, PCB compressor lubricants could leak or blow by pressure seals and enter the transmission pipeline. These PCBs would generally mix with the "pipeline liquids" already in the transmission lines. The main components of pipeline liquids are water and heavier hydrocarbons that condense-out ("condensate") of the natural gas as pressure drops along the pipeline. Pipeline liquids may also contain metal-based corrosion inhibitors and other liquids (methanol) that were added to the pipeline when cleaning ("pigging") the lines. These liquids traveled through the pipeline and entered other companies' pipelines via numerous interconnections. The liquids/condensate are removed downstream at compressor stations and other condensate collection ("drip") points along the pipeline. PCBs pipeline liquids were illegally disposed of in unlined earthen pits, vented to the atmosphere and surface soils at various equipment blowdowns, used as herbicides on station fence-lines, and used for dust control on roads. Examples of past cases/settlements involving the use of PCBs in turbine compressors include the Texas Eastern Gas Pipeline Company and Transwestern Gas Pipeline Company.



At some compressor stations, Monsanto-brand Pydrauls were used in reciprocating air compressors to start the main natural gas compressors or turbines and to power hand tools. These air compressors were not directly connected to the pipeline. PCBs used as air compressor-lubricants did not normally enter into the gas pipeline and were used in much smaller quantities than PCBs used in the large natural gas turbine units. Air compressor “water & condensate” containing PCBs was routinely formed in air receiver tanks or bottles. This “water & condensate” mixture was vented to the atmosphere and surface soils from receiver tank or bottle blowdown valves. PCBs may have also been captured by the wastewater drainage control or treatment systems at some compressor stations, thereby contaminating the systems. Some examples of past cases or settlements involving the use of PCBs in reciprocating air compressors include the Tennessee Gas Pipeline Company, Columbia Gas Pipeline Corporation, and Transcontinental Gas Pipeline Company. Note that these air compressor and air compressor systems were required to be decontaminated via alternate disposal permit and/or air compressor system decontamination guidance.

Rockwell made a plug valve sealant (No 860 and 991) that contained PCB Aroclor 1268 sometime prior to the mid-1970s. The PCB sealant or grease was apparently dissolved by transmission pipeline condensate and spread to other downstream locations.

PCBs are also present in natural gas pipelines as a result of the historical practice of oil fogging. Oil fogging was a gas conditioning technique used in natural gas pipelines in the late 1940s through the late 1960s. This technique minimized dust entrainment in the gas stream and reduced leaks in cast iron pipe joints by keeping the packing material moist. Reclaimed transformer and waste oils, probably containing PCBs, were used in the oil fogging process at some pipelines. By the late 1960s the practice of oil fogging had largely disappeared. Welded steel pipe now replaces cast iron pipe in most pipelines, and the remaining cast iron joints may be sealed with bell joint clamps. Dry filters now in use remove dirt and rust entrained in the gas stream. Nevertheless, the residues from prior oil fogging may still remain in parts of natural gas pipelines.

In 1981, EPA discovered PCBs in pipeline liquids in Long Island, NY. Consequently, EPA, the states and industry formed a cooperative task force to address this problem. Extensive sampling of pipeline transmission liquids revealed that 13 major natural gas interstate transmission companies and a number of regional LDCs had PCB contamination greater than 50 ppm in their transmission lines. EPA Headquarters retained the responsibility for implementing remedial programs with the interstate gas transmission companies. EPA regional offices worked with states, public service commissions, and the local utilities to determine the extent of PCB contamination and established remedial monitoring programs with the LDCs.

In late 1981, EPA Headquarters instituted a Compliance Monitoring Program (CMP) for the 13 interstate companies with PCBs greater than 50 ppm in their pipelines. The CMP had four basic objectives: (1) contain the contamination to limited areas; (2) eliminate any further entry of

PCBs into the pipeline system; (3) remove known contamination from the system and ensure its proper handling and disposal; and (4) perform periodic monitoring of each companies pipeline system.

In 1981, the use of PCBs at greater than 50 ppm in a non-totally enclosed manner was prohibited by 40 CFR §761.20(a). EPA decided that it would not bring enforcement actions against the 13 companies for the improper use of PCBs as long as they participated in EPA's CMP and undertook measures to reduce PCBs in their pipeline systems. The 13 CMP companies were required to comply with all other aspects of the PCB rule and other applicable laws and regulations. Thus, the 1981 CMP allowed the use of PCBs in natural gas transmission lines subject to certain conditions, including the proper disposal of PCB wastes and compliance with applicable federal and state laws. *The 1981 CMP did not grant immunity to any of the participating companies from enforcement if violations were discovered.* The 1981 CMP has not prevented EPA from taking judicial or administrative enforcement actions against participating companies such as Texas Eastern Gas Pipeline Company, Transwestern Gas Pipeline Company, Tennessee Gas Pipeline Company, Columbia Gas Pipeline Corporation and Transcontinental Gas Pipeline Company. Several states have also taken enforcement actions against companies participating in the CMP.

The CMP was revised in 1996 for ten remaining companies still participating in the program. A detailed description of the 1981 and 1996 revised CMP was sent to the Regions on December 24, 1996. Under the revised CMP, each participating company was required to submit their Annual "PCB Condensate" Compliance Monitoring Report to EPA by June 15th of each year. Promulgation of 1998 PCB disposal amendments terminated the 1996 PCB CMP. The 1998 rule revised the use authorization for natural gas pipelines at 40 CFR Part 761.30(i) to permit the use of PCBs in natural gas pipelines at greater than 50 ppm under certain conditions.

### Regulatory Requirements

The regulations governing the use of PCBs in natural gas pipeline systems are found at Section 761.30(i)(1). See also Section 4.1.9 Natural Gas Pipeline Systems Chapter Four.

### Inspection Focus

The general inspection procedures detailed in this manual should be followed when conducting PCB inspections of natural gas pipeline sites. The inspector should evaluate the following likely PCB locations (sources of PCB contamination) for evidence of potential violations of PCB regulations:

- □ PCB Sources
  - Natural Gas Turbine Compressors
  - Air Compressors
  - Condensate Drip Points

- Condensate Scrubbers (oil scrubbers may have PCBs)
- Pig Launchers and Receivers.
- Wastewater/Oils Treatment System
  
- PCB Storage
  - Condensate Storage Tanks
  - Condensate and Oil Scrubber Storage Tanks
  - Waste Oil Storage Tanks
  - Wastewater Storage Tanks
  
- PCB Disposal
  - Blowdown Vents (all types of compressors and equipment)
  - Burn Pits
  - Burn Barrels
  - Surface Disposal (Soil, Drains, Floor)
  - Condensate Disposal
  - Condensate Scrubber Disposal
  - Dehydration Material Disposal
  - Wastewater and Storm Water Discharge Points. □

# Appendix H

## Submersible Pump Units that Contain PCBs\*

The following pump units, which are identified by manufacturer's model and serial number, are potential sources of PCB contamination in well water.

**Dempster Industries:** Prior to 1964, Dempster may have distributed pump units manufactured by REDA and Sta-Rite that may have contained PCBs. Use the REDA and Sta-Rite identification data for those pump units.

**F.E. Myers:** Models SF and SF-2, two wire units manufactured from 1964 through 1970 in 1/3 to 1 horsepower and models SG and S2G, two wire units manufactured from 1970 through 1976 in 1/3 to 1 horsepower with date codes prior to 1976 are included. Some S2X models manufactured before 1979 utilized capacitors that contained less than 50 parts per million of PCBs. The date code is located on the motor casing and on a nameplate or tag in the format MMY, e.g., 1177 signifies November 1977.

**Fairbanks Morse:** Two wire units manufactured from 1964 through January, 1979 have a coded alpha numeric date code on the nameplate. These include the Colonial series and the Chateau series units with date codes of J\_, K\_, L\_, M\_, N\_, P\_, R\_, S\_, T\_, V\_, W\_, X\_, A\_, B\_, C\_, and DA. The blanks are filled with additional characters.

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\* Modified from Appendix I: Submersible Pump Units that are Known to Contain PCBs of "The Potential for Drinking Water from Submersible Well Pumps," Wisconsin Department of Natural Resources, Bureau of Water Supply, PUBL-WS-025-92.

SERIES	MODEL NUMBERS				
Colonial	A2-2507	C2-3306	E2-7509	G2-1009	
	A2-3309	C2-7511	E2-10011		
	A2-5012				
Chateau	A2S-3309	C2S-3306	E2S-7509	G2S-1009	273
	A2S-5012	C2S-5008	E2S-10011	G2S-15012	275
	A2S-7517	C2S-7511	E2S-15015		277
	A2S-10021	C2S-10014			

**Johnston Water Systems:** Peabody Barnes manufactured these pumps. Models include:

V507-31	V513-52	V909-51	VSP913-75	V317-150
V507-32	V523-100	V909-52	VSP909-52	V1306-51
V509-31	V531-100	V913-75	VSP909-51	V1307-52
V509-32	V906-31	V917-100	V1309-75	V1809-100
V513-51	V906-32	V923-150	V313-100	V1813-150

**Montgomery Ward:** Peabody Barnes manufactured these pumps. Models include:

3677A	3679A	3681C	3682E	3684D	24623
3677B	3679B	3681D	3683C	3675A	24625
3678A	3680C	3682C	3683D	3675B	
3678B	3680D	3682D	3684C	3675C	

**Peabody Barnes:** Two wire units are identified with the letter “W” as part of the model number, e.g., 409W52. In 1977, an “N” was added to the model number, e.g., 409W52 became 409WN52. The date codes are the last 3 or 4 digits of the coding, showing month, then year of manufacture, e.g., 409WN52-67753-1279 signifies a two wire unit manufactured in December 1979. Codes are on a stainless steel band located around the discharge neck of the pump.

**REDA:** Two wire units have a date code on the nameplate with the format MMY, e.g., 0877 signifies August 1977. All models listed below with a year code of 79 or less are included. All motors had the serial number stamped on the head of the motor preceded by the four digit date code.

41100	42121	43091	7D9P030	4D35P101	14D18P151	312X7P050
41101	42131	43171	7D9P031	6D35P151	17D5P071	314X4P050
41120	42171	43181	9D5P031	7D18P071	17D9P101	320X4P050
42070	42181	43121	9D6P030	10D18P101	23D5P101	32D5P151
42090	42251	43131	9D9P050	12D5P050	23D9P151	
42091		44091	9D9P051	12D5P051		
		44251		12D9P071		

**Red Jacket:** The capacitor is encapsulated in a plastic housing and the unit is fastened to the bottom of the motor. Although these units are less likely to leak PCBs, there are confirmed cases of PCB contamination from Red Jacket pump motors. Motor Models include two wire units with the designations “BV”, “BVC”, “C”, “W”, and “RW”, 1/3 through 1-1/2 horsepower. The model designation appears as the first part of the identification number, e.g., BV 300-2 or 50W0-9BC.

The date of manufacturer is on the motor housing and on the pump. Codes include:

1968	MC_ and NC_	1973	AH_ through NH_	__ _78
1969	AD_ through ND_	1974	AK_ through NK_	e.g. 20378 signifies the 2 <sup>nd</sup> week of March 1978
1970	AE_ through NE_	1975	AL_ through NL_	
1971	AF_ through NF_	1976	AM_ through NM_	
1972	AG_ through NG_	1977	AN_ through NN_	
				e.g. 3FHR signifies the 3 <sup>rd</sup> week of June, 1973

**STA-RITE:** Two wire units have a date code on the nameplate with the format MYY. The month is coded as a letter from “A” to “M” and the year as a number, e.g., B77 signifies February 1977. Units dated 1979 or earlier are included.

**NOTE:** Some three wire motors with Sta-Rite labels have been verified containing PCB.

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# Appendix I

## Incinerators

Except as specifically provided by regulation (see §761.60[a]), PCBs at concentrations of 50 ppm or greater must be disposed of in a high temperature incinerator. 40 CFR 761.70 requires high temperature incineration facilities to meet certain technical (e.g., operating and monitoring) requirements. (Technical criteria are discussed in the operating requirements section of the regulatory review, below.) Persons may dispose of any PCBs or PCB Items (e.g., liquid and nonliquid PCBs, PCB articles) by incineration; persons *must* dispose of some items (e.g., liquid PCBs 500 ppm and above) by incineration. The regulations authorize disposal methods other than incineration (e.g., chemical waste landfills) for disposal of PCBs and PCB Items under certain circumstances.

The owner or operator of a PCB incinerator may not dispose of PCBs unless they receive written approval of the appropriate Regional Administrator or, under certain circumstances, the Director of the National Programs Chemical Division (NPCD) (at Headquarters). The owner or operator must include the following in the application for approval: location of the incinerator, engineering reports on facility performance, and available sampling and monitoring equipment. The inspector must obtain the facility's approval document and refer to it during the inspection. The inspector should verify compliance with the approval document as well as the regulations.

The Regional Administrator or the Director, NPCD may require the facility to conduct a trial burn. If so, the Regional Administrator or the Director, NPCD must notify the owner or operator of this requirement. Prior to disposal, the owner or operator must submit a detailed plan for conducting and monitoring the trial burn and receive approval of the plan from the Regional Administrator or the Director, NPCD.

Once the Regional Administrator (or the Director, NPCD) determines that the incinerator meets all regulatory requirements, he will issue a written, signed approval stating all requirements applicable to the facility. The final approval may contain the following items:

- Technical requirements
- Person(s) authorized to operate the incinerator
- Owner(s) of the facility



- Additional requirements (if any) necessary to ensure that the operation of the facility does not present unreasonable risk to health or the environment
- Period of time for which the approval is valid (if limited)
- Waivers (if any) from one or more of the technical requirements if there is a finding, based upon evidence submitted by the owner or operator, that the incinerator will not present an unreasonable risk if one or more of the requirements are not met.

#### Acceptable for Disposal

- Liquid PCBs 500 ppm and above *must* be disposed of by incineration; other liquid PCBs (with PCB concentrations between 50 and 500 ppm) may be disposed of by incineration or by other methods as allowed by the following regulations: §761.60(a)
  - §761.60(a)(1) - Mineral oil dielectric fluid may be disposed of in a high efficiency boiler according to § 761.71(a).
  - §761.60(a)(2) - Liquids other than mineral oil dielectric fluid may be disposed of in a high efficiency boiler according to § 761.71(b).
  - §761.60(a)(3) - Liquids from incidental sources, such as precipitation, condensation, leachate or load separation and are associated with PCB Articles or non-liquid PCB wastes may be disposed of in a chemical waste landfill which complies with § 761.75 if information is provided to or obtained by the owner or operator of the chemical waste landfill that shows that the liquids do not exceed 500 ppm PCB and are not an ignitable waste as described in § 761.75(b)(8)(iii).
- All other PCBs and PCB Items are acceptable at an approved incinerator. These PCBs and PCB Items include, but are not limited to, non-liquid PCBs with at least 50 ppm in the form of rags, soil, or other debris; dredged materials and sludges; articles; and PCB containers. §761.60(b) and §761.60(c)

The following tables provide an overview of the regulatory requirements and inspection procedures related to incinerators used to dispose of PCBs.

Inspectors must be familiar with §§761.60 and 761.70 and conditions of the PCB approval for the incinerator before conducting the inspection. Note that incinerators for PCB liquids must meet all of the requirements specified in §761.70(a)(1)-(a)(9). The inspector should check for any waivers as provided for under §761.70(d)(5).

Regulatory Requirements	Inspection Procedures
<b>Notice Requirements (§761.60)</b>	
<p>Owners/operators must <u>notify</u> the State and local governments, within whose jurisdiction the incinerator is located, at least 30 days before the facility is first used for disposal of PCBs. §761.60(f)(1)(i)</p> <p>At the request of any State or local government, owners/operators must provide an <u>annual notice</u> to the government of the quantities and general description of PCBs disposed of during the year no more than 30 days after the end of the year covered. §761.60(f)(1)(ii)</p>	<p>Check PCB databases at <a href="http://www.epa.gov/pcb/data.html">http://www.epa.gov/pcb/data.html</a> to check if facility submitted required notices and check facility files to ensure their records are properly kept.</p>

Regulatory Requirements	Inspection Procedures
<b>Recordkeeping Requirements (§761.180)</b>	
<p>Owners/operators must measure and record the <u>rate and quantities of PCBs</u> fed into the incinerator at least every 15 minutes §761.180(c)(1)(i)</p> <p>Owners/operators must continuously measure and record the <u>temperatures</u> of the incineration process by either:</p> <ul style="list-style-type: none"> <li>• Direct temperature readings (pyrometer)</li> <li>• Indirect temperature readings (wall thermocouple-pyrometer correlations). §761.180(c)(1)(ii)</li> </ul> <p>Owners/operators must monitor and record <u>combustion products and incineration operations</u> for the following parameters whenever the incinerator is incinerating PCBs:</p> <ul style="list-style-type: none"> <li>• O<sub>2</sub> and CO Continuous monitoring and recordkeeping</li> <li>• CO<sub>2</sub> Periodic monitoring and recordkeeping specified by the Regional Administrator. §761.70(a)(7) and §761.180(c)(1)(iii)</li> </ul>	<p>Verify and review monitoring records indicating:</p> <ul style="list-style-type: none"> <li>• Rate and quantities of PCBs fed into incinerator</li> <li>• Determine if the temperature of incineration is maintained at 1200°C (± 100°C) for 2-second dwell times or 1600°C (± 100°C) for 1.5-second dwell times.</li> </ul> <p>Check facility operations records or facility monitoring logbook for compliance with required monitoring frequency. Use these records to verify that 2% (1.5-second dwell time at 1600°C) or 3% (2-second dwell time at 1200°C) oxygen is maintained in the stack gas and to verify that combustion efficiency (CE) is at least 99.9% using the following equation.</p> $CE = \frac{[CO_2]}{([CO_2] + [CO])} \times 100\%$

Regulatory Requirements	Inspection Procedures
<p>Owners/operators must monitor and record <u>stack emissions</u> when:</p> <ul style="list-style-type: none"> <li>• The incinerator is first used for PCB disposal</li> <li>• The incinerator is first used after it has been modified in a way that may affect stack emissions. §761.180(c)(2)</li> </ul> <p>Owners/operators must monitor and record the following stack emissions when monitoring is required:</p> <ul style="list-style-type: none"> <li>• O<sub>2</sub></li> <li>• CO</li> <li>• CO<sub>2</sub></li> <li>• NO<sub>x</sub></li> <li>• HCl</li> <li>• RCl</li> <li>• PCBs</li> <li>• Total Particulate Matter</li> </ul> <p>§761.70(a)(6)(iii) and §761.180(c)(2)</p> <p>Owners/operators must keep <u>records</u> of the total weight (kg) of:</p> <ul style="list-style-type: none"> <li>• Solid residues generated by the incineration of PCBs and PCB Items during the calendar year</li> <li>• Any solid residues disposed of in chemical waste landfills</li> <li>• Any solid residues remaining on the facility site. §761.180(c)(3)</li> </ul>	<p>Check facility operations records or facility monitoring logbook for compliance.</p> <p>Check facility records for compliance.</p>
<p>The Regional Administrator may require the owners/operators to collect <u>additional periodic data</u> as specified by in the approval document. §761.180(c)(4)</p> <p><u>Each owner or operator</u> of a PCB incinerator must collect and maintain the information required under §761.180(b) and (c) for 5 years. §761.180(c)</p>	<p>Check the approval document to see if additional data are required to be collected by the facility. Then, check facility records to see if such data have been collected.</p> <p>Check facility records for compliance.</p>

Regulatory Requirements	Inspection Procedures
<p>Upon suspension of operations pursuant to §761.70(a)(8), the owner/operator must prepare and submit to the Regional Administrator within 30 days of suspension a document including the date and time of suspension and an explanation of circumstances causing the suspension. §761.180(c)(5)</p> <p><u>Prior to transferring ownership</u> of an incinerator, the owner/operator must notify EPA 30 days in advance of the transfer and provide a notarized affidavit signed by the transferee stating that the transferee agrees to abide by the EPA approval document. §761.70(d)(8)</p>	<p>Check EPA correspondence file for compliance.</p> <p>If applicable, check EPA files for transfer notice and affidavit.</p>

Regulatory Requirements	Inspection Procedures
<b>Operating Requirements for Liquid and Non-Liquid PCBs</b>	
<p>Owners/operators must maintain <u>combustion efficiency</u> at a rate of at least 99.9%, as computed below:</p> $\text{Combustion efficiency} = \frac{C_{CO_2}}{(C_{CO_2} + C_{CO})} \times 100$ <p>where:</p> <p><math>C_{CO_2}</math> = Concentration of carbon dioxide  <math>C_{CO}</math> = Concentration of carbon monoxide.            §761.70(a)(2) and §761.70(b)(2)</p> <p>Owners/operators must use <u>water scrubbers</u> to control HCl and must meet any performance requirements specified by the Regional Administrator or the Director of NPCD. Owners/operators may use an EPA-approved alternative method of HCl control (e.g., cement kilns). §761.70(a)(9) and §761.70(b)(2)</p> <p>The <u>flow of PCBs</u> into the incinerator must stop automatically if one or more of the following conditions occurs:</p> <ul style="list-style-type: none"> <li>• Failure of monitoring operations for combustion products and incineration operation parameters</li> <li>• Failure of PCB rate and quantity measuring and recording equipment.            §761.70(a)(8) and §761.70(b)(2)</li> </ul> <p><u>Note:</u> Alternatively, the owner/operator can submit a contingency plan to the Regional Administrator or the Director of NPCD for approval indicating measures to be taken if these conditions occur. §761.70(a)(8)</p> <p>Owners/operators must store PCBs for disposal under conditions complying with §761.65, governing storage for disposal requirements. §761.60(a)(6)</p>	<p>When the incinerator is in operation, check combustion efficiency records against the required level.</p> <p>Determine water scrubber compliance with any required performance standards.</p> <p>Check procedures and equipment used to ensure fail-safe operations of the facility.</p> <p>See Chapter Four regulatory provisions pertaining to storage for disposal §761.65.</p>

Regulatory Requirements	Inspection Procedures
<b>Liquid PCB Operating Requirements</b>	
<p>Owners/operators must incinerate liquid PCBs according to either of the following combustion criteria:</p> <ul style="list-style-type: none"> <li>• Maintenance of the introduced liquids for a 2-second dwell time at 1,200EC (<math>\pm 100E</math> C) and 3% excess O<sub>2</sub> in the stack gas. §761.70(a)(1)(i)</li> <li>• Maintenance of the introduced liquids for a 1.5-second dwell time at 1,600 degrees C (<math>\pm 100E</math> C) and 2% excess O<sub>2</sub> in the stack gas. §761.70(a)(1)(ii)</li> </ul> <p>For liquid PCBs, the flow into the incinerator must stop automatically if the following conditions occur:</p> <ul style="list-style-type: none"> <li>• The excess O<sub>2</sub> level falls below 3%. (Alternatively, a contingency plan can be submitted to, and approved by, the Regional Administrator or the Director of NPCD.) §761.70(a)(8)</li> <li>• The combustion temperature falls below that specified in the chosen combustion criteria. §761.70(a)(5)</li> </ul>	<p>Check facility operating records for compliance with the required combustion criteria. (Verifying that the combustion criteria are met is also outlined above in the review of the monitoring requirements.)</p> <p>Check facility operating records to verify that flow to the incinerator stops automatically when the required conditions occur.</p>
<b>Non-Liquid PCB Operating Requirements</b>	
<p>The air mass emissions for the incinerator must be no greater than 0.001g PCB/kg (destruction and removal efficiency [DRE] of 99.49%) of the PCB introduced to the incinerator. §761.70(b)(1)</p>	<p>Check facility operating records for compliance with air mass emissions.</p>

# Appendix J

## Chemical Waste Landfills

According to §761.75, the owner or operator of a chemical waste landfill used for the disposal of PCBs and PCB Items must obtain written approval from the EPA Regional Administrator prior to use of the landfill for PCB disposal. The landfill must meet technical operating requirements, but the Administrator, based on a finding of no unreasonable risk, may grant a waiver from one or more of the technical requirements. To obtain approval, the landfill owner/operator must submit to the Regional Administrator an initial report containing such items such as landfill location, description of site, an engineering report describing how the landfill complies with PCB regulations, and an operations plan. The inspector should obtain from the facility the approval document and refer to it during the inspection. The inspector should verify compliance with the approval document as well as the regulations.

Landfills must meet various requirements, including provisions pertaining to synthetic membrane liners, flood protection, groundwater monitoring wells, and the development of an operations plan. A landfill approval document from EPA may include the following items:

- Technical requirements
- A list of persons authorized to operate the landfill
- Any additional requirements, at the discretion of the Regional Administrator, where s/he finds that such requirements are necessary to protect human health and the environment
- The period of time for which the approval is valid (if limited)
- Waivers (if any).

### Acceptable for Disposal

The following list provides selected PCB and PCB-contaminated wastes acceptable for disposal at chemical waste landfills:

- Liquid PCBs (in concentrations of 50 to 500 ppm) that are from incidental sources, such as precipitation, condensation, leachate, or load separation, and are associated with PCB Articles or non-liquid PCB wastes if information is provided to the landfill owner/operator showing that the PCB level does not exceed 500 ppm and they are not ignitable wastes. §761.60(a)(3)



- PCB Transformers, if drained, filled with solvent, allowed to stand for 18 hours, and then thoroughly drained. Solvents may include kerosene, xylene, toluene, and other solvents in which PCBs are readily soluble. (Precautionary measures should be taken to ensure that the solvent flushing procedure is conducted in accordance with applicable safety and health standards as required by Federal or State regulations.) §761.60(b)(1)(i)(B)
- PCB articles (excluding transformers, capacitors, hydraulic machines, or PCB-contaminated electrical equipment) with PCB concentrations  $\geq 500$  ppm, if free-flowing liquid is drained prior to article disposal. §761.60(b)(4)(ii)
- PCB containers that have not been decontaminated if they have PCB concentrations  $\geq 500$  ppm and if liquid PCBs are drained prior to container disposal. §761.60(c)(1)(ii)

#### Not Acceptable for Disposal

- Liquid PCBs (in concentrations  $\geq 500$  ppm). §761.60(a)
- Liquid PCBs in concentrations  $< 50$  ppm that are the result of dilution of liquid PCBs  $\geq 50$  ppm. §761.60(a)
- Large PCB Capacitors with high- and low-voltage that contain 500 ppm or greater PCBs (after 3/1/81) unless the Administrator finds that the capability for incinerating PCB Capacitors is not available, or that such incineration will significantly interfere with incineration of liquid PCBs, or that other good cause is shown. §761.60(b)(2)(iii)(B), §761.60(b)(2)(v)
- PCB small capacitors (after 3/1/81) owned by manufacturers of PCB Capacitors or PCB equipment and acquired in the course of such manufacturing. (Other small capacitors may be disposed of as municipal solid waste.) §761.60(b)(2)(iv)

The following tables provide an overview of the regulatory requirements and inspection procedures related to chemical waste landfills used to dispose of PCBs.

Regulatory Requirements	Inspection Procedures
<b>Notice Requirements (§761.60)</b>	
<p>When operating under a landfill waiver pertaining to the disposal of dredged materials and sludges, owners/operators must give State or local governments within whose jurisdictions the disposal will take place written notice at least 30 days before conducting disposal activities. §761.60(f)(2)</p> <p>Each operator of a landfill shall give the State and local government within whose jurisdiction the disposal facility is located at least 30 days notice before a facility is first used for disposal. §761.60(f)(1)(i)</p> <p>At the request of any State or local government, owners/operators must provide <u>annual notice</u> of the quantities and general description of PCBs disposed of during the year not more than 30 days after the end of the year covered. §761.60(f)(1)(ii)</p>	<p>Check correspondence file for compliance with notification requirements.</p>

Regulatory Requirements	Inspection Procedures
<b>Recordkeeping Requirements (§761.180 &amp; 75)</b>	
<p>Owners/operators of chemical waste landfills must establish and maintain for at least 20 years after the landfill is no longer used for the disposal of PCBs the following <u>records</u>:</p> <ul style="list-style-type: none"> <li>• All records and the annual document log required by §761.180(b) and (d) for disposal facilities. Required records include signed manifests, certificates of disposal, water analyses, and operations records with three-dimensional burial coordinates. §761.180(d)</li> <li>• Water analysis data for PCBs, pH, specific conductance, and chlorinated organics obtained in accordance with §761.75(b)(6)(iii). §761.180(d)(1)</li> <li>• PCB concentration in liquid wastes and three-dimensional burial coordinates. §761.75(b)(8)(iv). §761.180(d)(2)</li> </ul> <p>Prior to <u>transferring ownership</u> of a chemical waste landfill, the owners/operators must notify EPA 30 days before the transfer and provide a notarized affidavit stating that the transferee agrees to abide by the EPA approval document. §761.75(c)(7)</p>	<p>Check facility records against regulations for all required records including: the annual document log, signed manifests, certificates of disposal, water analyses, operations records with three-dimensional burial coordinates, water analysis data, PCB concentration in liquid wastes, and three-dimensional burial coordinates.</p> <p>Determine adequacy of water analysis data.</p> <p>Check for records of PCB concentration in liquid wastes. These may be kept in the same place as records required under §761.180.</p> <p>Check for transfer document in EPA Regional files.</p>

Regulatory Requirements	Inspection Procedures
<b>Facility Requirements (§761.75)</b>	
<p><u>Soils</u>. The landfill site should be located in thick, relatively impermeable formations, such as large-area clay pans. Where this is not possible, the soil should have a high clay and silt content with the following parameters: §761.75(b)(1)</p> <ul style="list-style-type: none"> <li>• In-place soil thickness of 4 ft or compacted soil liner thickness of 3 ft</li> <li>• Permeability (cm/sec) equal to or less than <math>1 \times 10^{-7}</math></li> <li>• Percentage of soil passing No. 200 Sieve &gt; 30</li> <li>• Liquid Limit &gt; 30</li> <li>• Plasticity index &gt; 15.</li> </ul> <p>When the Regional Administrator requires <u>synthetic membrane liners</u>, they must provide permeability equivalent to the soil parameters in §761.75(b)(1), be compatible with PCBs, and be at least 30 mils thick. §761.75(b)(2)</p> <p>When a landfill has a <u>liner</u>, the owners/operators must take precautions, including providing adequate soil underlining and soil cover, to ensure that the liner does not rupture. §761.75(b)(2)</p> <p>The <u>bottom of the landfill liner system or natural in-place soil barrier</u> must be above the historical high groundwater table by at least 50 ft, and the site must avoid <u>floodplains, shorelands, and groundwater recharge areas</u>. §761.75(b)(3)</p> <p>There must be no <u>hydraulic connection</u> between the site and any standing or flowing surface water. §761.75(b)(3)</p>	<p>Review engineering plans and site tests to determine compliance with soil parameters and liner or soil barrier requirements in §761.75(b)(1).</p> <p>Check approval document for membrane liner requirement. Acquire sample of membrane liner if the Regional Administrator required synthetic membrane liners.</p> <p>Verify compliance of the placement of the bottom of the landfill liner system or natural in-place barrier at least 50 ft above the historic high groundwater table when the landfill is initially approved.</p> <p>Verify that there is no hydraulic connection when the landfill is initially approved. Check for hydraulic connection to surface water.</p>

Regulatory Requirements	Inspection Procedures
<b>Facility Requirements (§761.75)</b>	
<p>The site shall have <u>monitoring wells</u> and <u>leachate collection</u>. §761.75(b)(3)</p> <p>If the landfill site is below the 100-year flood elevation, there must be surface water <u>diversion dikes</u> around the perimeter of the site at least 2 ft above the flood evaluation. §761.75(b)(4)(i)</p> <p>If the landfill site is above the 100-year flood elevation, the owners/operators must provide structures that are capable of diverting all of the <u>surface water runoff</u> from a 24-hour, 25-year storm. §761.75(b)(4)(ii)</p> <p>The landfill site shall be located in an <u>area of low to moderate relief</u> to minimize erosion and to help prevent landslides or slumping. §761.75(b)(5)</p> <p>A 6-foot woven mesh <u>fence, wall, or similar device</u> must be located around the site to prevent animals or unauthorized persons from entering. §761.75(b)(9)(i)</p> <p>The owners/operators must maintain <u>roads</u> to and within the site that are adequate to support the operation and maintenance of the site without causing safety or nuisance problems or hazardous conditions. §761.75(b)(9)(ii)</p>	<p>Determine from company records the presence of monitoring wells and the leachate collection system.</p> <p>Determine the 100-year flood evaluation from U.S. Geological Survey or U.S. Army Corps of Engineers records prior to the inspection. During the inspection, determine the elevation from facility records. Compare these records to requirement to determine compliance. Measure adequacy of diversion dikes when needed.</p> <p>Determine from records and actual measurement (if necessary) that the water diversion structures are capable of diverting all of the surface water runoff from a 24-hour, 25-year storm.</p> <p>Determine if the containment structure meets the height requirement and is located around the entire perimeter of the site.</p> <p>Physically inspect roadways to determine that they are adequate to support the operation and maintenance of the site without causing safety or nuisance problems or hazardous conditions.</p>

Regulatory Requirements	Inspection Procedures
<b>Operating Requirements (§761.60 &amp; 75)</b>	
<p>The landfill must comply with all conditions and limitations stated in the written approval by the Regional Administrator for the Region in which the facility is located. §761.75(c)</p> <p><u>Liquid PCBs</u> from incidental sources, such as precipitation, condensation, leachate, or load separation and are associated with PCB articles or non-liquid PCB wastes in concentrations of 50 to 500 ppm must be accompanied by information showing that the liquids do not exceed 500 ppm PCBs. §761.60(a)(3)(ii)</p> <p>Persons must pretreat and/or stabilize (e.g., chemically fix, evaporate, mix with dry inert absorbent) <u>bulk liquid PCBs</u> in concentrations not exceeding 500 ppm to a nonflowing consistency prior to disposal to eliminate the presence of free liquids. §761.75(b)(8)(ii)</p> <p>Prior to disposal, persons must drain <u>PCB Transformers</u> of free-flowing liquid, fill them with solvent, allow them to stand for at least 18 hours, and then drain them thoroughly. §761.60(b)(1)(i)(B)</p> <p>Prior to disposal, persons must drain free-flowing liquid from <u>other PCB articles</u> (excluding transformers) with PCB concentrations of 500 ppm or more. §761.60(b)(6)(i)(B)</p>	<p>Check approval document for special conditions and limitations. Take careful note of operating compliance.</p> <p>Examine labels on liquid PCB containers to determine PCB concentration. Sample if violation is suspected.</p> <p>Determine, through statement from operator, procedures for stabilizing bulk liquid PCBs. Sample if violation is suspected.</p> <p>Determine from operator or employees whether PCB Transformers are properly decontaminated prior to disposal.</p> <p>Determine from operator or employees whether PCB articles were drained prior to disposal.</p>



Regulatory Requirements	Inspection Procedures
<b>Monitoring Requirements (§761.75)</b>	
<p>Prior to disposal operations, the owner/operator must sample <u>groundwater and surface water</u> from the disposal area for use as baseline data. §761.75(b)(6)(i)(A)</p> <p>The Regional Administrator may designate <u>surface water courses</u> that the owner/operator must sample at least monthly when the landfill is being used for disposal operations. §761.75(b)(6)(i)(B)</p> <p>EPA requires at least 3 <u>groundwater monitor wells</u> equally spaced on a line through the center of the disposal area. The line must extend from the highest to the lowest water table elevation on the property. §761.75(b)(6)(ii)(A)</p> <p>Groundwater monitor wells must be cased and the annular space between the monitor zone and the surface must be completely backfilled and plugged with cement to prevent percolation of surface water into the well bore. The well must have a removable cap to provide access and to prevent entrance of rainwater or storm water runoff. §761.75(b)(6)(ii)(B)</p> <p>Before obtaining a sample for analysis, the person sampling must pump the well to remove the volume of liquid initially contained in the well §761.75(b)(6)(ii)(B)</p> <p>Liquid pumped from groundwater monitor wells must be treated to meet applicable State or Federal discharge standards or recycled to the chemical waste landfill. §761.75(b)(6)(ii)(B)</p>	<p>Check water sampling records are kept for the amount of time required.</p> <p>Check for monthly sampling records (if required by Regional Administrator).</p> <p>Check engineering plans to determine the locations of the groundwater monitoring wells.</p> <p>Determine the procedures that the facility uses for taking samples and for disposing of samples after analysis.</p>



Regulatory Requirements	Inspection Procedures
<b>Monitoring Requirements (§761.75)</b>	
<p>The owner/operator must install a <u>leachate collection system</u> above the chemical waste landfill and monitor it monthly for the quantity and physicochemical characteristics of the leachate produced. §761.75(b)(7)</p> <p>Leachate must be treated to acceptable limits for discharge in accordance with State or Federal permits or disposed of by another State or federally approved method. §761.75(b)(7)</p> <p><u>After final closure</u> of the disposal area, the owner/operator must sample surface water courses designated by the Regional Administrator no less than once every 6 months. §761.75(b)(6)(i)(C)</p> <p>The laboratory must analyze all <u>water samples</u> for PCBs, pH, specific conductance, and chlorinated organics, and the owner/operator must maintain all data and records as required in §761.180(d)(1). §761.75(b)(6)(iii)</p> <p>Sampling methods and analytical procedures must comply with 40 CFR 136, as amended. §761.75(b)(6)(iii)</p>	<p>Check engineering plans to verify that the facility installed a leachate collection system above the landfill and monitoring records to verify that the collection system is monitored monthly for quantity and characteristics of the leachate.</p> <p>Check procedures for treatment and disposition of leachate samples.</p> <p>Check monitoring records for water sampling if applicable.</p>

# Appendix K

## High Efficiency Boilers

PCB regulations allow for disposal of specified PCB *fluids* with concentrations of 50 to less than 500 ppm PCBs in high-efficiency boilers. Boilers must meet certain design and operating criteria. These technical requirements differ depending upon the type of liquid intended for disposal, as discussed below. Other regulatory provisions (e.g., marking, storage) may also apply and, likewise, will differ based on the waste to be disposed.

### Wastes Acceptable for Disposal

In general, two types of PCB-contaminated liquids may be disposed of in high-efficiency boilers:

- Mineral oil dielectric fluid from PCB-contaminated electrical equipment containing PCBs in concentrations of 50 to less than 500 ppm. §761.60(a)(2)(iii)
- Liquids other than mineral dielectric fluid containing PCBs in concentrations of 50 to less than 500 ppm.

Technical requirements applicable to wastes authorized for disposal in high-efficiency boilers are described below under the relevant regulatory provisions. Requirements applicable to each of the two waste fluid categories are discussed separately, followed by a summary of provisions that applies to both categories.

Regulatory Requirements	Inspection Procedures
<p>Owners/operators of high efficiency boilers burning <u>mineral oil dielectric fluid</u> containing a PCB concentration of <math>\geq 50</math> ppm but <math>&lt; 500</math> ppm must operate according to certain parameters. §761.71(a)</p>	<p>Verify that high efficiency boilers burning mineral oil dielectric fluid containing a PCB concentration of <math>\geq 50</math> ppm, but <math>&lt; 500</math> ppm meet the following criteria:</p> <ul style="list-style-type: none"> <li>-the boiler is rated at a minimum of 50 million BTU hours (by checking the manufacturer’s manual or website)</li> <li>-if the boiler uses natural gas or oil as the primary fuel, the CO concentration in the stack is <math>\leq 50</math> ppm and the excess oxygen is at least 3% when PCBs are being burned</li> <li>-if the boiler uses coal as the primary fuel, the CO concentration in the stack is <math>\leq 100</math> ppm and the excess oxygen is at least 3% when PCBs are being burned</li> <li>-the mineral oil dielectric fluid does not comprise more than 10% (on a volume basis) of the total fuel feed rate</li> <li>-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)</li> <li>-the owner or operator of the boiler does one of the following:                             <ul style="list-style-type: none"> <li>--continuously monitors and records the CO concentration and excess oxygen percentage in the stack gas while burning mineral oil dielectric fluid</li> <li>--if the boiler will burn <math>&lt; 30,000</math> gal of mineral oil dielectric fluid per year, measures and records the CO concentration and excess oxygen percentage in the stack gas at regular intervals of no longer than 60 min while burning mineral oil dielectric fluid.</li> </ul> </li> </ul>

Regulatory Requirements	Inspection Procedures
<p>Owners/operators of high efficiency boilers burning <u>mineral oil dielectric fluid</u> containing a PCB concentration of <math>\geq 50</math> ppm but <math>&lt; 500</math> ppm must operate according to certain parameters. §761.71(a) (Continued)</p>	<p>-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 min while burning mineral oil dielectric fluid</p> <p>-the CO 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 section, the flow of mineral oil dielectric fluid to the boiler is stopped immediately.</p> <p>Verify that 30 days before any person burns mineral oil dielectric fluid in the boiler, the owner or operator provides written notice to the EPA Regional Administrator for the EPA Region in which the boiler is located.</p> <p>Verify that the notice contains the following information:</p> <ul style="list-style-type: none"> <li>-the name and address of the owner or operator of the boiler and the address of the boiler</li> <li>-the boiler rating in units of BTU/hour</li> <li>-the CO 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</li> <li>-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 CO concentration and excess oxygen percentage in the stack.</li> </ul>

Regulatory Requirements	Inspection Procedures
<p>Owners/operators of high efficiency boilers burning <u>mineral oil dielectric fluid</u> containing a PCB concentration of <math>\geq 50</math> ppm but <math>&lt; 500</math> ppm must operate according to certain parameters. §761.71(a) (Continued)</p> <p>Owners/operators of high efficiency boilers burning <u>liquids other than mineral oil dielectric fluid</u> containing a PCB concentration of <math>\geq 50</math> ppm but <math>&lt; 500</math> ppm must operate according to certain parameters. §761.71(b)</p>	<p>Verify that, when burning mineral oil dielectric fluid, the boiler operates at a level of output no less than the output at which the required measurements were taken.</p> <p>Verify that any person burning mineral oil dielectric fluid in a boiler obtains the following information and retains the information for 5 yr at the boiler location</p> <ul style="list-style-type: none"> <li>-the data which is required to be collected</li> <li>-the quantity of mineral oil dielectric fluid burned in the boiler each month.</li> </ul> <p>Verify that a high efficiency boiler burning liquids other than mineral oil dielectric fluid containing a PCB concentration of <math>\geq 50</math> ppm but <math>&lt; 500</math> ppm meets the following criteria:</p> <ul style="list-style-type: none"> <li>-the boiler is rated at a minimum of 50 million BTU/hour</li> <li>-if the boiler uses natural gas or oil as the primary fuel, the carbon monoxide concentration in the stack is <math>\leq 50</math> ppm and the excess oxygen is at least 3% when PCBs are being burned</li> <li>-if the boiler uses coal as the primary fuel, the carbon monoxide concentration in the stack is <math>\leq 100</math> ppm and the excess oxygen is at least 3% when PCBs are being burned</li> <li>-the waste does not comprise more than 10% (on a volume basis) of the total fuel feed rate</li> <li>-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)</li> </ul>

Regulatory Requirements	Inspection Procedures
<p>Owners/operators of high efficiency boilers burning <u>liquids other than mineral oil dielectric fluid</u> containing a PCB concentration of <math>\geq 50</math> ppm but <math>&lt; 500</math> ppm must operate according to certain parameters. §761.71(b) (Continued)</p>	<p>-the owner or operator of the boiler does one of the following:</p> <ul style="list-style-type: none"> <li>-- continuously monitor and record the CO concentration and excess oxygen percentage in the stack gas while burning waste fluid</li> <li>-- if the boiler will burn <math>&lt; 30,000</math> gal of waste fluid per year, measure and record the CO concentration and excess oxygen percentage in the stack gas at regular intervals of no longer than 60 min while burning waste fluid</li> </ul> <p>-the primary fuel feed rate, waste fluid feed rate, and total quantities of both primary fuel and waste fluid fed to the boiler are measured and recorded at regular intervals of no longer than 15 min while burning waste fluid</p> <p>-the CO concentration and the excess oxygen percentage are checked at least once every hour that the waste is burned. If either measurement falls below the specified levels, the flow of waste to the boiler is stopped immediately.</p> <p>Verify that the owner/operator obtained approval from the EPA Regional Administrator prior to burning liquids other than mineral oil dielectric fluid containing a PCB concentration of <math>\geq 50</math> ppm but <math>&lt; 500</math> ppm.</p> <p>Verify that the request for approval contains the following:</p> <ul style="list-style-type: none"> <li>-the name and address of the owner or operator of the boiler and the address of the boiler</li> <li>-the boiler rating in units of BTU/hour</li> <li>-the CO 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</li> </ul>

Regulatory Requirements	Inspection Procedures
<p>Owners/operators of high efficiency boilers burning <u>liquids other than mineral oil dielectric fluid</u> containing a PCB concentration of <math>\geq 50</math> ppm but <math>&lt; 500</math> ppm must operate according to certain parameters. §761.71(b) (Continued)</p> <p>(NOTE: On the basis of the information in the request for approval, and any other available information, the U.S. EPA Regional Administrator may, at his/her 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.)</p>	<ul style="list-style-type: none"> <li>-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</li> <li>-the type of waste to be burned (e.g., hydraulic fluid, contaminated fuel oil, heat transfer fluid, etc.)</li> <li>-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</li> <li>-the quantity of wastes estimated to be burned in a 30-day period</li> <li>-an explanation of the procedures to be followed to ensure that burning the waste will not adversely affect the operation of the boiler such that combustion efficiency will decrease.</li> </ul> <p>Verify that, when burning PCB wastes, the boiler operates at a level of output no less than the output when it is operated in a manner similar to the manner in which it will be operated when low concentration PCB liquid is burned.</p> <p>Verify that the following information is obtained and retained for 5 yr at the boiler location:</p> <ul style="list-style-type: none"> <li>-the data required to be collected</li> <li>-the quantity of low concentration PCB liquid burned in the boiler each month</li> <li>-the analysis of the waste required once a month for each month during which low concentration PCB liquid is burned in the boiler.</li> </ul>

# Appendix L

## Alternative Disposal Methods

### For PCBs and PCB Items

#### Approval Requirements §761.60

In accordance with Section 761.60(e), the Regional Administrator (or the Director of NPCD) may approve of the request for the use of an alternative method, at her/his discretion, if s/he makes the following findings:

- That the alternative method will destroy PCBs as efficiently as does an approved incinerator (under Section 761.70) or a high efficiency boiler. §761.71
- That the alternative method of destroying PCBs will not present an unreasonable risk of injury to health or the environment. §761.60(e)

The Regional Administrator (or the Director of NPCD) must state the approval of any alternative method in writing. It may contain appropriate conditions and limitations as deemed appropriate by the approval authority. The inspector should obtain the facility's approval document and refer to it during the inspection. The inspector should verify compliance with the approval as well as the regulations.

Since §761.60(e) approvals have a variety of technologies, the best sources of information are found by reading the approval and talking to the permit writer. Please note that some of the §761.60(e) approvals are Regional while other approvals may be mobile, or located in more than one Region (i.e., a National approval). To avoid confusion, it is best to determine whether the approval is Regional or National. If it is a National approval, the inspector may want to contact other Regions for possible violations or contact EPA Headquarters Enforcement.

The recycling of PCB fluorescent light ballasts is covered in this section. Ballast recyclers reclaim metals (e.g., sheet steel, high silicon steel, copper, aluminum) from ballast components. Facilities may not recycle leaking ballasts and must properly dispose of them.

The recycling process typically involves freezing the ballast to embrittle the potting compound, separating the metal case to allow the ballast core with capacitor to drop out, and cutting the leads to the capacitor, which contains PCBs and is regulated for disposal, from the transformer core. The frozen potting material encased transformer core is then struck on the edge of a fixed metal bar located over a waste collection drum or on the edge of the drum to shatter the brittle



potting material allowing the brittle material to drop into the waste container. Any potting material still adhering to the core is crumbled off with gloved hands and/or removed with an air driven chisel or needle gun. The metal recovery activity scatters potting material far and wide. To insure that PCBs are not released from the decontamination area to the environment, the activity should be conducted within an enclosure equipped with walls, roof, and energy saving type strip doors at personnel and material ingress and egress points. Workers should also be protected against dermal contact and inhalation of PCB containing materials with disposable painter's breathing masks, eye protection, gloves, and coveralls.

In addition to alternative approval for disposal, ballast recyclers usually have EPA approval as a Commercial TSCA storer for storing the incoming ballasts and the PCB wastes generated by the recycling process. If the facility has EPA Commercial Storer approval, the inspector should collect copies of at least the last 12 months of manifests and bills of lading, which can be used to determine if the facility at any time exceeded their approved storage capacity.

When inspecting a PCB fluorescent light ballast recycler, the inspector should make sure that PCB wastes are contained within the work area and not allowed to migrate to other areas of the facility or outside of the facility.

The inspector should visually inspect or collect samples of recovered metals. Unrestricted use decontamination standards for non-porous surfaces previously in contact with non-liquid PCBs for unrestricted use are:

- #10 ug/100 cm<sup>2</sup> as measured by standard wipe test, or
- Visual Standard No. 2, Near White Blast Cleaned Surface Finish of the National Association of Corrosion Engineers (NACE) as verified by visual inspection of all cleaned areas.

The decontamination standards for disposal in a smelter meeting specified standards under §761.72 are:

- #100 ug/100 cm<sup>2</sup> as measured by standard wipe test,
- or Visual Standard No. 3, Commercial Blast Cleaned Surface Finish of NACE as verified by visual inspection of all cleaned areas.

#### Notice Requirements §761.60

Owners and operators of an incinerator, a chemical waste landfill, or an approved alternative disposal facility must give the following written notices to the State and local governments where the facility is located:

- Notice at least 30 days before a facility is first used for disposal of PCBs.  
§761.60(f)(1)(i)

- At the request of any State or local government, annual notice (given no more than 30 days after the end of the year covered) of the quantities and general description of the PCBs disposed of during the year. §761.60(f)(1)(ii)
- To avoid confusion, inspectors should check if facility has Regional Approval versus Nationwide Approval.

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## Appendix M

# Scrap Metal Recovery Ovens and Smelters

Scrap metal recovery ovens and smelters may burn PCB-contaminated articles regulated for disposal such as transformer cores and metal surfaces contaminated with PCBs less than 500 ppm from which all free-flowing liquids have been removed. The scrap metal recovery ovens and smelters burn off the PCB contamination so the scrap metal can be recovered.

The following tables provide an overview of the regulatory requirements and inspection procedures related to scrap metal recovery ovens and smelters used to remove PCB contamination from metals.

Regulatory Requirements	Inspection Procedures
<p>Scrap metal recovery ovens or smelters being used for the disposal of PCBs must meet specific requirements. §761.72</p> <p>(NOTE: Any person may dispose of residual PCBs associated with PCB-Contaminated articles regulated for disposal under §761.60(b), metal surfaces in PCB remediation waste regulated under §761.61, or metal surfaces in PCB bulk product waste regulated under §761.62(a)(6) and §761.79(c)(6), from which all free-flowing liquids have been removed: in a scrap metal recovery oven or a smelter meeting the requirements specified in this table.)</p>	<p>Verify that the scrap metal recovery oven meets the following:</p> <ul style="list-style-type: none"> <li>-it has at least 2 enclosed (i.e., negative draft, no fugitive emissions) interconnected chambers</li> <li>-equipment with all free-flowing liquid removed is first placed in the primary chamber at room temperature</li> <li>-the primary chamber operates at a temperature between 537 °C and 650 °C for a minimum of 2.5 h and reaches a minimum temperature of 650 °C (1,202 °F) once during each heating cycle or batch treatment of unheated, liquid-free equipment</li> <li>-heated gases from the primary chamber feed directly into the secondary chamber (i.e., afterburner) which operates at a minimum temperature of 1,200 °C (2,192 °F) with at least a 3% excess oxygen and a retention time of 2.0 s with a minimum combustion efficiency of 99.9%.</li> <li>-heating of the primary chamber does not commence until the secondary chamber has reached a temperature of 1,200 +/- 100 °C (2,192 +/- 180 °F)</li> </ul>

Regulatory Requirements	Inspection Procedures
<p>Scrap metal recovery ovens or smelters being used for the disposal of PCBs must meet specific requirements. §761.72 (Continued)</p>	<p>Verify that the scrap metal recovery oven meets the following:</p> <ul style="list-style-type: none"> <li>-continuous emissions monitors and recorders for CO<sub>2</sub>, CO, and excess oxygen in the secondary chamber and continuous temperature recorders in the primary and secondary chambers are installed and operated while the primary and secondary chambers are in operation to assure that the 2 chambers are within the specified operating parameters</li> <li>-emissions from the secondary chamber are vented through an exhaust gas stack in accordance with either of the following: <ul style="list-style-type: none"> <li>--valid state and local air regulations and permits</li> <li>--particulates &lt; 0.015 grains/dscf, sulfur dioxide &lt; 35 ppmv, nitrogen oxide &lt; 150 ppmv, carbon monoxide &lt; 35 ppmv, and hydrogen chloride &lt; 35 ppmv</li> </ul> </li> <li>-exhaust gas stack emissions are: particulates &lt; 0.015 grains/dscf, sulfur dioxide &lt; 35 ppmv, nitrogen oxide &lt; 150 ppmv, carbon monoxide &lt; 35 ppmv, and hydrogen chloride &lt; 35 ppmv</li> <li>-a measurement of the temperature in the secondary chamber at the time the primary chamber starts heating is taken, recorded, and retained at the facility for 3 yr from the date each charge is introduced into the primary chamber.</li> <li>-the operating temperature of the hearth is at least 1,000 °C at the time it is charged with any PCB-Contaminated non-porous surface</li> <li>-each charge containing a PCB-Contaminated item is added into molten metal or a hearth at ≥ 1,000 °C</li> </ul>

Regulatory Requirements	Inspection Procedures
<p>Scrap metal recovery ovens or smelters being used for the disposal of PCBs must meet specific requirements. §761.72 (Continued)</p> <p>(NOTE: Scrap metal recovery ovens and smelters are not required to submit annual reports.)</p>	<p>Verify that the smelter meets the following:</p> <ul style="list-style-type: none"> <li>-successive charges are not introduced into the hearth in less than 15-min intervals.</li> <li>-the smelter operates in compliance with any applicable emissions standards in the Clean Air Act standards of performance for new stationary sources in 40 CFR 60</li> <li>-the smelter has an operational device which accurately measures directly or indirectly, the temperature in the hearth</li> <li>-takes, records and retains at the disposal facility for 3 yr from the date each charge is introduced, a reading of the temperature in the hearth at the time it is charged with a non-porous surface item.</li> </ul> <p>Verify that scrap metal recovery ovens and smelters either have a final permit under RCRA or are operating under a valid state air emissions permit which includes a standard for PCBs.</p> <p>Verify that scrap metal recovery ovens and smelters disposing of PCBs provide notification as disposers of PCBs and otherwise comply with all applicable provisions of 40 CFR 761, Subparts J and K, as well as other applicable federal, state, and local laws and regulations.</p>

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# Appendix N

## Reclassification of Retrofilled Transformers

If test results show the PCB concentration (ppm) in the transformer prior to retrofit is...	and you retrofit the transformer with dielectric fluid containing...	and you...	and test results show the PCB concentration (ppm) after retrofit is...	then the transformer's reclassified status is...
\$1,000 (or untested)	< 50 ppm PCBs	operate the transformer electrically under loaded conditions for at least 90-continuous days after retrofit, then test the fluid for PCBs	\$50 but < 500	PCB-contaminated
	< 50 ppm PCBs	operate the transformer electrically under loaded conditions for at least 90-continuous days after retrofit, then test the fluid for PCBs	<50	non-PCB
\$500 but <1,000	<50 ppm PCBs	test the fluid for PCBs at least 90 days after retrofit	\$50 but <500	PCB-contaminated
	<50 ppm PCBs	test the fluid for PCBs at least 90 days after retrofit	<50	non-PCB
\$50 but <500	\$2 but <50 ppm PCBs	test the fluid for PCBs at least 90 days after retrofit	<50	non-PCB
	<2 ppm PCBs	(no need to test)	(not applicable)	non-PCB

Source: §761.30(a)(2)









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# Appendix O

## Sample Seal and Chain-of-Custody Form

Chain-of-Custody forms may be obtained by calling the EPA Headquarters Warehouse in Cincinnati, Ohio at (513) 489-8190.

 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY OFFICIAL SAMPLE SEAL	SAMPLE NO.	DATE	SEAL BROKEN BY	DATE	EPA FORM 7500-2 (R7-75)
	SIGNATURE				
	PRINT NAME AND TITLE <i>(Inspector, Analyst or Technician)</i>				
 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY OFFICIAL SAMPLE SEAL	SAMPLE NO.	DATE	SEAL BROKEN BY	DATE	EPA FORM 7500-2 (R7-75)
	SIGNATURE				
	PRINT NAME AND TITLE <i>(Inspector, Analyst or Technician)</i>				
 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY OFFICIAL SAMPLE SEAL	SAMPLE NO.	DATE	SEAL BROKEN BY	DATE	EPA FORM 7500-2 (R7-75)
	SIGNATURE				
	PRINT NAME AND TITLE <i>(Inspector, Analyst or Technician)</i>				
 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY OFFICIAL SAMPLE SEAL	SAMPLE NO.	DATE	SEAL BROKEN BY	DATE	EPA FORM 7500-2 (R7-75)
	SIGNATURE				
	PRINT NAME AND TITLE <i>(Inspector, Analyst or Technician)</i>				
 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY OFFICIAL SAMPLE SEAL	SAMPLE NO.	DATE	SEAL BROKEN BY	DATE	EPA FORM 7500-2 (R7-75)
	SIGNATURE				
	PRINT NAME AND TITLE <i>(Inspector, Analyst or Technician)</i>				

 United States Environmental Protection Agency	Sample Number	Task Number	
	Chain of Custody Record		
Inspector Name and Address	Sample Name		
	Date Sample	Time	Duplicate Requested ( ) Yes ( ) No
Inspector Signature	Location of Sampling		
Analysis/Testing Required			
Laboratory			
Date Received			
Received By			
Sent Via			
Sample Condition			
Condition of Seals			
Units Received			
Storage Location			
Assigned By			
Assigned To			
Delivered By			
Date Delivered			
Number of Units Received			
Units Analyzed			
Date Seal Broken			
Date Resealed			
Resealed By			
Storage Location			
Date Results of Analysis Issued to EPA		Date Results of Analysis Issued to Facility	
Remarks			



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

February 21, 2002

OFFICE OF  
ENFORCEMENT AND  
COMPLIANCE ASSURANCE

**MEMORANDUM**

**SUBJECT:** *Updated Fact Sheet:* Department of Transportation Hazardous Materials Training

**FROM:** Michael S. Alushin, Director *M. S. Alushin*  
Compliance Assessment and Media Programs Division

**TO:** Addressees

Environmental Protection Agency inspectors are potentially subject to the Department of Transportation's (DOT) hazardous materials training requirements. This is an updated fact sheet to provide guidance to managers and staff on the DOT training and certification requirements. I appreciate your assistance in distributing this fact sheet to the inspectors and their supervisors. During the 2000 National Inspector Workshop, many participants requested the development of a quick reference fact sheet. The original fact sheet was released on February 6, 2001. We received several comments that warranted an update to the original fact sheet.

Please note that persons other than inspectors, i.e., secretarial and administrative staff, may also be subject to the Department of Transportation's training and certification requirements. General information and website addresses on the three major transportation carriers most likely used by EPA inspectors were added to this fact sheet. This fact sheet will be posted on the EPA Inspector Website. The website address is <http://intranet.epa.gov/oeca/oc/metd/inspector>. The website version of this fact sheet will provide you with direct links to the three major transportation carriers' websites mentioned above.

Several incidents over the past few years have prompted the Department of Transportation to emphasize hazmat training reviews. It is the responsibility of our inspectors, supervisors and staff to be in compliance with the Department's regulations.

If you have any questions about this fact sheet, please contact Everett Bishop at 202-564-7032.

## DEPARTMENT OF TRANSPORTATION HAZARDOUS MATERIALS TRAINING

***What are DOT training requirements?***

DOT's training requirements can be found at 49 CFR Part 172, Subpart H. In general, any employee who has a responsibility working with hazardous materials (hazmat) that is placed in commerce must have hazmat training. The employee must be familiar or aware of the requirements enabling the employee to recognize and identify hazardous materials, i.e., environmental samples vs. hazardous waste samples, consistent with the hazard communication standards. The training must be commensurate with functions and responsibilities of the employee.

***Why does hazmat training apply to me?***

As an inspector, you are likely to be a hazmat employee because you collect samples during an inspection and prepare the hazmat samples for transportation. The EPA is a hazmat employer because the Agency causes hazmat to be transported or shipped in commerce through its employees. DOT defines "hazmat employer" to include any department, agency, or instrumentality of the United States, a State, a political subdivision of a State, or an Indian Nation. Administrative and secretarial staff are also subject to DOT training if their responsibilities cause hazmat materials to be placed into commerce, i.e., preparing shipping papers.

***Does my EPA training substitute for DOT training requirements?***

EPA Health & Safety courses may substitute for some or all of DOT's safety training requirements. However, the employer must make that determination. No EPA Health & Safety course will meet DOT's general awareness/familiarization requirement. See DOT's training requirements.

***What type of DOT training do I need?***

DOT hazmat training is function-specific. For most inspectors, the general awareness hazardous materials training course found on the DOT's website will be sufficient to meet the DOT training requirements. Alternatively, the employer can provide function specific training from other sources.(see below).

***What are DOT's training requirements for hazardous materials?***

DOT's hazmat training, 49 CFR §172.704, focuses on three requirements applicable to inspectors and administrative staff:

- General awareness/familiarization
  - ✓ Each hazmat employee shall be provided general awareness/familiarization training designed to provide familiarity with the hazmat requirements and to enable the employee to recognize and identify hazardous materials consistent with the hazard communication standards.

***What are DOT's training requirements for hazardous materials? cont.***

- Function-specific
  - ✓ Each hazmat employee shall be provided function-specific training as it applies to the employee's job responsibilities.
- Safety
  - ✓ Emergency response information required by part 172, subpart G, i.e., information that can be used in the mitigation of an incident involving hazardous materials;
  - ✓ Measures to protect the employee from the hazards associated with hazardous materials to which they may be exposed in the work place, including specific measures the hazmat employer has implemented to protect employees from exposure; and
  - ✓ Methods and procedures for avoiding accidents, such as the proper procedures for handling packages containing hazardous materials.

***Where can I find training opportunities?***

A good training resource is DOT's hazmat page, [hazmat.dot.gov/training](http://hazmat.dot.gov/training). You download the instructor's and student's training manual for in-house use. The training manual does include test questions. Self-training is acceptable by DOT so long as §172.704 training requirements are met. The DOT's Transportation Safety Institute in Oklahoma City, OK offers training on-site. Course dates are available from the website.

In addition to DOT's hazmat site, this web link, [hazmat.dot.gov/thirdpty.htm](http://hazmat.dot.gov/thirdpty.htm) identifies third party providers who offer a variety of hazmat training courses.

***How long does the certification last?***

The hazardous materials training is required to be completed within the first 90 days of employment. The certification period is good for three years and then the hazardous materials training program must be retaken. If your job responsibilities change, your training needs may change.

***Who is responsible for training?***

The employer is responsible. DOT's definition of employer is not clear in terms of EPA's administrative structure. "Employer" could be defined as the Administrator or any other manager in direct supervisory line of the employee.

***Who is responsible for keeping the training record?***

The employer is responsible for keeping the employee's records.

*What should be in the training record?*

Documentation that shows the employee has completed the necessary training, has been tested and certified.

*Specifically, what documents need to be retained?*

A record of current training, inclusive of the preceding three years must be retained for as long as the employee is employed by that employer as a hazmat employee and for 90 days thereafter. The record shall include the following information:

- (1) The inspector's name;
- (2) The most recent training completion date of the inspector's training;
- (3) A description, copy, or the location of the training materials used to meet the requirements;
- (4) The name and address of the person providing the training; and
- (5) Certification that the hazmat employee has been **trained and tested**.

*Does the employee have to "pass" the test?*

The requirements do not state that the employee must "pass" a test; however, an employee may only be certified in areas in which he/she can successfully perform their hazmat duties.

*Know Your Shipper's Requirements!*

Before collecting samples, know which shipping company you will be using to ship your samples. Some require additional training and certification beyond the basic DOT requirements. Here are three common carriers with some of their requirements for shipping hazmat materials.

### **Federal Express (FedEx)**

The shipping method you select determines what type of training FedEx expects you to have completed. If you plan to ship samples by ground, the DOT training requirements are sufficient. If you plan to ship the samples by air, then you must be trained according to International Air Transport Association (IATA) regulations. Successful completion of the IATA requirements will meet DOT's hazard communications requirements. IATA training and information can be found at: [www.iata.org](http://www.iata.org).

***Know Your  
Shipper's  
Requirements!  
cont.***

**United Parcel Service (UPS)**

DOT's general awareness training is acceptable by UPS for ground shipments. Shipments by air require IATA training.

**United States Postal Service (USPS)**

DOT's general awareness training and testing is acceptable by USPS for both shipping by ground and air. However, the Postal Service does have limits which are more stringent than DOT's regulations. Check this website for further details - <http://pe.usps.gov/text/dmm/c023.htm>

Before shipping, you should inquire with the shipping company if they have additional requirements for handling, packaging and shipment limitations for the hazmat materials.

Here are a few issues an inspector may face with the different shippers:

- Do you want them to meet you at the site? You may need to call ahead to schedule the pickup before you arrive at the site to collect samples.
- Do you plan on dropping the shipment off? Not all offices can accept dangerous goods and hazmat.
- Shipping papers may need to be typed, not handwritten. Do you bring a portable typewriter with you or type the shipping papers before leaving the office?



# Appendix Q

## Appearing as a Witness

### I. Introduction

Inspectors perform a vital role throughout the regulatory enforcement process. An enforcement action begins with the inspector collecting and documenting on-site evidence. This chapter deals with the inspector's responsibility to present evidence in formal legal proceedings.

Due in large part to the high quality work that inspectors produce, the EPA files strong cases. Nearly all of the cases that the EPA files result in out of court settlements that will not usually require the inspector's testimony. Of the cases that do not settle, a substantial majority of the legal action takes place in the EPA administrative law system rather than the federal courts. Major differences distinguish administrative from federal courts, such as rapid processing and the absence of a jury. Despite the differences between these two legal proceedings, the inspector's role as a witness will remain predominantly the same.

Under most circumstances an inspector will be called as a "fact witness." A fact witness describes personal knowledge obtained through one of the five senses. Throughout the enforcement process, everything an inspector hears, sees, samples, or records may become evidence about which he or she may be questioned. Many cases are tried years after the field and laboratory activities have been conducted. Thus, the inspection report and field notebook should be sufficiently detailed and legible to allow the inspector to reconstruct the inspection "on the record."

### II. Pre-Testimony Matters

#### A. Preparation

Preparation is the key to giving accurate and effective testimony. Successful preparation requires a substantial time commitment. Attorneys and witnesses work together in two types of preparation: factual and procedural.

The inspector will complete most of the factual preparation by writing the inspection report as described in this manual. The witness and the attorney will meet to discuss details from this report. Other items should also be discussed, including the field notebook, photographs, and the inspector's qualifications. Qualifications include the inspector's educational degree, professional accreditations, inspector training as required by Executive Order 3500.1, and on the job

experience. The inspector's qualifications must never be exaggerated. Even a small exaggeration may cause the inspector's testimony to lack credibility.

The inspector should inform the EPA attorney of any problems, questions, or concerns in the case as early as possible. An example of one such concern are the confidential business information (CBI) procedures to which the inspectors must adhere. CBI procedures that bind the inspector during an inspection also have implications for the legal proceeding.

The attorney has the primary responsibility over procedural preparation, which is assembling the facts for presentation in a formal legal setting. In addition to one-on-one preparation, the inspector and attorney may consider whether the inspector should participate in a mock trial or visit a hearing to observe other witnesses testifying. During one-on-one preparation, the attorney and the inspector should discuss:

- Times and dates that require the inspector's attendance.
- Legal etiquette and procedure.
- General legal framework of the case.
- Significance of the inspector's testimony in this framework.
- Probable areas of questioning, including direct and cross-examination.
- What documents, if any, will be used by the inspector during testimony.

Before giving testimony, the witness should again review inspection documents, his or her professional qualifications, and information provided by the attorney. This review should be repeated until the witness has become thoroughly familiar with the details of the testimony and how it will be presented.

An inspector may be subpoenaed to give testimony by the opposing attorney or even by the EPA attorney. A subpoena is a Court Order to appear, and it is a mandatory legal process that does not suggest dishonesty or bias, an inspector should not be offended if he or she receives a subpoena. If an inspector is subpoenaed, the appropriate EPA attorney should be contacted immediately. Time will be short to prepare to give testimony or to fight the subpoena.

## **B. Legal Etiquette, Appearance, and Demeanor**

A witness's conduct should reflect the solemn nature of the administrative or judicial proceeding. To act in accordance with required legal etiquette, a witness should:

- Dress conservatively following the advice of the EPA attorney.
- Arrive early and be available immediately when called to testify.
- Address the judge as "your honor."
- Treat an administrative proceeding as seriously as a federal court trial.

A witness should not:

- Whisper, talk, or make jokes in the hearing room. If necessary, a note may be passed.
- Bring magazines or newspapers into the hearing room.
- Discuss the case within the hearing of anyone but the EPA attorney.

Posture, speech, and appearance influence a witness's credibility. An inspector is a professional who collects, preserves, and presents evidence. In order to convey a professional demeanor, an inspector should:

- Firmly but politely speak to the opposing attorney.
- Appear natural and animated, but not impatient or overly anxious to testify.
- Minimize nervous tendencies.
- Remain calm.
- Refrain from showing hostility toward the opposing counsel, the specific defendant, or the regulated community as a whole.

### **III. Giving Testimony**

#### **A. General Considerations**

A witness gives testimony to create a legal record of the facts. Before giving testimony, a witness will take an oath that he or she will tell the truth. Failure to tell the truth is actionable as perjury. A witness may give pre-trial testimony in a deposition or trial testimony under direct examination or cross-examination.

To give effective testimony, a witness should 1) listen, 2) pause, and then 3) answer if possible. Listening carefully to the wording and implications of an attorney's questions requires significant effort. If the witness does not understand the question, he or she should stop to think, have the question repeated, or have it explained.

A witness should pause before answering. Pausing provides time to think, makes the response more considered and deliberate, and gives the attorney time to object if necessary. When pausing, the witness should not use words such as "um." As the court reporter documents everything spoken, these words may incorrectly indicate hesitation when later read from the written record.

When answering, a witness should:

- Reply with a "Yes" or "No" when appropriate.
- Speak in complete sentences when answering more fully.

- Be as descriptive as possible in referring to exhibits or photographs. For example, “In the upper right hand corner, we see” rather than “Here, we see.”
- Stop immediately if the judge or either of the lawyers begins to speak.
- Avoid memorizing answers to potential questions.
- Never manipulate an answer to benefit one side.

A witness’s credibility is defined as the degree of confidence that the judge or jury gives to the witness’s testimony. The opposing attorney will try to “impeach” a witness’s credibility by suggesting the following: bias, inaccuracy, inability to recollect, false testimony, or even corruption. To lessen the opposing attorney’s ability to discredit the witness’s testimony, the witness should:

- Tell the truth.
- Answer only the question asked, without volunteering information.
- Explain answers fully. If the opposing attorney does not allow a full explanation, the EPA attorney can choose to bring this out later in the trial during a redirect examination.
- Answer within the limits of his or her knowledge of the facts.
- Say, “I don’t know,” or “I don’t remember,” if that is the case.
- Correct any mistakes in his or her previous testimony as soon as a mistake is recognized.
- Carefully identify estimates.
- Never exaggerate.
- Never guess.
- Avoid absolutes, like “I always...” or “I never...”.

## **B. Pre-Trial Testimony: Depositions**

In a federal court trial, an inspector may be subpoenaed to give a deposition, which is pre-trial questioning under oath by the opposing attorney. Depositions are not often conducted in administrative hearings. Participants include the attorneys for each side, a court reporter, and the witness. Most importantly, a judge will have no role in deposition testimony unless one side abuses the process and the other side seeks relief.

The attorney may use a deposition to “discover” information or to contradict a witness’s testimony at trial. In most cases, deposition testimony cannot be used as a substitute for live testimony. To properly prepare for and give deposition testimony, an inspector should:

- Read the notice of deposition.
- Consult with the EPA attorney to determine what documentation will be necessary.
- Realize that he or she is not “off the record” until completely away from the deposition setting.
- Request a break whenever needed.

After the deposition is transcribed, the witness can read it to make any appropriate corrections. Small errors always exist, but some transcripts contain absolute disasters. Errors in technical details, such as numbers and units, can have a large impact. A witness should never waive the right to read and sign the finished deposition.

### **C. Trial Testimony: Direct Examination**

The EPA attorney will question the inspector during direct examination in order to put the facts known by the inspector on the record in a well-organized and logical manner.

A good direct examination leads the inspector through his or her entire testimony using a dialogue of short questions and answers. The attorney is responsible for asking appropriate questions in the correct order and ensuring that nothing important is omitted. The witness is only responsible for answering the attorney's questions completely and truthfully.

In order to avoid legally objectionable or tactically unwise remarks, the witness should trust the EPA attorney's final decision concerning what questions to ask at the hearing. If the inspector has forgotten a fact, the attorney may refresh the inspector's recollection with documents, such as the inspection report. The EPA attorney might also ask, "Is there anything else?" to signal to the inspector that something has been left out.

Redirect examination is a round of questioning only concerning issues raised during cross-examination. Redirect will give the EPA attorney an opportunity to reduce any damage done to the credibility of the inspector's testimony during cross-examination.

### **D. Trial Testimony: Cross-Examination**

Cross-examination, questioning by the opposing attorney, will subject the witness to a more difficult interrogation than direct examination. The opposing attorney will try to cast doubt on the credibility of the witness's testimony. Many witnesses fear counsel techniques such as leading questioning and twisting interpretation. The EPA attorney will try to protect the witness from abusive uses of these techniques.

The witness can also protect the credibility of his or her testimony by 1) answering briefly, 2) answering accurately, and 3) remaining calm. Answering briefly consists of being responsive to the question, but not volunteering extra information. Avoid rambling, even if the opposing counsel remains silent.

In addition to the recommendations in the section "Giving Testimony," answering accurately requires listening carefully for the following types of questions:

- Questions that inaccurately paraphrase the witness's previous testimony. The error should be corrected or the previous answer restated in full.
- Hypothetical questions or questions requiring a "Yes" or "No" answer. If these questions may compel a misleading or incomplete answer, the witness should explain the answer fully at that time or later during redirect if cut short by the opposing attorney.
- Two-part questions. The inspector should ask the attorney to restate the question or carefully answer each part separately.

Even when a witness's truthfulness, occupational competence, or professional conclusions are challenged, he or she should remain calm. An angry, sarcastic, or argumentative answer is inconsistent with the inspector's role as a neutral government witness. Remaining calm will add credibility to the inspector's testimony. Becoming familiar with the process, including participation in a mock trial can help reduce the stress of cross-examination.

## **IV. Special Considerations**

### **A. Technical Testimony**

An inspector frequently presents technical facts. The inspector must balance the need to be technically accurate with the need to reduce scientific issues to simple terms and concepts.

The first barrier to communicating technical information is the use of jargon. The inspector should prepare carefully in order to simplify his or her language without over-simplifying the scientific concepts. The inspector should:

- Speak as clearly as possible. The court reporter may have difficulty recognizing numbers and unfamiliar technical terms.
- Provide a glossary of technical terms, including acronyms, to the reporter.
- Review the meaning of frequently used acronyms, such as OECA meaning the Office of Enforcement and Compliance Assurance.

Even after the witness explains the definitions of the technical language, the underlying concepts may still be difficult to understand. To teach the necessary technical concepts, the inspector and attorney should consider using:

- Short answers in a logical progression of questions.
- Slow enough questioning to avoid information overload.
- Diagrams and pictures.
- Appropriate analogies.

Finally, the inspector should not try to outdo the opposing attorney on technical issues. Not only may the inspector confuse the judge or jury in the process, but also a well-prepared attorney will have thoroughly studied the subject before trial and will have a large advantage in legal debate. To successfully answer questions regarding technical information, an inspector should:

- Examine questions and answers for assumptions and exceptions.
- Look for inaccurate paraphrasing of the inspector's previous testimony.
- Always identify estimates.
- Use references in cases of complicated details. For example, the inspection report could be consulted before testifying about the characteristics of a specific sample.

## **B. Expert Witness**

Expert witnesses give opinions on the record. An expert witness has technical or other specialized knowledge that helps the judge or jury better understand the case. In order to prove a witness's expertise, his or her qualifications are introduced by one side and cross-examined by the other side. Only those opinions that the witness is qualified to express by virtue of special training or expertise will be admissible.

An expert is not necessarily someone from outside the agency with particular academic or research credentials. Due to the inspector's professional expertise, he or she might be asked specific questions that require an opinion or might even be called as an expert witness. The EPA attorney will object if the opposing counsel asks inappropriate questions and will decide whether to use the inspector as an expert witness. The inspector should stay carefully within his or her limits of expertise and knowledge whenever asked a question requiring an opinion.

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**U.S. EPA Office of Compliance  
Compliance Assessment and Media Programs Division  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20460  
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