DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010-5422

REPLY TO ATTENTION OF

HSHB-ME-SH

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ENVIRONMENTAL QUALITY INFORMATION PAPER NO. 18

REGULATIONS CONCERNING POLYCHLORINATED BIPHENYLS

I. REFERENCES.

A. Public Law (PL) 94-469, Toxic Substances Control Act, 12 October 1976.

B. PL 96-510, 11 December 1980, Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

C. PL 94-580, 21 October 1976, Resource Conservation and Recovery Act of 1976, as amended by PL 98-616, 8 November 1984, Hazardous and Solid waste Amendments of 1984.

D. Title 40, Code of Federal Regulations (CFR), 1988 rev, Part 761, Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions.

E. Title 40, CFR, 1988 rev, Part 266, Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities.

F. Title 29, CFR, 1988 rev, Part 1910, Occupational Health and Safety Standards.

G. Title 49, CFR, 1988 rev, Part 178, Shipping Container Specifications.

H. USAEHA Water Quality Information Paper No 18, PCBs, and PCB Transformers and Capacitors, 19 June 1981.

II. PURPOSE. The purpose of this information paper is to summarize the regulations which involve the use, handling and disposal of PCB materials. This is only a summary. Title 40 CFR Part 761, latest edition, should be consulted for complete regulatory requirements.

III. DEFINITIONS. Pertinent definitions are presented in the Appendix A.

Use of trademarked names does not imply endorsement by the US Army but is intended only to assist in identification of a specific product.

IV. GENERAL. The EPA has determined that persons exposed to PCBs can develop chloracne and has identified PCBs as a probable human carcinogen. There is also potential for reproductive effects and developmental toxicity. PCBs are long lived in the environment and bioconcentrate in the fatty tissues of organisms. Thus, it is imperative that PCBs and PCB spills be handled and disposed of properly so as to minimize the risks posed by these potentially harmful substances.

V. REGULATORY BACKGROUND. Section 6(e) of the Toxic Substances Control Act (TSCA) requires the EPA to control the manufacture, processing, distribution in commerce, use, disposal, and marking of PCBs. Title 40, CFR, Part 761 is the final rule promulgated by the EPA. The major prohibitions enacted by this regulation include all PCB manufacturing and processing, distribution in commerce and use of PCBs except in a totally enclosed manner. EPA also requires that PCBs and PCB items be properly marked, stored and disposed of as per regulations found in 40 CFR Part 761.

VI. REGULATORY REQUIREMENTS.

A. Prohibition (40 CFR 761.20).

1. No persons may use any PCB or any PCB item regardless of concentration, in any manner other than in a totally enclosed manner within the United States unless authorized.

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

3. Used oil containing any quantifiable levels of PCB may be burned for energy recovery only in qualified incinerators as defined in 40 CFR 761.3 or in burners identified in 40 CFR 266.41(b).

B. PCB Authorizations (40 CFR 761.30). The EPA has authorized the use and servicing of various non-totally enclosed PCB articles, i.e., transformers and capacitors. The following are regulatory requirements the owner of PCB articles must comply with to continue to use and service their PCB articles.

1. Requirements for the use of PCB transformers.

a. The use and storage for reuse of PCB transformers that pose an exposure risk to food or feed is prohibited.

b. As of October 1990, the use of network PCB transformers with secondary voltages equal or greater than 480 volts in or near commercial buildings is prohibited.

c. The installation of PCB transformers, removed from another area, is prohibited in or near a commercial building.

d. As of October 1990, all radial PCB transformers and network transformers with a secondary voltage less than 480 volts in use in or near a commercial building must be equipped with electrical protection to avoid transformer failure caused by high current faults.

e. As of October 1990, all radial PCB transformers with secondary voltages equal or greater than 480 volts in use in or near a commercial building must, in addition to paragraph (d) above, be equipped with protection to avoid transformer failure caused by sustained low current faults.

f. All PCB transformers, including those in storage for reuse, must be registered with fire response personnel with primary jurisdiction. Information to be provided should include location, type of dielectric fluid, and a point of contact.

g. Combustible materials, including but not limited to paints, solvents, plastics, paper and sawn wood, must not be stored within a PCB transformer enclosure, i.e., vaults or partitioned areas; within 5 meters of a transformer enclosure or 5 meters of an unenclosed transformer.

h. A visual inspection of each PCB transformer must be performed at least once every three months.

i. Leaking PCB transformers must be repaired or replaced. Cleanup of the released PCBs must be initiated as soon as possible, but in no case later than 48 hours of its discovery. Until repair or replacement is completed, any active leak of PCBs must be contained and inspected daily to verify containment. Trenches, dikes, buckets, and pans are examples of proper containment measures.

j. Records of inspection and maintenance history shall be maintained at least 3 years after disposing of the transformer and shall be made available for inspection by EPA. The records should include the following information: location; dates inspected; person performing the inspection; applicable information on any discovered leaks.

k. A reduced visual inspection frequency of at least once every 12 month apply to PCB transformers which have impervious undrained secondary containment capacity of at least 100 percent of the total dielectric fluid volume of all transformers so contained or PCb transformers which have been tested and found to contain less than 60,000 ppm PCBs.

2. Requirements for the servicing of PCB transformers.

a. No restriction on the servicing of PCB-contaminated transformers as long as no dielectric fluid equal or greater than 500 ppm is used.

b. Servicing of PCB transformers that require the removal of the transformer coil from the transformer casing is prohibited. The PCB transformers can be serviced with dielectric fluids at any PCB concentration.

c. A PCB transformer may be converted to a PCB-contaminated transformer or to a non-PCB transformer by draining, refilling and/or otherwise servicing the transformer.

3. Requirements for the use of PCB railroad transformers.

a. The use of railroad transformers that contain dielectric with a PCB concentration greater than 1000 ppm is prohibited.

b. The concentration of PCBs in the dielectric fluid contained in railroad transformers must be measured after any authorized service and the data shall be retained until January 1, 1991.

4. Requirements for the use of PCB large high and low voltage capacitors. These capacitors, with any concentration of PCBs, can be used subject to the following conditions:

a. After 1 October 1988, the use and storage for reuse of these capacitors which pose an exposure risk to food or feed is prohibited.

b. After 1 October 1988, the use of these capacitors are prohibited unless the capacitor is used within a restricted-access electrical substation or in a contained and restricted-access indoor installation.

5. Other PCB articles. Requirements for use or servicing of other PCB articles such as: heat transfer systems; hydraulic systems; electromagnets, switches and voltage regulators; compressors; and circuit breakers, reclosers, and cables are addressed in 40 CFR 761.30.

C. Marking of PCBs and PCB Items (40 CFR 761.40)

1. Each of the following items shall be marked with the appropriate label, illustrated in fig. 1., Appendix B. This mark shall be known as ML:

a. PCB containers.

b. PCB transformers (marking PCB contaminated electrical equipment is not required).

c. PCB large high voltage capacitors:

(1) will be marked individually with the mark ML, or

(2) if one or more PCB large high voltage capacitors are installed in a protected location, such as on a power pole, or structure or behind a fence, the pole, structure, or fence shall be marked with the mark ML.

d. Equipment containing a PCB transformer or a PCB large high voltage capacitor.

e. PCB large low voltage capacitors shall be marked when removed from use.

f. Electric motors using PCB coolants.

g. Hydraulic systems using PCB hydraulic fluid.

h. Heat transfer systems.

i. PCB article containers containing any of the above.

j. Each storage area used to store PCBs and PCB items for disposal.

k. Each transport vehicle loaded with PCB containers that contain more than 45 kg (99.4 lb) of PCBs in the liquid phase, or loaded with one or more PCB transformer must be marked on each end and side with the mark ML.

2. Any manufactured chemical substance or mixture that contains less than 500 ppm PCB, must be marked in accordance with any requirement contained in the exemption granted by EPA to permit such manufacture.

3. The vault door, machinery room door, fence, hallway, or means of access (other than grates and manhole covers) to a PCB transformer must be marked with the mark ML. The mark must be placed so that it can be easily read by firemen fighting a fire involving this equipment.

4. All marks required must be placed in a position on the exterior of the PCB items or transport vehicles so that the marks can be easily read by any person inspecting the PCB items or transport vehicles.

5. Where mark ML is specified, but the PCB article or PCB equipment is too small to accommodate the smallest permissible size of mark ML, mark MS, may be used instead of mark ML (see fig.2, Appendix B). Appropriate labels can be obtained through normal supply channels.

D. Disposal (40 CFR 761.60). PCBs can be disposed of in a number of ways including: incineration, burning in a high efficiency boiler, and disposal in a chemical waste landfill. These methods of disposal are subject to strict regulations which can be found in 40 CFR 1988 ed, Part 761. Table 1 below summarizes the disposal methods required for various PCB items and materials.

TABLE 1. PCB DISPOSAL SUMMARY.

PCB ITEM	METHODS OF DISPOSAL
PCBs at concentrations of 500 ppm or greater	Incinerator
Mineral oil dielectric fluid from PCB contaminated electrical equipment containing a PCB concentration of 50 ppm or greater, but less than 500 ppm	Incinerator Chemical waste landfill High efficiency boiler
Liquids, other than mineral oil dielectric fluid, containing a PCB concentration of 50 ppm or greater, but less than 500 ppm	Incinerator Chemical waste landfill High efficiency boiler
Any non-liquid PCBs at concentrations of 50 ppm or greater in the form of contaminated soil, rags, or other debris	Incinerator Chemical waste landfill
All dredged materials and municipal sewage treatment sludges that contain PCBs at concentrations of 50 ppm or greater	Incinerator Chemical waste landfill A disposal method approved by an EPA regional administrator
PCB transformers	Incinerator Chemical waste landfill
PCB capacitors	
PCB small capacitor (manufacturer)	Incinerator
PCB small capacitor	Municipal solid waste
PCB large high or low voltage capacitor containing 500 ppm or greater of PCBs	Incinerator
PCB hydraulic machines (if properly drained or flushed)	Municipal solid waste Salvage
PCB-contaminated electrical equipment (after draining)	Municipal solid waste
PCB articles with concentrations at 500 ppm or greater	Incinerator Chemical waste landfill

TABLE 1. PCB DISPOSAL SUMMARY.

PCB ITEM	METHODS OF DISPOSAL
Any PCB container with PCB concentrations at 500 ppm or greater	Incinerator Chemical waste landfill
Any PCB container used to contain PCBs at concentrations below 500 ppm (provided the container is drained of all liquid which in turn is disposed of properly)	Municipal solid waste

E. Storage (40 CFR 761.65). This section applies to the storage for disposal of PCBs and PCB items at concentrations of 50 ppm or greater. Any PCB article or PCB container stored for disposal shall be removed from storage and properly disposed of within 1 year from the date the item was placed into storage. The owners or operators of any facilities used for the storage of PCBs and PCB items designated for disposal shall comply with the following requirements:

1. The facilities shall meet the following criteria:

a. Adequate roof and walls to prevent rain water from reaching the stored PCBs and PCB items.

b. An adequate floor which has continuous curbing with a minimum height of six inches. The floor and curbing must be able to contain at least two times the internal volume of the largest item stored, or 25 percent of the total volume of all the items or containers stored, whichever is greater.

c. No floor drains, drain valves, expansion joints, sewer lines, or other openings that would permit liquids to flow from the curbed area.

d. Floors and curbing constructed of continuous smooth and impervious materials, such as portland cement concrete or steel.

e. Not located at a site that is below the 100 year flood water elevation.

2. Non-leaking and structurally undamaged PCB large high voltage capacitors and PCB-contaminated electrical equipment that have not been drained of dielectric fluid may be stored on pallets next to a storage facility that meets the above requirements provided that this facility has immediately available unfilled storage space equal to 10 percent of the volume of capacitors and equipment stored outside. These capacitors and equipment shall be checked for leaks weekly.

3. Any storage area shall be marked with mark ML (see fig 1) in accordance with the previous requirements on marking PCBs and PCB items (Section VI.C.)

4. No movable equipment that is used for handling PCBs and PCB items in the storage facility and that comes in direct contact with PCBs shall be removed from the storage facility area unless decontaminated.

5. All PCB articles and PCB containers in storage shall be checked for leaks at least once every 30 days. Any leaking PCB articles and PCB containers and their contents shall be transferred immediately to properly marked, non-leaking containers. Any spilled or leaked materials shall be immediately cleaned up, using sorbents or other adequate means.

6. Only those containers specified in 49 CFR 178, and 29 CFR 1910 can be used for the storage of liquid PCBs.

7. PCB articles and PCB containers shall be dated when they are placed into storage. The storage area shall be managed such that the PCB containers and PCB articles can be located by the date they entered storage.

8. The following items can be stored temporarily in an area that does not comply with the above facility site requirements for up to 30 days from the date of their removal from service, provided that a notation is attached to the PCB item or PCB container indicating the date the item was removed from service:

a. Non-leaking PCB articles and equipment.

b. 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.

c. PCB containers containing non-liquid PCBs such as contaminated soil, rags and debris.

d. PCB containers containing liquid PCBs at a concentration between 50 and 500 ppm, provided that a spill prevention, control and countermeasure plan has been prepared for the temporary storage area in accordance with 40 CFR part 112.

F. Recordkeeping and Reporting (40 CFR 761.180). Owners of PCB items and operators of PCB storage facilities shall comply with the following recordkeeping requirements:

1. PCBs and PCB items in service or projected for disposal. Each owner of a facility using or storing at one time at least 45 kilograms (99.4 lbs) of PCBs contained in PCB container(s) or one or more PCB transformers, or 50 or more PCB large capacitors shall develop and maintain records on the disposition of PCBs and PCB items. These records shall form the basis of an annual document prepared for each facility by 1 July covering the previous calendar year. The records and documents shall be maintained for at least five years after the facility ceases using or storing PCBs and PCB items. The following information for each facility shall be included in the annual report:

a. The dates when PCBs and PCB items are removed from service, are placed into storage for disposal, and are placed into transport for disposal.

b. For PCBs and PCB items removed from service, the location of the initial disposal or storage facility and the name of the owner or operator of the facility.

c. Total quantities of PCBs and PCB items remaining in service at the end of the calendar year.

2. Disposal and storage facilities. Each owner and operator of a facility used for the storage or disposal of PCBs or PCB items shall, by each 1 July, prepare and maintain a document covering the previous calendar year. The document shall be retained at each facility for at least five years after the facility is no longer used for the storage or disposal of PCBs

and PCB items. The following information shall be included in each document:

a. The date when any PCBs and PCB items were received by the facility during the previous calendar year for storage or disposal, and identification of the facility and the owner or operator of the facility from whom the PCBs were received.

b. The date when any PCBs and PCB items were transferred to another disposal or storage facility.

c. A summary of the total weight in kilograms of PCBs and PCB articles in containers and the total weight of PCBs contained in PCB transformers, that have been handled at the facility during the previous calendar year.

d. Total number of any PCB articles or PCB equipment not in PCB containers, received during the calendar year, transferred to other storage or disposal facilities during the calendar year, or remaining on the facility site at the end of the calendar year.

G. PCB Spill Cleanup (40 CFR 761.120).

1. Spill reporting requirements. The following spill reporting requirements apply to all spills of PCBs at concentrations of 50 ppm or greater:

a. All spills involving 10 lbs or more of PCB material must be reported to the National Response Center (1-800-424-8802) in accordance with the Clean Water Act (CWA) and the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA).

b. The appropriate EPA regional office must be notified for the following spills: spills to sewers, surface or drinking water, grazing lands, vegetable gardens, and spills involving 10 lbs or more PCBs. The 10 Ibs of PCBs in this paragraph refers to the weight of the PCB-containing material rather than by the weight of only the PCBs spilled. The latter weight is the basis for notification in paragraph a., above.

c. The above notifications must take place within 24 hours of spill discovery.

d. Notification of EPA for spills of less than 10 pounds of PCB-containing material is not required.

2. Spill cleanup requirements.

a. Old spills which are discovered after 4 May 1987, will require site-by-site evaluation and decontamination.

b. Low concentration spills which involve less than 1 pound of PCBs by weight (less than 270 gallons of untested mineral oil) shall be cleaned and documented in the following manner:

(1) Solid surfaces must be double washed/rinsed. Indoor residential surfaces other than vault areas must be cleaned to 10 micrograms per 100 square centimeters by standard commercial wipe tests.

(2) All soil within the spill area must be excavated, and the area must be restored to its original configuration by back-filling with soil containing less than 1 ppm PCB.

(3) The above requirements must be completed within 48 hours after the responsible party was notified or became aware of the spill.

(4) All contaminated soils, solvents, rags, and other materials resulting from the cleanup of PCBs shall be properly stored, labeled and disposed of.

(5) At the completion of the cleanup, the responsible party shall document the cleanup with records and certification of decontamination. The records and certification must be maintained for five years, and shall consist of the source, location and date/time of the spill, physical site parameters, sampling, costs and post cleanup procedures.

c. High and low concentration spills involving 1 pound or more PCBs by weight (270 gallons or more of untested mineral oil).

(1) The final cleanup level of high and low concentration spills involving 1 pound or more PCBs by weight (270 gallons or more of untested mineral oil) will depend on the location of the spill (ie. restricted access area, nonrestricted access area).

(2) The following steps must be taken as quickly as possible and within no more than 24 hours (or within 48 hours for PCB transformers) after the responsible party was notified or became aware of the spill, regardless of spill location.

(a) The responsible party shall notify the appropriate EPA regional office and the National Response Center.

(b) The responsible party shall effectively cordon off an area encompassing any visible traces plus a 3-foot buffer. Warning signs must be placed around the area.

(c) The responsible party shall record and document the area of visible contamination, noting the extent of the visible trace areas and the center of the visible trace area.

(d) The responsible party shall initiate cleanup of all visible traces of the fluid on hard surfaces, soil or other media.

(e) If there has been a delay in reaching the spill site, and there are insufficient visible traces of PCBs remaining at the spill site, the responsible party must estimate (based on the amount of material missing from the equipment or container) the area of the spill and immediately cordon off the area of suspect contamination. The responsible party must then utilize a statistically based sampling scheme to identify the boundaries of the spill area as soon as practicable.

(3) Requirements for decontaminating spills involving 1 lb or more PCBs by weight in outdoor electrical substations:

(a) Contaminated solid surfaces shall be cleaned to a PCB concentration of 100 micrograms per 10 square centimeters.

(b) Soil contaminated by the spill will be cleaned to either 25 ppm PCB by weight, or to 50 ppm PCB by weight provided that a label or notice is visibly placed in the area.

(4) Requirements for decontaminating spills involving 1 lb or more PCBs by weight in other restricted access areas:

(a) High-contact solid surfaces shall be cleaned to 10 micrograms per 100 square centimeters.

(b) Low-contact indoor impervious solid surfaces shall be cleaned to 10 micrograms per 100 square centimeters.

(c) Low-contact indoor nonimpervious surfaces will be cleaned to either 10 micrograms per 100 square centimeters or to 100 micrograms per 100 square centimeters and encapsulated.

(d) Low-contact outdoor surfaces shall be cleaned to 100 micrograms per 100 square centimeters.

(e) Soil contaminated by the spill will be cleaned to 25 ppm PCBs by weight.

(5) Requirements for decontaminating spills involving 1 lb or more PCBs by weight in nonrestricted access areas:

(a) Contaminated furnishings, toys, and other replaceable household items shall be disposed of properly and replaced.

(b) Indoor solid surfaces and high contact outdoor solid surfaces shall be cleaned to 10 micrograms per 100 square centimeters as measured by standard wipe tests.

(c) Indoor vault areas and low contact outdoor impervious solid surfaces shall be decontaminated to 10 micrograms per 100 square centimeters.

(d) Low-contact outdoor nonimpervious solid surfaces shall be either cleaned to 10 micrograms per 100 square centimeters, or cleaned to 100 micrograms per 100 square centimeters and encapsulated.

(e) Soil contaminated by the spill will be decontaminated to 10 ppm PCBs by weight provided that the soil is excavated to a minimum depth of 10 inches and is replaced with soil containing less than 1 ppm PCBs.

d. All contaminated soils, solvents, rags, and other material resulting from the cleanup of PCBs must be properly stored, labeled, and disposed of.

e. The responsible party shall document the cleanup with records of decontaminations. The records must be maintained for a period of five years. The records and certification shall consist of spill date/time, location and source, physical site parameters, sampling, post cleanup procedures, and costs.

f. Postcleanup sampling is required to verify the level of cleanup. Any statistically valid, reproducible sampling scheme (either random samples or grid samples) is acceptable provided the following conditions are met:

(1) The sampling area is the greater of an area equal to the area cleaned plus an additional 1-foot boundary or an area 20 percent larger than the original area of contamination.

(2) The sampling scheme must ensure 95 percent confidence against false positives.

(3) The number of samples must be sufficient to ensure that areas of contamination of a radius of 2 feet or more within the sampling area will be detected, except that the minimum number of samples is 3 and the maximum number of samples is 40.

(4) The sampling scheme must include calculations for expected variability due to analytical error.

TABLE 2. SUMMARY OF SPILL RESPONSE AND CLEANUP REQUIREMENTS.

SPILL SIZE AND LOCATION	RESPONSE REQUIREMENTS
All spills involving 10 lbs of PCB material (1 gal. PCB dielectric fluid) anywhere.	(1) Notify National Response Center (1-800-424-8802). (2) Cleanup will depend on location and size.
Any spill contaminating ground or surface water.	(1) Notify EPA regional office. (2) Regional office will direct clean up.
Any spill contaminating grazing land or vegetable gardens.	(1) Notify EPA regional office. (2) Follow Cleanup directions according to spill size.

TABLE 2. SUMMARY OF SPILL RESPONSE AND CLEANUP REQUIREMENTS.

SPILL SIZE AND LOCATION	RESPONSE REQUIREMENTS
Less than 1 lb PCBs by weight (< 270 gal. untested mineral oil)	(1) Notify EPA regional office. (2) Wash/rinse solid surfaces. (3) Clean indoor residential surfaces to 10 micrograms per 100 square cm. (4) Remove contaminated soil and back fill with soil containing < 1 ppm PCBs. (5) The above must be completed within 48 hours of spill discovery. (6) All contaminated material must be properly disposed of. (7) Spill and cleanup must be documented.
1 lb or more PCBs by weight (270 gal. or more untested mineral oil)	(1) Notify EPA regional office and National Response Center. (2) Cordon off and restrict access to the spill area. (3) Record and document area of visible contamination. (4) Initiate cleanup of all visible traces of spill. (5) The above steps must be completed within 24 hours.
1. In outdoor electrical substations.	(a) Clean solid surfaces to 100 micrograms per 10 square cm. (b) Clean soil to either 25 ppm PCB or 50 ppm PCB with notice placement.

TABLE 2. SUMMARY OF SPILL RESPONSE AND CLEANUP REQUIREMENTS.

SPILL SIZE AND LOCATION	RESPONSE REQUIREMENTS
2. In other restricted access areas.	(a) Clean high contact surfaces and low contact indoor impervious surfaces to 10 micrograms per 100 square cm. (b) Clean low contact indoor non-impervious surfaces to either 10 micrograms per 100 square cm. or to 100 micrograms per 100 square cm. and encapsulate. (c) Clean Low contact outdoor surfaces to 100 micrograms per 100 square cm. (d) Clean soil to 25 ppm PCBs.
3. In nonrestricted access areas.	(a) Replace contaminated household items. (b) Clean indoor solid surfaces and high contact solid surfaces to 10 micrograms per 100 square cm. (c) Clean indoor vault areas and low contact outdoor impervious solid surfaces to 10 micrograms per 100 square cm. (d) Clean low contact outdoor non-impervious solid surfaces to 10 micrograms per 100 square cm. or to 100 micrograms per 100 square cm. and encapsulate. (e) Clean soil to 10 ppm PCB, if excavated to 10 in. deep and excavated soil is replaced with soil containing < 1 ppm PCB.

TABLE 2. SUMMARY OF SPILL RESPONSE AND CLEANUP REQUIREMENTS.

SPILL SIZE AND LOCATION	RESPONSE REQUIREMENTS
	(f) Properly document the spill and cleanup. (g) Properly dispose of all contaminated materials.

VII. TECHNICAL ASSISTANCE. Technical advise and/or assistance regarding PCB requirements may be obtained through telephone contact with the Chief, Waste Disposal Engineering Division, USAEHA (AUTOVON 584-3651).

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APPENDIX A
DEFINITIONS

BIOCONCENTRATE
The increase in concentration of some material in organisms compared to its concentration in the environment.

CHEMICAL WASTE LANDFILL
A landfill at which protection against risk of injury to health or the environment from migration of PCBs to land, water, or the atmosphere is provided. The environment and human health are protected from PCBs and PCB items deposited therein by locating, engineering, and operating the landfill as specified in 40 CFR 761.75.

CHLORACNE
A degenerative skin disorder in which lesions of the skin are characteristic.

DISPOSAL
Intentionally or accidentally to discard, throw away, or otherwise end the useful life of PCBs and PCB items. Disposal includes spills, leaks, and other uncontrolled discharges of PCBs as well as actions related to containing, transporting, destroying, degrading, decontaminating, or confining PCBs and PCB items.

HIGH-CONTACT RESIDENTIAL/COMMERCIAL SURFACE
A surface in a residential/commercial area which is constantly and repeatedly touched, often for long periods of time. Doors, wall areas below 6 feet in height, uncovered flooring, windowsills, fencing, banisters, stairs, automobiles and children play areas are examples of high contact surfaces.

HIGH EFFICIENCY BOILER
A boiler used to thermally destroy PCBs and PCB items. High efficiency boilers must be approved under the provisions of 40 CFR 761.60 and can only destroy PCBs in concentrations below 500 ppm.

IMPERVIOUS SOLID SURFACES
Solid surfaces which are nonporous and thus unlikely to absorb spilled PCBs within the time required for spill cleanup completion. Impervious solid surfaces include, but are not limited to, metals, glass, aluminum siding, and enameled or laminated surfaces.

IN OR NEAR COMMERCIAL BUILDINGS
Within the interior of, on the roof of, attached to the exterior wall of, in the parking area serving, or within 30 meters of a non- industrial, non-substation building.

INCINERATOR
An engineered device using controlled flame combustion to thermally degrade PCBs and PCB items. Examples of devices used for incineration include rotary kilns, liquid injection incinerators, cement kilns, and high temperature boilers. Incinerators can burn any concentration of PCBs and must be approved under the provisions of 40 CFR 761.70.

INDUSTRIAL BUILDING

A building directly used in manufacturing or technically productive enterprises. Industrial buildings are not generally or typically accessible to other than workers. Industrial buildings include building used directly in the manufacture of products, the production of power, the mining of raw materials, and the storage of textiles, petroleum products, wood and paper products, chemicals plastics and metals.

LARGE HIGH VOLTAGE CAPACITOR
A capacitor which contains 1.36 kg (3 lbs) or more of dielectric fluid and which operates at 2,000 volts (a.c. or d.c.) or above.

LARGE LOW VOLTAGE CAPACITOR
A capacitor which contains 1.36 kg (3 lbs) or more of dielectric fluid and which operates below 2,000 volts (a.c or d.c.).

LEAK OR LEAKING
Any instance in which a PCB article, PCB container, or PCB equipment has any PCBs on any portion of its external surface.

LOW-CONTACT RESIDENTIAL/COMMERCIAL SURFACE
A surface in a residential/commercial setting which is infrequently touched. Examples of low-contact surfaces include: interior ceilings, interior wall areas above 6 feet in height, roofs, asphalt and concrete roadways, and wooden utility poles.

MARK
The descriptive name, instructions, cautions, or other information applied to PCBs and PCB items, or other objects subject to these regulations.

MARKED
The marking of PCB items and PCB storage areas and transport vehicles by applying a legible mark by painting, fixation of an adhesive label, or by any other method that meets the regulatory requirements.

MUNICIPAL SOLID WASTES
Garbage, refuse, sludges, wastes, and other discarded materials resulting from residential and nonindustrial operations and activities, such as household activities, office functions, and commercial housekeeping wastes.

NETWORK TRANSFORMER
Those transformers that can be energized from either the primary or secondary windings. The secondary winding is the winding from which energy flows during normal operation.

NONIMPERVIOUS SOLID SURFACES
Solid surfaces which are porous and are more likely to absorbed spilled PCBs prior to completion of cleanup requirements. Nonimpervious solid surfaces include, but are not limited to, wood, concrete, asphalt, and plasterboard.

NONRESTRICTED ACCESS AREAS
Any area, other than restricted access locations and outdoor electrical substations, where access is not controlled.

OTHER RESTRICTED ACCESS AREAS
Areas that are by man-made or natural barriers which restrict access.

OUTDOOR ELECTRICAL SUBSTATION
Outdoor, fenced-off, and restricted access areas used in the transmission and/or distribution of electrical power.

QUALIFIED INCINERATOR
An incinerator approved under the provisions of 40 CFR 761.70; a high efficiency boiler which complies with the criteria of 40 CFR 761.60; an incinerator approved under section 3005(c) of RCRA; industrial furnaces and boilers which are identified in 40 CFR 260.10 and 40 CFR 266.41.

QUANTIFIABLE LEVEL/LEVEL OF DETECTION
Two micrograms per gram (ppm) from any resolvable gas chromatographic peak.

PCB AND PCBs
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.

PCB ARTICLE
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, and pipes.

PCB ARTICLE CONTAINER
Any package, can, bottle, bag, barrel, drum, tank, or other device used to contain PCB articles or PCB equipment and whose surface has not been in direct contact with PCBs.

PCB CONTAINER
Any package, can, bottle, bag, barrel, drum, tank, or other device that contains PCBs or PCB articles and whose surface has been in direct contact with PCBs.

PCB CONTAMINATED ELECTRICAL EQUIPMENT
Any electrical equipment that contains 50 ppm or greater PCB, but less than 500 ppm PCB, and could include: transformers, capacitors, circuit breakers, reclosers and voltage regulators. Oil filled electrical equipment other than circuit breakers, reclosers, and cable whose PCB concentration is unknown must be assumed to be PCB contaminated.

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

PCB ITEM
Any PCB article, PCB article container, PCB container, or other PCB equipment that deliberately or unintentionally contains or has a part of it any PCB or PCBs.

PCB TRANSFORMER
Any transformer that contains 500 ppm PCB or greater.

RADIAL TRANSFORMER
Transformers that can only be energized from the primary winding.

SMALL CAPACITOR
A capacitor which contains less than 1.36 kg (3 lbs) of dielectric fluid.

SPILL AREA
The area of soil on which visible traces of the spill can be observed plus a buffer of 1 foot beyond the visible trace. Any surface or object (e.g., concrete sidewalk or automobile) within the visible traces area or on which visible traces of the spilled material are observed is included in the spill area.

SPILL BOUNDARIES
The actual area of contamination as determined by postcleanup verification sampling or by pre-cleanup sampling to determine actual spill boundaries.

STANDARD WIPE TEST
A test to verify that numerical standards have been met. The standard wipe test uses a 10 cm by 10 cm template to delineate the area of cleanup, and a gauze pad or glass wool of known size, saturated with hexane.

STORAGE FOR DISPOSAL
Temporary storage of PCBs designated for disposal.

TOTALLY ENCLOSED MANNER
Any manner that will ensure that human beings and the environment will not be exposed to any concentration of PCBs

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

USED OIL
Any oil that has been refined from crude oil, used, and, as a result of such use, is contaminated by physical or chemical impurities (40 CFR 266.40).

WASTE OIL
Used products derived from petroleum, which include, but are not limited to, fuel oils, motor oils, gear oils, cutting oils, transmission fluids, hydraulic fluids, and dielectric fluids (40 CFR 761.3).

APPENDIX B
PCB MARKINGS

Figure 1

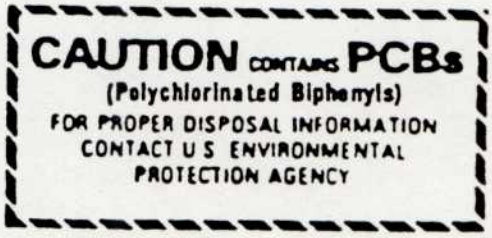

Figure 2