



Manitoba Operations



STANDARD PROCEDURE INSTRUCTION

Title		SPI #34-4
Management of Polychlorinated Biphenyls (PCBs)		
Department	Supersedes SPI Dated	Effective Date
Environment, Health and Safety	September 2004	March 13, 2007

FOREWORD

Polychlorinated biphenyls (PCBs) are a group of nonflammable liquids which are chemically stable, non-biodegradable and are used primarily as a dielectric medium in distribution transformers and capacitors. They are a known hazard to the environment and in some cases could be potentially hazardous to personnel.

PCBs are identified under trade names such as:

Apriolo	Elemex	Pyralene
Aroclar	Fenclor	Pyranol
Asbestol	Hyvol	Pydraul
Askarel	Inerteen	Pyroclor
Clophen	Kaneclor	Saf-T-Kuhl
Chlorextol	Montar	Santotherm FR
Diaclor	No-Flamol	Solvol
DK (Decachlorodiphenyl)	Phenoclor	Therminol FR
Dykanol		

PCB liquid - a liquid containing more than 50 PPM (parts per million) by weight of PCB.

PCB solid - a material or substance, other than a PCB liquid, that contains or is contaminated with PCB at a concentration greater than 50 PPM by weight

PCBs in the Manitoba Operations are found:

- in certain liquid filled capacitors in switchrooms and are still in use
- in very small quantities in older lighting ballasts
- in wastes and obsolete equipment containing PCBs, in PCB storage

Power distribution transformers previously containing PCBs, were decontaminated in 1991, retested and have been reclassified to non-PCB status (below 50 PPM).

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Manitoba Division, Thompson, Manitoba, R8N 1P3

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Title Management of Page 2 of 7 SPI No. 34-4

Polychlorinated Biphenyls (PCBs) Supersedes SPI Dated September 2004

Department Environment, Health & Safety Effective Date March 13, 2007

1. PURPOSE

- 1.1 To prevent employee exposure to PCBs by controlling the use, handling, and ultimate transfer to storage of articles containing PCBs.
- 1.2 To eliminate environmental contamination by PCBs.
- 1.3 To ensure compliance or exceedance to all regulatory requirements pertaining to the management of PCBs.

2. SCOPE

- 2.1 This S.P.I. will apply to all facilities within the Manitoba Operations.
- 2.2 Designate a Responsible User to manage the divisional PCB program.

3. PROCEDURE

3.1 Responsible User



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The Manager of Environment, Health, & Safety or his designate shall be the appointed Responsible User and will be responsible for:

- 3.1.1. Establishing and maintaining a current itemized inventory / record of all articles containing PCBs both in use in Plant facilities and in storage.
 - 3.1.2. Ensuring all articles containing PCBs, in use and in storage, are labelled with the standard registered, numbered label provided by Environment Canada. (see Appendix 1)
 - 3.1.3. Establishing and maintaining a licensed facility for the storage of articles containing PCBs that are taken out of service.
 - 3.1.4. All applicable reporting to governmental agencies.
 - 3.1.5. The development and adherence to a policy regarding purchase, sale, scrapping, and usage of articles containing PCBs.
 - 3.1.6. Ensuring a Maintenance Procedure is instituted for the safe use, handling, and eventual removal from service to storage of articles containing PCBs.
 - 3.1.7. Ensuring emergency procedures are developed for first aid, spillage, fires, and cleanup and disposal.
 - 3.1.8. Ensuring procedures are in place for the transportation mode of PCBs to the storage facility.
 - 3.1.9. Ensuring all documentation in terms of test results, inventories, inspections, reporting, transport, etc. is kept on file.
- 3.2 Division Policy - Purchasing/Usage/Sale/Scrapping
- 3.2.1. Equipment and/or bulk quantities of liquids containing PCBs will not be purchased.
 - 3.2.2. Existing equipment (primarily capacitors) containing PCBs will be used until they cease to function and are no longer required. Replacement equipment will not contain any PCBs.



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3.2.3. Articles containing PCBs will not be offered for sale or donated to any organisation or company. i.e. old fluorescent light fixtures with the ballast still intact.

Articles decontaminated of PCBs that have been re-classified to non-PCB status and certified to be below the 50 PPM limit may be sold subject to confirmation of the concentration. e.g. transformers.

3.2.4. Articles decontaminated of PCBs that have been re-classified to non-PCB status or articles tested and found to be below the 50 PPM limit which have been removed from service may be scrapped once the oil has been removed.

3.2.5. In all cases, the Manager of Environment, Health, & Safety or designate is to be consulted prior to the transaction.

3.3 Handling / Removal

3.3.1. Central Maintenance will be responsible for the establishment and ongoing administration of Maintenance Standard Procedure # 87DV140: Removal of PCB containing equipment. (see Appendix 2). The Maintenance Planner in each area is responsible to ensure the Maintenance Standard Procedure is implemented and followed.

3.3.2. All equipment must be checked for leaks prior to handling.

3.3.3. All leaks or spillage must be reported to Department supervision immediately and in turn to Environment, Health, and Safety personnel.

3.3.4. The area is to be cordoned off and cleanup procedures initiated immediately as per Maintenance Standard Procedure # 87DV140.

3.3.5. Wear all appropriate Personal Protective Equipment including respiratory protection (respirator with organic vapour cartridge).

3.4. Emergency Procedures

3.4.1. First Aid



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If PCBs are in contact with the eyes, flush immediately with water for 15 minutes keeping the eyelids apart.

If PCBs are in contact with the skin, wash the affected area thoroughly with soap and water immediately.

If PCBs are swallowed, do not give the person anything to drink, rinse out mouth with water.

If vapours or fumes are inhaled, remove person to fresh air immediately.

All PCB contacts are to be reported to the immediate Supervisor and First Aid.

3.4.2. Spill / Leak

Immediately isolate / cordon off the affected area. Keep all unauthorized personnel away. Keep upwind, if outside.

Eliminate all ignition sources (no smoking, flares, sparks, or flame in immediate area).

Wear appropriate personal protective equipment, including respiratory protection (respirator with organic vapour cartridge or Self Contained Breathing Apparatus).

Do not walk through the spilled material. Stop leak if without risk.

Absorb with suitable absorbent material and transfer to approved drum.

3.4.3. Fire

If energized equipment is involved shut power off prior to fighting the fire.

Shut down ventilation system(s) in the room or immediate area.

Extinguish fire with dry chemical or carbon dioxide extinguishers only, if possible. Foam may be used but water usage should be kept to a minimum as all contaminated liquid must be contained.



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Wear Self Contained Breathing Apparatus in conjunction with full turnout gear to limit skin exposure.

Plug drains or dike the area to contain contaminated liquid.

Decontaminate equipment / clothing immediately after overhaul is complete. If decontamination is not possible, all articles are to be disposed of in appropriate containers and removed to PCB storage.

3.5. Cleanup / Disposal

3.5.1. Place all PCB equipment removed, cleanup materials, and contaminated clothing in the appropriate PCB drum.

3.5.2. The drum is to be labelled with the standard registered PCB label provided by the Environment, Health, and Safety Department prior to transport.

3.5.3. Environment & Health personnel will be responsible to ensure appropriate tests are done to enable the area to resume normal operations.

3.6. Transport

3.6.1. The Environment, Health, and Safety Department is to be contacted and is responsible to make the necessary shipping arrangements, in conjunction with the Transportation Department.

3.6.2. Transport within the Main Plant facility:

Proper containment (approved drum or metal tray) must be provided and the load secured.

PCB labels must be applied to the side of the container and be visible.

Transport to storage must be done within the shift once the drum is taken to the pickup point within the building.

3.7 Storage



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3.7.1. Temporary storage areas are provided in the major plants subject to:

Properly identified or labeled containment (metal tray or approved drum) must be provided.

The containment is provided for PCB articles such as lighting ballasts, small capacitors or minor cleanups.

The PCB articles collected may remain in temporary storage for a maximum of 90 days only. After 90 days they must be removed to permanent storage.

3.7.2. A permanent licensed storage facility is located in the South Yard on the Main plantsite.

APPROVED _____ (President, Manitoba Operations)

DATE _____



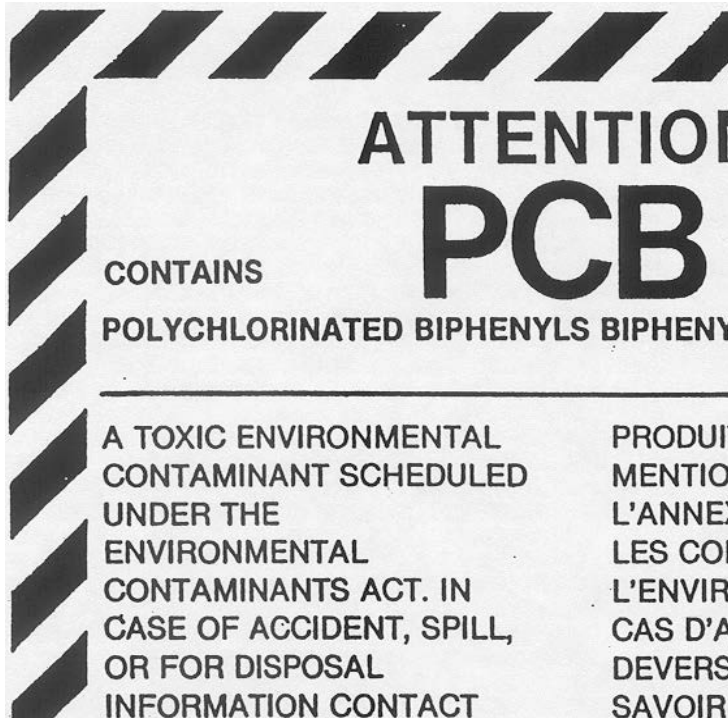
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APPENDIX 1 - Labels





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**General Warning Label For Use On Switchroom / Transformer
Vault Doors, Chain Linked Areas, Storage Compound**



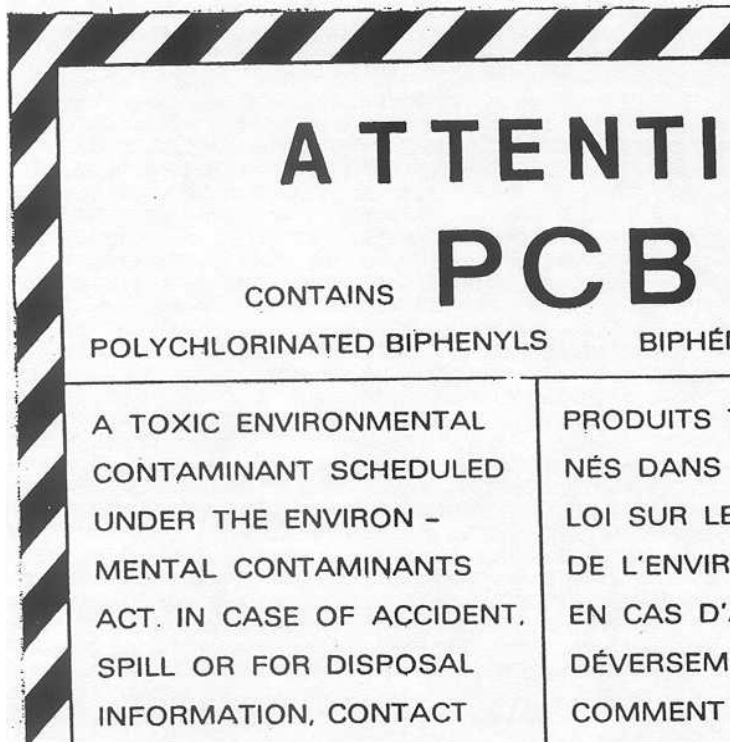
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APPENDIX 1 - Labels (cont'd)





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**Numbered label for large equipment
(drums, transformers, etc.)**



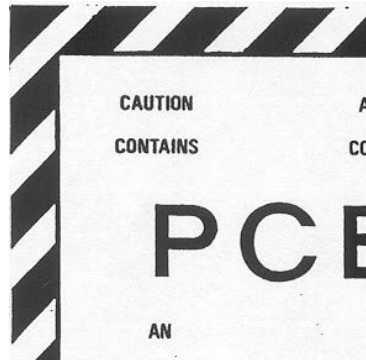
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APPENDIX 1 - Labels (cont'd)



**Numbered label for small equipment
(capacitors)**



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APPENDIX 2 – Maintenance Standard Procedure

DIVISIONAL
Removal of PCB containing equipment

Number: 87DV140
Page 1 of 2

Safety Precaution

PCBs are considered to be carcinogens. Wear protective clothing at all times when handling PCBs. Avoid spillage, inhalation of fumes or skin contact.

If in doubt, check with your supervisor before commencing work.

First Aid Procedures

If PCBs are in contact with the eyes, flush immediately with water for 15 minutes.

For skin contact, wash the affected area thoroughly with soap and water immediately.

If swallowed, do not give the person anything to drink, rinse out mouth with water.

If vapors or fumes are inhaled, remove person to fresh air immediately.

All contacts with PCBs are to be reported to the immediate Supervisor and First Aid.

Personal Protective Equipment / Materials required:

	Stock Code
<input type="checkbox"/> Personal respirator with combination cartridge	
<input type="checkbox"/> Combination cartridge (#GMC-H)	318188
<input type="checkbox"/> Saranex disposable coveralls - Medium	315531
<input type="checkbox"/> Saranex disposable coveralls - Large	315549
<input type="checkbox"/> Saranex disposable coveralls - Extra Large	315556
<input type="checkbox"/> Face shield	318659



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- | | |
|--|--------|
| <input type="checkbox"/> Gloves (nitrile, green) | 316380 |
| <input type="checkbox"/> Storage drum (solids) | 337261 |
| <input type="checkbox"/> Storage drum (liquids) | 337279 |
| <input type="checkbox"/> Large garbage bag | 333195 |
| <input type="checkbox"/> Speedi dry absorbent material | 335265 |

The electrical department in each major area has an up to date inventory of PCB equipment in their area of responsibility.



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APPENDIX 2 - Maintenance Standard Procedure (cont'd)

Removal Procedure:

- If spill or leak has occurred, rope the area off prior to beginning work.
- Notify the Environment, Health, & Safety Department prior to work being started on removal of labeled electrical equipment containing PCBs and that movement to storage will be required.
- Note any information from the equipment nameplate, quantity of PCB liquid contained, area removed from, etc.
Make notation or highlight change on the inventory sheet along with information regarding the replacement equipment and forward to the Environment, Health, & Safety department.
- Place equipment inside two large garbage bags and seal to prevent leakage.
- Pour some absorbent material in the bottom of the drum and place the bagged material on top of the absorbent.
- If any of the PCB liquid has spilled or leaked, absorbent material used to soak up the liquid is to be put in the drum as well.
- All cleanup materials (gloves, coveralls, rags, etc.) are to be placed in the drum.
- Pour absorbent material into the drum up to the level of the material. This will help stabilize it.
- Place sealing lid on drum and label the drum with the large PCB label.
- Ensure arrangements are made with Transportation and Environment, Health & Safety personnel for the transport to storage of the equipment within the working shift.

Note: Ballasts



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Not all lighting ballasts contain PCBs. Codes are provided on the ballast to determine if they contain PCBs or not. Consult booklet "Identification of Lamp Ballasts Containing PCBs" to determine if ballasts contain PCBs. If in doubt, treat as though they contain PCBs and place in approved drum. Booklet is available from the Electrical foreman in the area.

Temporary storage areas with approved drums are located in the Smelter, Mill, Refinery, and the Mines for items such as ballasts and small capacitors.