Chlorobiphenyls Regulations (SOR/91-152; Amended SOR/2000-102)
(Regulations Respecting Chlorobiphenyls)

Objective	Key Defined Terms; Relevant Thresholds	Description or Explanation	Comment (adequacy; likely effectiveness)
Prohibit the prescribed manufacture, use, process, offer for sale, import of prescribed chlorobiphenyls. Sets allowable concentrations of chlorobiphenyls in products and in releases.	"Chlorobiphenyls" subject to the regulation are those described in CEPA (Schedule 1, List of Toxic Substances, Item 1: Chlorobiphenyls that have the molecular formula $C_{12}H_{(10-n)}Cl_n$ in which "n" is greater than 2)	Effect of regulation was to prohibit the uses, etc. (which may not be exhaustive) including: "(a) operation of any product, machinery or equipment" with exceptions; "(b) operation of electromagnets An exception also applies where chlorobiphenyls are "adventitiously present" in the product, machinery, equipment "and the quantity or concentration … is not inconsistent with good manufacturing practice."	Including amendments effective in 1977 and 1980, effectively prohibits new products containing chlorobiphenyls being put into service. The "adventitiously present" exception could be significant depending on how it is interpreted.

These regulations were initially issued in 1977 under the *Environmental Contaminants Act*. When CEPA came into force the *Environmental Contaminants Act* was repealed and the regulations were rolled into CEPA.

The initially prescribed uses may not have been exhaustive, and categories of exceptions were very large (especially paragraphs 3. (1) (a) (i): "electrical capacitors, transformers and associated electrical equipment" and (ii) heat transfer and hydraulic equipment and most electromagnets). These categories, however, were also banned where chlorobiphenyls were a constituent part after 1 July 1980 (for capacitors transformers and "associated electrical equipment"), and other uses in products, machinery or equipment after September 1977.

Federal Mobile PCB Treatment and Destruction Regulations (SOR/90-5; Amended SOR/93-231 and SOR/2000-105) (Regulations Respecting Mobile Systems for the Treatment and Destruction of Chlorobiphenyls that are Operated on Federal Lands or Operated by or Under Contract with Federal Institutions)

Objective	Key Defined Terms; Relevant Thresholds	Description or Explanation	Comment (adequacy; likely effectiveness)
Regulation of "mobile PCB destruction systems" and "mobile PCB treatment systems" treating chlorobiphenyls (those listed in TSL of CEPA 1999) on federal lands (e.g. military bases, lands north of 60 N. Lat., etc.) and aboriginal land, or under contract with "federal institutions" anywhere in Canada.	"Federal Institution": department, board or agency of the Government of Canada or any corporation named in Schedule III of the federal *Financial Administration Act*. "Mobile PCB treatment system" means mobile equipment capable of <u>destroying</u> PCBs by chemical means, and "Mobile PCB destruction system" means mobile equipment capable of <u>destroying</u> PCBs by thermal means; that is, by incineration. (Note for example that PCB Waste Export Regulations refer to all kinds of PCB "disposal" as destruction.) "Chlorobiphenyls" or "PCBs" are chlorobiphenyls as described in CEPA (Schedule 1, List of Toxic Substances, Item 1: "Chlorobiphenyls that have the molecular formula $C_{12}H_{(10-n)}Cl_n$ in which "n" is greater than 2").	"Federal institution" is responsible for ensuring that contracting person complies with the regulation (s. 4). Establish performance <u>standards</u> for incinerators and treatment systems and standards for air emissions. For destruction systems, no gas released shall contain more than 1 mg PCBs per kg of PCB input. For treatment systems treating oil, the system must reduce the concentration of PCBs to 2mg/kg or less. For destruction or treatment, released gases must not exceed: 50 mg of particulates per normal cubic metre, hydrogen chloride at 75 mg per normal cubic metre, or 12 nanograms per normal cubic metre of certain dioxins and furans calculated using toxicity	No Canada-wide application (due to constitutional division of powers among federal and provincial governments, only applies to federal PCBs) Although distinction is made between (chemical) "treatment" and (thermal) "destruction", the definitions define both types of systems as "destroying" PCBs.

	Prerequisite to operating a destruction or treatment system is submission of documentation to Minister demonstrating ability to meet design and performance standards described in next column (ss. 5-9), and receiving an authorization from Minister to operate it. Testing is permitted, with the written permission of the Minister and subject to any terms and conditions, in order to determine whether the system is capable of meeting the standards. Failure of the system to meet the standards during the test does not violate the Regulations. The operator is also obliged to conduct tests at the Minister's request during the operation of the system, and submit the results within 60 days of test's completion. Sections 14-17 describe the testing methods to be used. They refer to published Environment Canada source	factors (all at 11% oxygen, dry basis). For destruction systems, released liquids must not exceed: 1 microgram PCBs per litre, or 0.6 nanograms per litre of certain dioxins and furans calculated using toxicity factors. For destruction or treatment, released solids on a dry basis must not exceed: 0.5 mg PCBs per kg, or 1 microgram of certain dioxins and furans per kg calculated using toxicity factors.	

	testing and release reports.		

PCB Waste Export Regulations, 1996 (SOR/97-109; Amended SOR/2000-103)

Objective	Key Defined Terms; Relevant Thresholds	Description or Explanation	Comment (adequacy; likely effectiveness)
To prohibit the export of "PCB waste" to any country other than the US, and to establish rules for export to the US of "PCB wastes", but only where Canada is not merely the "country of transit": the waste must originate in Canada and not merely be shipped through Canada. Establishes "conditions" (essentially, a series of procedural, documentation and insurance requirements) for export of PCB waste, and requires exporter to make "Alternative arrangements" for the export when receipt or disposal of the waste becomes impossible. Obliges exporters and carriers of PCB waste to carry liability insurance.	A PCB waste is a "PCB liquid", "PCB solid", "PCB-contaminated soil", or "PCB mixture" containing 50 mg or more PCBs per kg., "PCB equipment" (i.e. containing or contaminated by PCB liquid, solid or mixture) or "electrical equipment" (manufactured items including transformers and capacitors containing or contaminated with PCB liquid, solid or mixture) and no longer being used in Canada; and any packaging or container that has held any of the above items, is no longer being used in Canada and is contaminated with 50 mg or more PCBs per kg. "Disposal" means any operation (including decontamination and disposal of residues from such decontamination) that will destroy PCB waste, and includes temporary storage pending disposal by an "authorized facility," but not landfilling.	Use of a "PCB waste notice" of exports is mandatory. Each notice includes a unique reference number provided by EC, so each notice is traceable. Each notice must provide identification numbers conforming to types of PCB waste (there are 6 types listed in Sch. II of the reg) and type of disposal operation (there are 6 types listed in Sch. III), and be sent to EC within a year before the export. One notice per shipment is required unless the physical and chemical characteristics of all wastes are "essentially" the same, unless they are to be shipped to the same facility for disposal, and unless they are to be shipped only through the customs offices specified in the notice. Section 10 specifies a series of conditions under which the export of PCB wastes to the US may take place.	More detailed descriptions of types of disposal operation in Schedule III may be more helpful in determining effectiveness and scope of PCB disposal, in combination with examination of records submitted in accordance with the regulations. Similarly, exporters should have to record quantities of PCBs exported and treated.

The notice requirement originates in s.185 (1) of CEPA.

The conditions in s. 10 of the regulation include:

- The export of the PCB waste must not be prohibited by Canadian law.
- At the time the notice is given, the US must not have notified EC that import of the particular PCB waste into the US is prohibited.
- The Canada-U.S. Agreement on the Transboundary Movement of Hazrdous Waste (in the form it took as amended on November 25, 1992) must be in effect at the time of export.
- The exporter must be a person who is resident of Canada or have a place of business in Canada.
- The exporter must have generated the waste; be removing the waste from another person's site for disposal; be acting on behalf of a government; or be collecting or receiving PCB waste and processing it in the exporter's own facility in a manner that changes its physical and chemical characteristics.
- The PCB waste must be transported to an "authorized facility" (i.e. authorized by US EPA under TSCA for PCB waste disposal).
- The exporter must take "all practicable measures" to ensure the waste will be transported and disposed of in a manner that protects the environment and human health from adverse effects that could result from its transportation and disposal.
- There must be a signed, written contract between the exporter and the US importer (or a signed, written arrangement between representatives in both countries if the two are the same legal entity doing business in both countries). Information in the contract concerning the type of PCB waste and the type of disposal operation must correspond exactly to the information in the notice. If the disposal operation is "PCB-D-6" ("other methods of destruction"), a full description of the operation must be provided. The contract must state that the waste is to be exported for disposal only. It must require the US importer to send a manifest to EC within five days of receipt of the waste (see below for description of the manifest), and to confirm in writing to EC within thirty days after completion of the operation. It must require the importer to assist the exporter in making alternative agreements for disposal if the PCB waste cannot be disposed of as agreed in the contract. It must identify the facility where the waste will be stored for up to 90 days if the "authorized facility" does not accept the waste immediately.
- Carriers and facilities identified in the notice must be "authorized" by the appropriate governmental and international authorities.
- Both the exporter and the carrier must be insured for liability (unless the exporter or carrier is a provincial government or the federal government or its agent) in accordance with section 12 (see below).
- The Canadian exporter must receive from the US importer the US EPA TSCA authorization, or a document reflecting that 45 days have elapsed and no objection has been made by the US EPA against the import. The exporter must also receive from the importer the appropriate US EPA TSCA authorization for the disposal operation.

- The exporter must include with the notice: a copy of the authorization noted above (if EC requests it); a copy of the contract referred to above, with any confidential information excluded; and a copy of the carrier's and the exporter's certificates of insurance.
- The exporter must receive written confirmation from EC that the US EPA has notified EC that legal consent is given to the proposed import to the US, or that no objection has been received from the US EPA within 45 days of its receipt of the waste notice.
- The exporter must complete and sign Part A of the manifest found in Schedule IV, Form 1 to the *Transportation of Dangerous Goods Regulations* (SOR/85-77), as though the exporter were the "consignor" as defined in those regulations.
- The carrier must complete Part B of the manifest, in accordance with Part IV of the same regulations, and the exporter must ensure that Part C of the manifest is completed, signed and sent.
- The reference number on the notice must be included on the manifest.
- The manifest must accompany the waste, with copies of the notice and EC's written confirmation of US EPA's legal consent, referred to above, attached to the manifest. Copies of these documents must be deposited at the proper customs office, as required by s. 95 of the *Customs Act*.
- In cases where the waste is to be exported through a "country of transit", at the time the PCB waste notice is given, EC must not have received a written notice from the country of transit that transit of that type of PCB waste is prohibited. The exporter must also receive written confirmation from EC that the country of transit has given legal consent to the transit or alternatively, in cases where the Basel Convention allows the transit to proceed if 60 days have elapsed after notification of the proposed transit, EC must not have received notice of refusal of consent from the country of transit.

Section 11 obliges the exporter to take further steps when "as a result of an unforeseen event" after export, the receipt or disposal of the PCB waste cannot take place as outlined in the contract or arrangement. The exporter must immediately notify EC and the US EPA and make arrangements for temporary storage and disposal of the waste within 90 days, or longer if the authorities agree. Alternatively, the exporter must arrange for the waste to be returned to the exporter's facility in Canada. In either case, both EC and the US EPA must give their approval.

Section 12 obliges exporters and carriers to carry liability insurance against third-party damages, and against any clean-up costs "imposed by the applicable laws". The amount of the insurance to be carried by exporters is at least CAD$5 million. Carriers are required to carry the amount required by the laws of the country in which the waste is carried. The insurance is to cover liability from when the waste leaves the exporter's shipping site until an authorized facility accepts delivery of the waste for disposal.

Storage of PCB Material Regulations (SOR/92-507; Amended SOR/2000-102)
(Regulations Respecting the Storage of Material Containing Chlorobiphenyls (PCBs))

Objective	Key Defined Terms; Relevant Thresholds	Description or Explanation	Comment (adequacy; likely effectiveness)
Establishes rules for storage of PCB material (not including when it is being handled, offered for transport or transported under the *Transportation of Dangerous Goods Act*, nor when the material is PCB equipment in storage for tactical use by the Department of National Defence), including limiting access to storage areas, detailed storage requirements, fire protection and emergency procedures, maintenance and inspection rules, labelling requirements, record-keeping and reporting.	Applies to 100 litres or more of PCB liquids, 100 kg or more of PCB solids or substances, or material containing 1 kg or more of PCBs, where the PCB material is "not being used daily" (does not include where PCB equipment is shut down for less than six months at a time). "PCB material" is a "PCB solid", "PCB liquid" or "PCB substance" (each of which contains 50 mg PCB per kg of solid, liquid or substance) or "PCB equipment" (any equipment, machinery or similar manufactured item, including a capacitor and an electrical transformer, containing a PCB liquid, solid or substance). Affected persons are those who own, control or possess PCB material on land or property.	PCB materials must be enclosed in a building, room, shipping container or other structure, or within a fence or wall at least 1.83 m high. Requires site owner or manager to store PCB liquid in sealed containers having the characteristics described in the regulation (see below). Prohibits the mixing or dilution of any PCB liquid, solid or substance with any other substance, except where required for treatment or destruction. Requires persons who own or manage land or property where PCB material is located to determine, at request of an enforcement officer, the concentration of PCBs in any substance found there, in accordance with EC documentation. Requires owner or manager to	Does not capture smaller amounts of PCBs, or PCBs in use, including where PCB equipment is shut down for up to six months at a time.

		keep storage site entrance guarded or locked, to maintain a register of persons authorized to enter and who actually enter the site, and to permit only those persons to enter.	

Storage requirements (section 9) concern the size and type of containers, and the type and volume of the structure or floor where the PCBs are stored (e.g. impervious to leakage and allowing any leaks to be collected, without creating a fire hazard or risk to public safety).

Fire protection and emergency procedures include equipment and staff training requirements, making reference to the National Fire Code, and requiring the site owner or manager to have a fire protection and emergency procedures plan in place if there is no local fire department.

Maintenance and inspection rules require a monthly inspection by the owner or manager (more or less frequently depending on remoteness of location and safety considerations, on direction of EC), and obligations to keep site in good condition and in repair.

Labelling requirements stipulate that different types of labels be affixed to different PCB-containing equipment and containers, and at entrances to PCB storage sites. Labels on containers with certain amounts of PCBs (e.g. capacitors containing over 0.5 kg of PCBs, and PCB equipment containing a greater than one per cent concentration of PCB liquid) must include numbers that have been registered with EC; other labels are similar but without a registered number required to appear on the label. Labels must be in the form prescribed in the schedule to the regulation (black and white, measuring 76 mm by 76 mm in the case of PCB-containing capacitors over the 0.5 kg threshold; 150 mm by 150 mm for all other labels), or in similar dimensions and indicating the presence of PCBs.

Records to be kept by the site owner or manager must include, for every piece of equipment or container, information such as the manufacturer's serial number, any EC registration number, quantities of PCBs contained in it, and its location at the site. If the PCB material has been received from elsewhere, details about the source, the date of receipt, and name of carrier are also required. Where the PCB material is removed from the site, the date and destination, name of the individual authorizing its transport and name of the carrier must be included in the record. This information must be made available at the request of an enforcement officer, and must be kept by the owner or manager for five years after all PCB material has been removed from the site. The record must be sent

to the Regional Office of EC within 90 days of the regulation coming into force, or within 30 days of the site being established. PCB material received at or removed from the site must also be reported, generally within 30 days and in the case of capacitors containing 0.5 kg of PCBs or less, on January 1 and July 30 of each year. Finally, any change in the name or address of the owner or manager, or in the location at the site of any container or PCB equipment, must be reported within 30 days after the change.

Additional records of all inspections conducted by the owner or manager must be kept, including a list of items inspected, any deficiencies found and measures taken to correct them.

Export-Import of Hazardous Waste Regulations (SOR/92-637; Amended SOR/94-459; SOR/94-684; SOR/2000-103) (Regulations Respecting the Import and Export of Hazardous Wastes)

Objective	Key Defined Terms; Relevant Thresholds	Description or Explanation	Comment (adequacy; likely effectiveness)
Creates procedural exemptions from general prohibition on the import, export or conveyance in transit of a hazardous waste, hazardous recyclable material or prescribed non-hazardous waste. These exemptions include the payment of a fee, conditions on the transit of the wastes into, out of or through Canada, and issuance of a permit to allow the transit.	"PCB wastes" "that contain or consist of PCBs at a concentration of 50 mg/kg or more" are subject to the regulation. See Part II of Schedule III (List of Hazardous Wastes Requiring Export or Import Notification) of the regulation.	Shipments are to be preceded by a *notice* sent to the Chief, Transboundary Movements Division, Environment Canada. The notice must be sent within one year before the shipment(s). The Canadian exporter or importer or the carrier (if shipment is only passing through Canada), as the case may be, is responsible for giving the notice. Environment Canada must give its *consent* prior to shipping. Following notice and consent, shipments must be accompanied by a waste *manifest* detailing the actual quantity or a reasonably accurate estimate of the PCB waste in the shipment.	Only tracks trans-boundary shipments, not shipments within Canada (although part of this function is served by the Transportation of Dangerous Goods Regulations, which also include manifesting requirements), of wastes only.

- The notice will also include an International Waste Identification Code (IWIC). The IWIC system was developed by the OECD for the purposes of compliance with the Basel Convention, and is used to indicate general information about the waste such as the reason(s) for disposal, the intended mode of disposal or recycling, the form of the waste, one to two major potential

hazards of the waste, and the activity generating the waste. The code allows the notifier to list from one to three constituents of the waste. The IWIC is used in the notice only (not in the manifest).

- The receiver of the waste (the importer in Canada, or the receiving party in the case of an export from Canada) must complete the manifest and return it to Environment Canada within three days of receiving it. In addition to this obligation, the receiver must certify in a letter to Environment Canada that disposal or recycling of the waste has been carried out. This *certificate* must be sent within thirty days of the completion of the disposal or recycling operation. The ultimate fate of the waste is thus tracked, and both the certificate and manifest can be checked for conformity with the information provided in the notice.

- The EIHW regime deals with import or export of wastes and hazardous recyclables only, and not domestic waste movements. (Intraprovincial shipments of wastes may fall under provincial hazardous waste manifesting systems.)