



NATIONAL ENVIRONMENTAL

(POLYCHLORINATED BIPHENYLS (PCBs)

CONTROL AND DISPOSAL
REGULATIONS, 2020

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(POLYCHLORINATED BIPHENYLS (PCBs)

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NATIONAL ENVIRONMENTAL STANDARDS AND REGULATIONS ENFORCEMENT AGENCY (ESTABLISHMENT) ACT, 2007

NATIONAL ENVIRONMENTAL (POLYCHLORINATED BIPHENYLS (PCBs) CONTROL AND DISPOSAL) REGULATIONS, 2020

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S. I. No. 00 of 2020

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NATIONAL ENVIRONMENTAL (POLYCHLORINATED BIPHENYLS (PCBs) CONTROL AND DISPOSAL) REGULATIONS, 2020

[23*rd Day of December,* 2020] Commencement.

In exercise of the powers conferred on me by section 34 of the National Environmental Standards and Regulations Enforcement Agency (Establishment) Act, 2007 ; and all other powers enabling me in that behalf, I, Mohammad Mahmood Abubakar, Honourable Minister of Environment, make the following Regulations—

Part I—General Provisions

1. The objectives of these Regulations are to— Objectives.

(*a*) ensure the Environmentally Sound Management (ESM) and Disposal of PCBs in Nigeria for the protection of human health and the environment as specified in the First Schedule to these Regulations ;

(*b*) develop technical standards for managing equipment and articles containing or contaminated with PCBs ;

(*c*) ensure Environmentally Sound Management(ESM) of all electrical equipments and accessories or articles containing or contaminated with PCBs ;

(*d*) prevent, reduce and eliminate the importation, manufacture, sale, transfer, distribution and use of PCBs, PCB equipment, PCB-contaminated equipment, PCB articles and PCBs packaging ;

(*e*) regulate the transportation, treatment and disposal of PCBs and PCB wastes, to protect human health and the environment ;

(*f*) control hazards and risks posed to human health and the environment from improper use, disposal and management of PCBs, PCB-containing-equipment, and the subsequent release of PCBs and management of PCBs wastes ; and

(*g*) increase public awareness and education on the effects of PCBs to human health and the environment.

2. These Regulations shall apply to the following— Scope of application.

(*a*) the import, export, manufacture, sale, transfer, distribution and use of PCBs, PCB articles, PCB equipment, PCB-contaminated equipment, non-PCB equipment and PCB packaging ;

(*b*) the storage, usage and disposal of PCB containing equipment and oil ; and

(*c*) power generation, transmission, and distribution companies, manufacturing companies and other industrial users of PCB containing equipment.

Phase-out time frame.

3. The deadline for any person to use or be in possession of any PCB material or PCB contaminated material or PCB waste in Nigeria shall be 2028.

Exemption.

4. These Regulations shall not apply to the following—

(*a*) PCB household waste, which includes materials found in wastes generated by consumers in their homes, unwanted or discarded noncommercial vehicles (prior to shredding), household items and appliances or appliance parts and waste generated by individuals as a result of routine household maintenance by or on behalf of the residents ;

(*b*) bulk or comingled liquid PCB wastes at concentrations of <50 parts per million (ppm) ; and

(*c*) demolition and renovation wastes, and industrial or heavy-duty equipment with PCBs that are <50 ppm, even where they are not household wastes.

PART II—PROHIBITIONS

Release or discharge.

5. A person shall not release into the environment—

(*a*) more than 1 gram of PCBs from any equipment in use ;

(*b*) any liquid containing PCBs at a concentration of 2mg/kg or more from any equipment in use or not in use ; or

(*c*) a solid containing PCBs at a concentration of 50mg/kg or more from equipment in use or not in use.

Usage in product.

6. A person shall not, except as permitted in these Regulations, within the phase-out period—

(*a*) import PCBs, or a product containing PCBs, in a concentration of > 2 mg/kg or more ;

(*b*) offer for sale or sell PCBs, or a product containing PCBs, in a concentration of > 50 mg/kg or more ; and

(*c*) process or use PCBs or a product containing PCBs.

Storage and disposal of PCBs.

7.—(1) From the date of commencement of these Regulations, no person shall store PCBs or products containing PCBs at any of the following plants or facilities or on the land on which the plants or facilities are located or within 100m of the plants or facilities as specified in the Fifth Schedule to these Regulations—

(*a*) a drinking water treatment plant or a food or feed processing plant ; or

(*b*) a child care centre, preschool, primary school, secondary school, hospital, or senior citizens' care centre.

(2) A person shall not store PCBs or products containing PCB beyond the following time limits—

(*a*) 1 year, beginning on the day in which their use is no longer permitted under these Regulations or the day in which they are no longer allowed to be processed daily or used, whichever is earlier, if the PCBs or products are stored at a facility that is not referred to in these Regulations ;

(*b*) 1 year, if the PCBs or products are stored at an authorized facility that is a transfer site ; and

(*c*) 2 years, if the PCBs or products are stored at an authorized facility for destruction.

(3) The following PCB items shall be allowed to be stored temporarily in a facility, from the date of their removal from service, without complying with the requirement of this regulation for a period of 30 days only—

(*a*) non-leaking PCB articles and equipment ;

(*b*) leaking PCB articles and equipment, provided they are placed in a non-leaking PCB container containing sufficient sorbent to absorb liquid PCBs ;

(*c*) PCB containers containing non-liquid PCBs such as contaminated soil, rags, and debris ; and

(*d*) PCB containers containing liquid PCBs at concentrations of > 50 ppm, provided spill prevention, control and counter measure plan has been prepared for the temporary storage facility.

(4) PCB waste shall be stored for disposal within 90 days only from the date it was determined to be PCB waste.

(5) PCB articles shall be properly marked and stored in an appropriate and approved storage area.

(6) The storage facility shall conform to the following requirements—

(*a*) provision of adequate roof and walls to prevent rain water from reaching stored PCBs ;

(*b*) provision of an adequate floor with continuous curbing with a containment volume equal to at least two times the internal volume of the largest PCB article or PCB container ;

(*c*) there shall be no drain valves, floor drains, expansion joints, sewer lines, or other openings allowing liquids to flow from the curbed area ;

(*d*) floors and curbing shall be constructed of continuous smooth and impervious materials to prevent or minimize PCB penetration ; and

(*e*) the facility shall be above flood water elevation.

(7) PCB liquids at concentrations of 50 ppm or greater shall be disposed of by incineration.

(8) PCB liquids containing between 50 and 500 ppm PCBs shall be disposed of in an appropriate and approved chemical waste landfill under certain conditions or in a high efficiency boiler as approved by the Agency.

(9) PCB containers shall be incinerated or drained and disposed in an environmentally sound manner at facility approved by the Agency.

(10) PCB bulk product wastes shall be disposed of based on analytical determination of the PCB concentration in the material at the time of its designation for disposal and its potential to leach underground.

(11) Bulk product wastes shall be disposed of in an incinerator, or may be decontaminated in an appropriate and approved chemical waste landfill under certain conditions or in a high efficiency boiler as approved by the Agency.

(12) PCB bulk product waste may be disposed of in a State-permitted hazardous waste landfill as specified in the Fifth Schedule to these Regulations.

Transfer site.

8.—(1) Where the PCBs or products containing PCBs are sent from one transfer site to another, the period specified in regulation 7(2) of these Regulations shall commence after they are received at the first transfer site.

(2) The owner or operator of a facility shall send the PCBs or products containing PCBs for destruction to a facility authorized for that purpose within the time limit set out in regulation 7(2) of these Regulations.

PART III—MANAGEMENT AND CONTROL

Registration of facility and equipment.

9.—(1) A person in possession of PCBs containing equipment shall—

(*a*) register the facility with the Agency ;

(*b*) submit an inventory of all PCB containing equipment within 6 months of possession ; and

(*c*) submit an audit report within 2 years of registration and subsequently every 3 years.

(2) Application for registration shall be submitted to the Agency indicating the name and address of the business as well as the information contained in the Material Safety Data Sheet (MSDS).

(3) The PCB registration certificate and all permits issued by the Agency, along with applications and attachments, shall be retained at the premises of the registrant within the deadline of 2028 and be available for inspection at any time.

Hazard signs.

10. A person in possession of PCBs containing equipment shall affix hazard signs placards or marks of hazards on the cargo or transport media, including vehicles, wagons, containers and tanks, in accordance with the UN Globally Harmonized System (GHS) of classification and labelling of chemicals as specified in the Third Schedule to these Regulations.

Labelling of Containers.

11. A person in possession of any PCB or PCB containing equipment shall affix to every package or container a label as specified in the First and Third Schedules to these Regulations, which includes the following information—

(*a*) name, address and telephone number of the manufacturer, importer or any other responsible party ;

(*b*) the trade name, chemical name, common name, manufacture and expiry dates ;

(*c*) signal word such as "Danger", "Warning" and pictograms in accordance with UN GHS ; and

(*d*) any associated hazard to human health and the environment.

Leakage or spillage of PCB

12.—(1) There shall be no contamination arising from leakage of PCBs or PCB oil, PCB storage tank or PCB equipment likely to cause pollution of the environment including surface and ground water as specified in the Sixth Schedule to these Regulations.

(2) A person in possession of PCB equipment shall have an impermeable base for any such equipment and ancillary equipment, and provide an appropriate bund wall in the event of any anticipated discharge or spillage.

Treatment and disposal

13. The general requirements for handling, treatment, storage and disposal of PCBs and PCB waste shall be as follows—

(*a*) prior to disposal, all applicable facility operators shall submit preparatory and remedial work plan, such as, PCB packaging, isolation, draining, and treatment of PCB equipment, PCB-contaminated equipment, non PCB equipment and PCB articles, to the Agency ; and

(*b*) all treatment and disposal shall be approved by the Agency and shall be in conformity with any applicable regulations, guidelines, and other applicable environmental laws and regulations of the Agency as well as the provisions of Tenth and Twelfth Schedules to these Regulations.

Transportation requirements.

14.—(1) Any person transporting waste consisting of, containing or contaminated with PCBs shall do so in an environmentally sound manner to avoid accidental spills and appropriately track their transportation and final destination in accordance with the Second and Fourth Schedules to these Regulations.

(2) All personnel involved in transportation shall be certified and qualified to operate any PCB material transporting vehicle.

(3) Transporters of POPs or PCBs, PCB-containing oils, equipment and hazardous wastes on the Federal highway shall obtain permit from the Agency in accordance with Eleventh Schedule to these Regulations.

Requirement for permits.

15. All permit procedures such as application, registration, refusal, suspension, cancellation, appeal and amendment of permits shall be made in accordance with the provisions of the National Environmental (Permitting and Licensing System) Regulations, 2009 and Eight Schedule to these Regulations.

PCB wastes transportation permit.

16.—(1) A person transporting PCB containing equipment, material or waste PCB shall have the permit to do so.

(2) Vehicles used for transporting PCB equipment shall have drop-side on both sides, with a canopy.

(3) Vehicles transporting PCB equipment shall have warning panels clearly marked with black indelible ink against yellow retro-reflective background and the panels shall be displayed at the front and rear of the vehicle in a position that does not conceal any lights, license plates or other legally required signs or markings.

(4) The manifest shall be kept on the driver's cabin or in the driver's side door compartment at all times.

(5) Transport vehicles shall be equipped with safety equipment, including fire extinguishers and caution triangles for emergency use, and a spill clean-up kit.

Precautionary measures for transportation.

17. A person transporting PCBs and PCB contaminated materials shall take the following precautions in accordance with precautionary statement in the Third Schedule to these Regulations—

(*a*) package and label all materials in accordance with the code of practice prescribed in the Seventh and Nineth Schedules to these Regulations ;

(*b*) carry all liquid wastes in closed transport vehicle or van ;

(*c*) load and unload PCBs and PCB materials with care to avoid any damage which may result in leakage and spillage ; and

(*d*) load and securely fasten the drums or the PCB contaminated equipment so that they are in an upright position and do not move about or fall off the vehicle.

PART IV—EMERGENCY PREPAREDNESS AND RESPONSE PLAN AND GENERAL CODE OF MAINTENANCE OF PCBs

Spill, leakages and accidental release.

18.—(1) A person authorised to deal on any PCB wastes, shall prepare a comprehensive emergency preparedness and response plan to contain any spill, leakage, release, accident or emergency that may arise, in accordance with the Seventh Schedule to these Regulations.

(2) All transporters shall submit an emergency preparedness and response plan to the Agency to demonstrate commitment to minimize environmental impacts associated with possible spills, fire and other emergencies that may occur during transportation.

Notification of accidents and emergencies.

19. A person authorised to transport, store or use any PCB equipment or PCB-waste shall, in the event of an accidental spillage, leakage or release—

(*a*) take immediate actions and mitigative measures in accordance with the established emergency preparedness and response plan to contain the release ;

(*b*) have the affected areas immediately cleaned-up, decontaminated and remediated ; and

(*c*) immediately notify the relevant authorities providing at least the following information—

(*i*) circumstances of the accidental release,

(*ii*) quantity released,

(*iii*) immediate actions, mitigative measures taken to control and contain the release,

(*iv*) measures taken to remediate the affected areas, and

(*v*) measures taken to prevent re-occurrence.

Responsibility for safe use of PCB-containing equipment.

20.—(1) The general code of maintenance on PCB-containing equipment shall be carried out in accordance with the site specific health and safety plan approved by the relevant Agency.

(2) A person working with PCB containing equipment shall understand current PCB waste management procedures including the use of personal protective equipment as specified in the Thirteenth Schedule to these Regulations and clean up techniques.

(3) Maintenance of in-service PCB equipment shall be done in accordance with the manufacturer's instructions for proper functioning and control of PCB oil spillage.

(4) Decontamination of PCB contaminated transformer shall be as specified in the Fourteenth Schedule to these Regulations.

Liability and compensation.

21.—(1) An equipment owner shall be liable and responsible for the contaminated products during storage, transport and disposal, including clean-up and remediation after spills, leaks and accidents.

(2) In the event of any spill, leakage, or damage to the environment, the Agency shall undertake damage assessment in collaboration with the generator or owner of a facility or equipment.

(3) The assessment for compensation to be undertaken by the Agency in collaboration with a generator or owner of the facility, shall include data on extent of damage to the environment including the biodiversity, water resources, fisheries and socio-economic losses and damage.

(4) The assessment shall form the basis of the compensation to be paid for the losses.

(5) A generator, owner or operator of a facility that causes any PCB spill or leakage shall pay compensation to the affected victims for damages caused to the victims, person or environment.

(6) A generator, owner or operator shall internalise the cost of compensation as part of the polluter pays-principles.

(7) Compensation shall be paid for damages to buildings, economic trees or the environment by a generator, owner or operator where damage occurs as a result of his activities.

PART V—MISCELLANEOUS

Enforcement notice

22.—(1) An enforcement notice shall be served if the Agency is of the opinion that a person in possession of PCBs, PCB equipment, PCB contaminated equipment, non-PCB equipment, PCB articles and PCB packaging has contravened, is contravening or is likely to contravene any condition of a permit.

(2) An enforcement notice shall specify the—

(*a*) activities or matters constituting the contravention or the activities making it likely that the contravention will arise, as the case may be ;

(*b*) steps that shall be taken to remedy the contravention or to remedy the activities or matters making it likely that the contravention will arise, as the case may be ; and

(*c*) period within which those steps shall be taken.

Mode of delivery of enforcement notice.

23. An enforcement notice shall be delivered by hand, registered post or courier, newspaper publication, electronic media or posting at the address of the owner or occupant of the premises or facilities.

24. Where a person fails to comply with an enforcement notice within the period specified under regulation 22 of these Regulations, a second notice shall be served. Enforcement notice reminder.

25.—(1) Where a person fails to comply with the second enforcement notice within the specified period, a suspension notice shall be served or any other punitive action may be taken as may be necessary. Violation of enforcement notice.

(2) Where a suspension notice is served pursuant to this regulation, the permit shall, on the service of such notice—

(*a*) be suspended ; and

(*b*) cease to have effect as stated in the notice.

(3) The Agency may withdraw a suspension notice after verifying that the violator has complied with these Regulations.

(4) Notwithstanding the provisions of these Regulations, the Agency shall have the power to enter and seal with a court order any facility found contravening any of the provisions of these Regulations.

(5) Without prejudice to the provisions of subregulation (4) of this regulation, where the contravention is of imminent danger to the environment and human health, the Agency shall have power to enter and seal such contravening facility before obtaining a court order.

26. An officer of the Agency may, in the course of his duty under these Regulations— Power of officers.

(*a*) enter and search any premises to take samples or specimen for analysis and measurements ; and

(*b*) seize and detain any article which he reasonably believes to have contravened any provision of these Regulations within a reasonable time and at such place as may be necessary.

27. A person shall not handle, store, supply or transport PCBs, PCB equipment, PCB- contaminated equipment, non-PCB equipment, PCB articles and PCB packaging unless the person complies with— Contravention of permit conditions.

(*a*) the condition of a permit ;

(*b*) the requirements of an enforcement notice, or a closure notice under these Regulations ; and

(*c*) any requirement imposed by a notice served by the Agency.

28. A person shall not be in possession of, or circulate a document, that is likely to mislead or deceive the Agency or make a statement which is known to be false or misleading, particularly, where the statement is made— False or misleading statement or Documentation.

(*a*) in purported compliance with a requirement to furnish any information imposed by or under any provision of these Regulations ;

(*b*) for the purpose of obtaining a permit for the facility or for variation, transfer or surrender of a permit ;

(*c*) with intent to make a false entry in any record relating to the permit ; and

(*d*) with intent to deceive, to forge or use a document issued or authorized to be issued under a condition of the permit.

Compliance with abatement measures.

29. A person shall—

(*a*) take appropriate measures to, clean-up, decontaminate and restore areas affected by a release, leakage or spillage of PCBs ;

(*b*) remediate a contaminated area to the standard prescribed by the Agency ;

(*c*) furnish all required information to the Agency ;

(*d*) remove equipment or containers causing release of PCBs into the environment when requested by the Agency ;

(*d*) produce document when requested by the Agency or its officer ;

(*e*) comply with regulations and guidelines for handling, storage and transporting of PCBs, PCB equipment, PCB-contaminated equipment, non-PCB equipment, PCB articles and PCB packaging ; and

(*f*) ensure the use of appropriate Personnel Protective Equipment(PPE) while handling, storing, or disposing the PCB materials.

Report of accidental releases and emergencies.

30. A person shall—

(*a*) report the accidental release of PCBs or emergencies ;

(*b*) maintain records of any release of PCBs into the environment ; or

(*c*) submit a pollution prevention plan of a PCB facility to the Agency.

Operating without permit

31. A person shall not handle, store, supply or transport PCBs, PCB equipment, PCB- contaminated equipment, non-PCB equipment, PCB articles and PCB packaging without a permit.

Violation of registration requirement.

32. No person shall—

(*a*) give false information of the items stated in the application form ;

(*b*) refuse or obstruct examination or obstruct the collection of samples for analysis by the Agency ;

(*c*) fail to comply with a directive for the removal or destruction of PCBs materials ; and

(*d*) fail to submit report or make false report on matters concerning the control of PCBs or PCB-containing equipment and their wastes.

Penalty for non compliance with these Regulations.

33.—(1) Pursuant to the provisions of section 25 of the Act, any person who contravenes the provisions of these Regulations commits an offence and is liable on conviction to a fine not less than ₦1,000,000 or imprisonment for a term not exceeding 5 years, or to both such fine and imprisonment.

(2) Where an offence in these Regulations is committed by a body corporate, it shall on conviction, be liable to a fine not less than ₦5,000,000 and an additional fine of ₦50,000 for every day the offence subsists.

(3) The cost of disposal and treatment at an authorised facility shall be borne by the violator in all circumstances.

Interpretation.

34. In these Regulations—

"*Act*" means the National Environmental Standards and Regulations Enforcement Agency (Establishment) Act, 2007 ;

"Agency" means the National Environmental Standards and Regulations Enforcement Agency (NESREA) ;

"*decontamination*" means the process of reducing or eliminating the presence of PCBs from PCB contaminated or PCB material ;

"*Designated National Authority* (DNA)" means an authority designated by a party to act on its behalf for the administration of the Stockholm Convention which is the Federal Ministry of Environment ;

"*equipment*" includes capacitors, transformers, electrical motors, circuit breakers, voltage regulators, reclosers, switchgears, switches, electromagnets, rectifier, cable or other equipment that contain a dielectric fluid that contain PCBs ;

"*Environmentally Sound Management* (*ESM*)" means generally taking all practicable steps to ensure that hazardous chemicals or pesticides and their wastes are managed in a manner which will protect the environment and human health against the adverse effect which may result from such substances ;

"*emergency preparedness and response plan*" means a plan, which outlines how something should be done or what actions are to be taken, or a particular strategy to be followed in an unexpected event requiring prompt action, which is beyond the normal day to day activity, in order to ensure the safety of the people, public, environment and equipment ;

"*enforcement notice*" means letters of compliance concerns or abatement notices informing a person of observed violations and the need to remedy the same within a time limit, failure of which, the person shall be sanctioned in accordance to the provision of these Regulations ;

"*exporter*" means a person who exports or intends to export from Nigeria, a substance on the list of controlled substances ;

"*facility*" means any person or corporate body engaged in generating, distributing handling, storage treatment and disposal of PCBs ;

"*GHS*" means the Globally Harmonised System of Classification and Labelling of Chemicals ;

"*hazard*" means inherent property of a chemical having a potential to cause adverse effect to the health of a person or the environment when exposed to that chemical ;

"*hazardous waste*" means any waste that has one or more of the following characteristics—

(*i*) explosive,

(*ii*) inflammable,

(*iii*) reactive,

(*iv*) toxic,

(*v*) infectious,

(*vi*) corrosive, and

(*vii*) other wastes, that after toxicity testing, are determined to be a hazardous type of waste ;

"*hazardous waste transporter*" means any person engaged in the transportation of hazardous waste ;

"*importer*" means a person who imports or intends to import into Nigeria PCBs and PCB containing equipment ;

"*label*" means an appropriate group of written, printed or graphic information elements concerning a hazardous product selected as relevant to the target sectors that is affixed to, printed on or attached to outside packaging of a hazardous product ;

"*Material Safety Data Sheet*" (*MSDS*) means a document intended to provide workers and emergency personnel with procedures for handling or working with a substance in a safe manner, and includes the information such as physical characteristics or data for PCBs (melting points, boiling points, flash points etc), health effects, first aid measures, reactivity, storage, disposal requirements, protective equipment and spill handling procedures ;

"*Minister*" means the Honourable Minister of the Environment ;

"*officer*" means an officer of the Agency who has the legal authority to enter facility to conduct an inspection under environmental laws, regulations or guidelines ;

"*PCB* (*Polychlorinated biphenyl*)" means one of 209 congeners containing one to ten atoms attached to the biphenyl group including a chlorine atom ;

"*PCB Article*" means any manufactured article, other than a PCB container, that contains PCBs or whose surfaces has been in direct contact with PCBs and it includes capacitors, transformers, electric motors, pumps, pipes and any other manufactured items which—

(*i*) is formed to a specific shape or design during manufacture,

(*ii*) has end use functions dependent in whole or in part upon its shape or design during end use, and

(*iii*) 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 container*" means any package, can, bottle, bag, barrel, drum, tank, or other device that contains PCBs or PCB articles and whose surfaces has been in direct contact with PCBs ;

"*PCB article container*" means any package, can, bottle, bag, barrel, drum, tank, or other device used to contain PCB articles or PCB equipment, and whose surfaces has not been in direct contact with PCBs; examples include shipping containers for PCB-containing capacitors and packages for PCB-containing light ballasts ;

"*PCB bulk product waste*" means 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 50 ppm PCBs ;

PCB bulk product waste includes—

(*i*) non-liquid bulk wastes or debris from the demolition of building 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 approved requirements,

(*ii*) PCB-containing wastes from the shredding of automobiles, household appliances, or industrial appliances,

(*iii*) plastics pre-formed or molded rubber parts and components, applied dried paints, varnishes, waxes or other similar coatings or sealant, caulkings, adhesives, paper, asbestors, sound deadening or other types of insulation and felt fabric products such as gaskets, and

(*iv*) fluorescent light ballasts containing PCBs in the potting materials ;

"*PCB contaminated electrical equipment*" means any electrical equipment including transformer, capacitors, circuit breakers, reclosers, voltage regulators, switches, etc., whose dielectric fluid contains 50 ppm, but less than 500 ppm PCBs ;

"*PCB equipment*" means any manufactured item, other than a PCB container or a PCB article container, which contains a PCB article or other PCB equipment, and includes microwave ovens, electronic equipment and fluorescent light ballasts and fixtures ;

"*PPM*" means Part per Million ;

"*non- PCB equipment*" means any manufactured item, other than a PCB container or a PCB article container, which may not contain a PCB article but which may have been contaminated by PCBs or may have come in contact with PCBs at the site or at a facility and includes microwave ovens, electronic equipment and fluorescent light ballasts and fixtures etc;

"*PCB contaminated material*" means oil or articles with PCB concentration greater than 50mg/kg(ppm) but less than 500mg/kg ;

"*PCB material*" means oil or articles with PCB concentration greater than 500mg/kg ;

"*PCB holder*" means a person who imports, uses, stores, transports, processes, treats, or disposes of PCB materials or PCB contaminated materials or PCB water ;

"*PCB household waste*" materials found in wastes generated by consumers in their homes; unwanted or discarded noncommercial vehicles (prior to shredding), household items and appliances or appliance parts and waste generated by individuals as a result of routine household maintenance by or on behalf of the residents ;

"*PCB item*" means any PCB article, PCB article container, PCB container, or PCB equipment that deliberately or unintentionally contains, or has as a part of it, any PCBs ;

"*person*" includes individual, body corporate, or legal entity ;

"*PCB liquid*" means any liquid containing more than 50 parts per million by weight of PCBs ;

"*PCB solid*" means any material or substance, other than a PCB liquid, that is a solid at ambient temperature and pressure and that contains PCBs at a concentration greater than 50 parts per million by weight of PCBs ;

"*PCB substance*" means a substance other the PCB solid or a PCB liquid that contains more than 50 ppm by weight of PCBs ;

"*PCB transformer*" means any transformer that contains 500 ppm or greater PCBs ;

"*PCB waste*" means a PCB liquid, a PCB solid and PCB equipment that has been taken out of service for the purpose of disposal ;

"*storage*" means the keeping of any chemical in use or in a ready- to-use condition ;

"*storage site*" means any lands or premises that are used to store PCB waste ;

"*supplier*" means a person who supplies chemicals and includes a formulator, a manufacturer, an importer or a distributor ; and

"*toxic*" means chemicals and preparations, which if inhaled, ingested or penetrated into the skin may involve serious acute or chronic health risks or even death.

Citation.

35. These Regulations may be cited as the National Environmental (Polychlorinated Biphenyls Control and Disposal) Regulations, 2020.

FIRST SCHEDULE [*regulation* 1(*a*) *and* 11]

LIST OF TRADE NAMES

LIST OF PCB TRADE NAMES

Trade Name	*Manufacturer/Country of Origin*
Asbestol	American Corp, USA
Adkarel	
Asbestol	Monsanto, USA
Askarel	UK and USA
Auxol	Monsanto, USA
Aceclor	ACEC, Belgium
Aceclor	France
Arochlor 1221, 1232/1248, 1254, 1260, 1268, 1270, 1342, 2565/4465/5460	Monsanto, USA
Monsanto	
Apirolio	Caffaro, Italy
Apirolia	Caffaro, Italy
Aroclor	UK and USA
Areclor (t)	
Arubren	
ASK	
Bakola 131	Monsanto, USA
Biclor (c)	
Chorextol	
Chlorextol	Allis Chalmers, USA
Chloroextol	Allis Chalmers, USA
C(h)lophen	Bayer, Germany
C(h)lophen	Bayer, Germany
Clophen A60	
Clophen Apirorlio	
Chlorphen	Jard Corp, USA
Chloresil	
Chlorintol	
Chlorinol	USA
Chlorinated Diphenyl	
Clorphen (t)	
Deler	
Delor	Czech Republic
Dialor (c)	
Diaclor	USA
Diachlor	Sangamo Electric

Diachlor	Sangamo Electric
Diaconal	
Diconal	
Disconon (c)	
Dykanol	USA
Duconal	UK
DK	Italy
DP 3, 4, 5, 6.5	
Educarel	
EEC-18	Power Zone Transformer, USA
Electrophenyl	PCT, France
Elaol	Bayer, Germany
Elemex (t, c)	
Elexem McGray Edison, USA	McGray Edison, USA
Eucarel	
Fenclor 42, 54, 64, 70	Caffaro, Italy
Hexol	Russian Federation
Hivar (c)	
Hydol	USA
Hyvol	Aerovox, Italy
Inclor	
Inclar	Caffaro, Italy
Inerteen 300, 400, 600	Westinghouse, USA
Kan(e)chlor	Kanegafugi, Japan
Kanechor	
Kaneclor	
Kaneclor 400	
Kaneclor 500	
Keneclor	
Kennechlor	
Leromoli	
Leromoll	
Magvar	
MCS 1489	
Montar	
Nepolin	USA
Niren	
No-Famol	
No-Flamol	Wagner Electric, USA
NoFlamol	

Non-Flamable Liquid	ITE Circuit breakers, USA
Phenoclar DP6	Baylor, Germany
Phenoclor DP6	Prodelec, France
Plastivar UK	UK
Pydraul USA	USA
Pyroclar Monsanto, UK	Monsanto, UK
Pyroclor Monsanto, UK	Monsanto, UK
Pyrochlor	
Pyranol	USA
Pyronal	General Electric, UK
Pysanol	
Physalen	
Phyralene	Prodelec, France
Pyralene 1460	Prodelec, France
Pyralene 1500, 1501	Prodelec, France
Pyralene T1	Prodelec, France
Pyralene T2	Prodelec, France
Pyralene T3	Prodelec, France
Safe-T-America	
Safe-T-Kuhl	Kuhlman Electric, USA
Saft-Kuhl	
Sant(h)osafe	Mitsubishi, Japan
Santosol	
Santvacki	Monsanto, USA
Santovac	
Santovac 1	
Santovac2	
Santowax	
Santothern FR	UK
Santotherm	France
Sant(h)othern FR	Mitsubishi, Japan
Saut(h)otherm Mitsubishi, Japan	Mitsubishi, Japan
Siclonyl (c)	
Solvol	Monsanto, USA
Sorol So(1) vol, USSR	So(1) vol, USSR
Sovol So(1) vol, USSR	So(1) vol, USSR
Therminol USA	USA
Therminol FR USA	USA
Terpenylchlore PCT, France	PCT, France

SECOND SCHEDULE [*regulation* 14 (1)

INFORMATION TO BE INSCRIBED IN A PCBs MATERIAL SAFETY DATA SHEET

Physical State : Appearance.
Physical Dangers : Any reaction upon exposure to air ?
Chemical Dangers : Any reaction upon heating or contact with elements or compound ?
Occupational Exposure Limits : Time Weighted Average (TWA) for skin exposure?
Routes of Exposure : Through inhalation, contact with the skin or eyes or ingestion ?
Inhalation Risk: high, medium or low ?
Effects of Short or Long-Term or Repeated Exposure : acute or chronic?
Liability : who is liable in case of accident?
Environmental Data : Is PCBs very toxic to Aquatic Organisms ?
In the Food Chain is it important to humans ?
Does Bioaccumulation takes place specifically in Fish ?.
Physical Properties : liquid or solid, stable or unstable ?
Spillage : how to prevent and control.
Disposal : safe disposal method.
Storage : What is the duration of storage, temperature requirement, under dry or moist condition ?
Packaging and Labelling : Based on GHS or otherwise ?
First Aid/Fire Fighting : Emergency treatment in case of accident and the fire fighting method.

THIRD SCHEDULE

[*regulation* 10, 11 and 17]

GUIDELINES FOR HAZARD AND PRECAUTIONARY STATEMENTS

1. Labelling with hazard and precautionary statements shall be in accordance with UN Globally Harmonized System (GHS) of Classification and Labelling of Chemicals.

2. The wording of hazard and precautionary statements shall be in accordance with the UN GHS.

3. Although the final choice of the most appropriate hazard and precautionary statements is primarily governed by the need to give all necessary information, consideration shall also be given to the clarity and impact of the label; with clarity in mind, the necessary information shall be expressed in a minimum number of statements.

4. The hazard statements which indicate danger for the environment are obligatory.

5. The final choice of precautionary statements shall have regard to the hazard statements indicated on the label and to the intended use of PCBs.

6. Certain precautionary statements have particular relevance to PCBs intended to be used by an individual, or the general public, whereas other statements have particular relevance to industrial usage.

7. Statements shall be chosen with the intended use in view.

8. Particular attention shall be given, in the choice of precautionary statements, to the foreseen conditions of use of PCBs and PCB materials.

9. In the case of danger to the environment, a minimum of 1 and a maximum of 4 precautionary statements shall be used.

10. Precautionary statements which obviously correspond to hazard statements shall appear on the label only if it is intended to emphasize a specific warning.

FOURTH SCHEDULE [*regulation* 14 (1)]

GUIDELINES FOR TRANSPORTATION OF PCBs AND PCB CONTAINING EQUIPMENT

1. The following are to be submitted before transporting PCBs and PCB materials, the—

(*a*) description of the category and quantity for transportation ;

(*b*) details regarding the place of departure, the place of destination, expected ; and

(*c*) hazard identification and safety label, transportation time and route.

2. The following precautionary measures shall be observed when transporting PCBs, PCB equipment and other PCB materials, the—

(*a*) trough containers and other containers for transporting PCBs shall be sealed tightly to protect the chemical from any leakage and sparkle leakage because of any change of temperature, moisture or pressure ;

(*b*) overflow and pressure relief devices shall be set accurately and be easy to work ;

(*c*) drivers, crewmen, loading and unloading management personnel, transport escorts, declarers, and on-site container stuffing inspectors for transporting of PCBs and PCB materials shall be trained to understand the hazard properties of the transported PCB materials, the requirements for the use of packaging materials containers, and emergency response measures in case of accidents ; and

(*d*) private vehicles shall not be used to transport PCBs or PCB materials and only competent and appropriately registered carriers shall be used to transport PCBs and PCB materials.

3. When transporting PCBs or PCB materials, the carrier shall have a visibily displayed Transport Emergency Card (TREMCARD) containing details of the PCBs or the materials being carried, its hazard and action to be taken in the event of an emergency.

4. PCBs shall be classified according to UN number (the International System for Identifying Hazardous Substances).

5. All packaging shall be secured to ensure that the PCBs cannot escape, leak or cause any risk to health and safety when exposed to normal stresses and strains of transport depending on the type of container used for it (*e.g.* glass bottle or plastic container) and the hazard of the substance.

6. The packages shall be appropriately labeled and shall meet the GHS requirement for labeling; transport labels are diamond in shape and have different coloured backgrounds according to the hazard.

FIFTH SCHEDULE

[*regulation* 7 (1) *and* (12)]

GUIDELINES FOR THE STORAGE AND DISPOSAL OF PCBs AND PCB CONTAINING MATERIALS

1. The general requirements for handling PCB-containing equipment, materials or wastes identified on site, or for purpose of construction and demolition or remodeling projects consist of—

(*a*) identifying and labelling of the material ;

(*b*) notifying the appropriate authority ;

(*c*) properly storing the material and properly disposing of the material ; and

(*d*) in the event of a natural disaster or emergency, where PCB containing equipment, materials or wastes are buried, notifying authorities prior to and grading, digging or excavation.

PCB concentration or assumptions notification.

2. It is mandatory for any person storing or disposing of PCB waste, to complete a notification of PCB activity form and submit to the Federal Ministry of Environment for data collation and monitoring as specified in paragraph 8 of this Schedule.

Storage requirements.

3.—(1) Storage requirements for PCB-containing materials depend on the end use of those materials and an equipment permitted for reuse for up to 5 years in an approved, permanent PCB storage area can be approved for storage.

(2) Materials for disposal can be stored for up to 30 days in a temporary storage area or for up to 1 year in a permanent PCB storage location.

(3) In all cases, materials shall be marked with the date they were removed from service and the area shall be inspected every 30 days for any spills or leaks, a temporary storage for disposal area shall meet the following requirements—

(*a*) be marked with a PCB Large Mark (ML) label ;

(*b*) have a roof and walls to protect the materials from rain or dew ;

(*c*) have impermeable floor with 6-inch curbing and no drains ;

(*d*) have containment volume equal to at least two times the volume of the largest PCB article or 25 percent of the total volume of all PCB articles, whichever is greater ;

(*e*) not be located in an area susceptible to flooding ; and

(*f*) have all leaking equipment stored in a non-leaking PCB container with absorbents and have non- leaking equipment on pallets.

4. PCB-containing material can only be stored in an area permitted by the appropriate authority to store hazardous wastes and where the owner or operator maintains an on-site storage area, such owner or operator shall complete the notification of PCB activity form developed by the appropriate authority.

5. Where at any time during site inspection or material handling a person discover a spill or leak, such person shall clean it up within 72 hours of discovery.

6. The requirements of the plan vary depending on the size and concentration of the spill but can include the following—

(*a*) for high concentration spills defined as 500 ppm or greater PCBs, or low concentration spills involving more than 454 gram PCBs by weight, or more than 1022 litres of untested material ; and

(*b*) within 24 hours of the spill or within 48 hours for spills involving PCB transformers where the spill involved 4.54kg or more by weight of PCBs—

(*i*) notify relevant environmental agencies,

(*ii*) notify relevant local authorities immediately if there was a fire,

(*iii*) restrict and label the visible spill area,

(*iv*) record and document the extent of PCB contamination of the estimated spill area,

(*v*) immediately begin cleanup of the visible spill area ; once the concentration level of the PCB spill is determined, begin the appropriate cleanup depending upon the release location, exposure risk, PCB concentration, and future use of the site, and

(*vi*) test the area to confirm that the PCB concentration meet the National specified levels for low concentration spills (defined as less than 500 ppm PCB, or less than 4.54kg of PCBs by weight, or less than 1022 litres of untested material), and

(*vii*) double wash or rinse all contaminated surfaces within 48 hours of the spill, properly dispose of the wash water.

7. Collect a standard wipe test sample from impervious surfaces, using hexane wipe samples to detect PCB contamination and confirm that the concentration is not more than 10ug (micrograms)/100 square centimeters.

8. At the completion of cleanup, records and certification forms shall be maintained for a period of 5 years and the records shall contain the following—

(*a*) identification of the source of the spill (*e.g.*, type of equipment) ;

(*b*) estimated or actual date and time of the spill ;

(*c*) the date and time cleanup was completed or terminated and where cleanup was delayed by emergency or adverse weather, include the nature and duration of the delay ;

(*d*) a brief description of the spill location ;

(*e*) pre-cleanup sampling data used to establish the spill boundaries if required ;

(*f*) a brief description of the sampling methodology used to establish the spill boundaries ;

(*g*) a brief description of the solid surfaces cleaned and of the double wash or rinse method used ;

(*h*) approximate depth of soil excavation and the amount of soil removed ; and

(*i*) a certification statement signed by the responsible party stating that the cleanup requirements have been met and that the information contained in the record is true to the best of his knowledge.

9. Any spills that are deemed greater than 72 hours old shall be cleaned up (remediated) by certified methods as specified under these Regulations.

10. The methods specified in this Schedule are not allowed to clean up the following—

(*a*) surface or ground waters ;

(*b*) sediments in marine and freshwater ecosystems ;

(*c*) sewers or sewage treatment systems ;

(*d*) any private or public drinking water sources or distribution systems ;

(*e*) grazing lands ; or

(*f*) vegetable gardens.

SIXTH SCHEDULE [*regulation* 12(1)]

GENERAL PRACTICE FOR THE SAFE USE AND HANDLING OF PCB

1. Do not transport PCBs in the cabin of the vehicle, or on any vehicle containing agricultural products.

2. Wash hands thoroughly with soap and water when in contact with PCBs.

3. Wash thoroughly personal protective equipment at the completion of each job, and store to ensure it does not become contaminated or damaged.

4. Report any symptom of ill health.

5. Do not allow the storage, loading PCBs adjacent to, or near, environmentally sensitive areas such as water bodies, forest reserves and wildlife.

6. Do not allow the contamination of surface water bodies or ground water with PCBs waste or containers.

7. Ensure that appropriate arrangements and facilities for the proper disposal of PCB waste and containers are provided.

8. Ensure that recyclable or refillable containers are used wherever possible.

9. Ensure that you have clean washing water and soap for personal use.

SEVENTH SCHEDULE [*regulations* 17 (*a*) *and* 18 (1)]

CODE OF PRACTICE FOR THE IN-USE MANAGEMENT OF PCBs AND PCB-CONTAINING EQUIPMENT

In-use and control of PCBs and PCB containing equipment

1.—(1) PCBs and PCB-contaminated equipment that are still in use (awaiting replacement or decommissioning) or in storage (awaiting disposal) shall be appropriately managed to minimise the risk to the surrounding environment.

(2) Holders of PCBs shall put in place a formal written procedure to be called 'Control of PCB Holdings', to minimise the safety and environmental risks associated with PCBs.

Storage of PCBs.

2.—(1) PCBs include any or all of the following categories of material—

(*a*) PCB-contaminated equipment such as capacitors and transformers (in-use equipment) ;

(*b*) PCB liquid wastes drained from equipment and collected from drip trays ; and

(*c*) PCB contaminated materials such as soil, absorbent material, clothing, rags, containers and handling equipment.

(2) For the purpose of safe storage, in-use equipment and in-use PCB-contaminated equipment such as transformers shall be stored in a bund made from a material impervious to PCBs such as steel.

(3) The bunding used for in-use PCB-contaminated equipment shall, as a minimum, be bunded locally or remotely to a volume not less than the greater of the following—

(*a*) 110% of the capacity of the largest tank or drum within the bunded area ; or

(*b*) 25% of the total volume of substances which could be stored within the bunded area.

(4) Throughout the code of practice PCBs are defined as polychlorinated biphenyls, polychlorinated terphenyls, monomethyl-tetrachloro-diphenyl methane, monomethyl-dichloro-diphenyl methane, monomethyl-dibromodiphenyl methane and any mixture of substances containing any one or more of the aforementioned substances in an aggregate amount which by weight exceeds 0.005% (or 50ppm) by weight of the mixture.

(5) For the purpose of the code of practice any item of equipment (*e.g.* transformer, capacitor, etc), which contains, or contained, PCBs at concentrations above 0.005% (or 50ppm) by weight of PCBs, and has not been subject to decontamination, is defined as PCB-contaminated equipment.

(6) The PCB contaminated equipment shall be listed on an inspection schedule so that any leaks can be prevented through appropriate maintenance.

(7) To prevent leaks or spills from in use equipment the following additional measures shall be adopted—

(*a*) a monthly inspection schedule shall be devised to ensure that PCB-contaminated equipment is inspected regularly and maintained so that any potential leaks are prevented ;

(*b*) drain valves on PCB-contaminated equipment shall be securely closed in a way that will prevent inadvertent or unauthorised opening and valves shall be labelled 'Risk of PCB spillage – do not open' ;

(*c*) in addition to bund provision, spill containment measures such as metal drip trays or absorbent mats shall be fitted to installations where possible; spill kits shall be provided near installations and procedures shall be in place for the management of used spill abatement materials that may contain PCBs ;

(*d*) PCB spillages shall not be able to reach floor drains; where there is a risk of this occurring, and the risk cannot be avoided, drains shall be capable of diversion to suitable containment or temporarily sealed by using appropriate drain seals or drain protectors ;

(*e*) as part of the recommended written procedure of 'Management of PCB Holdings', an accident prevention and emergency response plan shall be prepared and shall incorporate the steps to be taken in the event of a spill of PCBs and this plan shall be known and available to all staff ; and

(*f*) any leakage or spillage of PCBs shall be cleaned up and stored prior to disposal.

Storage of de-commissioned PCB-contaminated equipment or waste PCBs.

3.—(1) Decommissioned PCB-contaminated equipment or PCB waste shall be transferred to a secure, and well labelled store as it is removed from service or as waste is generated.

(2) All due care shall be taken to prevent accidental release of PCBs between the time of generation of the waste and its placement in storage.

(3) Waste PCBs and small items of decommissioned PCB-contaminated equipment shall be moved and stored in appropriate sealed containers (e.g. UN approved hazardous waste containers) made of steel or other metals that provide sufficient durability and strength to resist any chemical action by liquid PCBs.

(4) Containers shall have close fitting lids, which can be hermetically sealed.

(5) Waste PCBs and decommissioned PCB-contaminated equipment shall be stored on a floor or surface that is PCB resistant and that is appropriately bunded.

Design of storage areas.

4. Storage areas for decommissioned PCB-contaminated equipment and PCB wastes shall have the following characteristics—

(*a*) *Security*—the PCB storage area shall be securely locked and access shall be restricted to authorised personnel ;

(*b*) *fire protection*—PCBs and PCB-contaminated equipment shall be kept separate from flammable materials and holders shall take all necessary precautions to avoid any risk of fire involving PCBs ;

(*c*) the storage of combustibles shall not be allowed within 10 metres of the PCB store and appropriate firefighting equipment shall be available for use in the immediate vicinity of the store area ;

(*d*) *spill containment*—all floor drains, sumps or other openings in the floor of the storage facility shall be closed and sealed to prevent the release of liquids ;

(*e*) drains shall be capable of diversion to suitable containment or temporarily sealed by using appropriate drain seals or drain protectors and spill containment equipment shall be readily available inside the store ;

(*f*) *segregation of PCBs*—no other waste shall be stored within the area and no manufacturing or other activity shall be undertaken; solids and liquids shall be stored in separate drums ;

(*g*) *weatherproofing*—where possible, it is recommended that the PCB store be located indoors; if this is not possible an outside storage area shall be covered with a waterproof barrier that protects the PCB containing equipment or containers and prevents moisture from entering the bunded storage area ;

(*h*) *adequate ventilation*—the store shall have a fresh air inlet and an air exhaust to the outside ;

(*i*) a copy of the accident prevention and emergency response plan shall be posted in the store and a first aid kit shall also be located inside the store ; and

(*j*) large capacity PCB storage facilities shall have a central receiving area where PCB equipment and wastes are loaded and unloaded from transport vehicles and this area shall have an impervious floor and a containment system to control any spills during loading and unloading of PCBs.

Maintenance and inspection of storage facilities.

5.—(1) Personnel working at the storage facility shall be made aware of safety and environmental risks associated with PCBs and shall be trained in the use of Personal Protective Equipment (PPE) and clean up techniques.

(2) A register of all waste PCB movements shall be maintained and the register shall record the type, nature and quantity for all incoming and outgoing wastes.

(3) The register shall specifically record the following information on outgoing wastes—

(*a*) the weight and a detailed description of the PCB waste ;

(*b*) the name of the carrier of the waste and their waste collection permit details ;

(*c*) details of the ultimate disposal destination of the waste and its permit or licence details ;

(*d*) copies of all forms C1 or TFS (Trans frontier Shipment) documentation ; and

(*e*) written confirmation of the disposal of the waste PCBs.

(4) The storage facility shall be inspected at least monthly to ensure that PCB-contaminated equipment and PCB waste materials are appropriately stored so that any potential leaks are prevented.

(5) An equipment and storage facility inspection checklist shall be provided which may also be used for in-use PCB contaminated equipment and PCB waste materials and a signed and dated checklist shall be kept on file.

EIGHTH SHCEDULE [*regulation* 15]

REGISTRATION PROCESS FOR PCB-CONTAMINATING MATERIALS AND WASTE GENERATORs, OWNERS AND OPERATORS

Who is affected.

1.—(1) Any generator, owner or operator who is engaged in any activity listed in these Regulations, which include manufacturing, processing, use, offer for sale, sale, import, export and storage is subject to the provisions of these Regulations.

(2) These Regulations apply to owner or operator using PCBs and PCBs-containing products, and also to owners and operators of PCB storage facilities.

(3) PCBs and products containing PCBs are mainly in use in electricity generation, transmission and distribution and can also be found in the following sectors—

(*a*) electricity utility (generation, transmission and distribution) ;

(*b*) primary industry (oil and gas, pulp and paper, mining and mineral, iron and steel) ;

(*c*) federal, provincial or municipal government facilities ;

(*d*) commercial facilities, such as shopping centres ;

(*e*) food and feed processing industry, drinking water treatment plant ; and

(*f*) institutional facilities such as hospitals, schools, daycare and seniors care facilities.

(4) Owner or operators of PCB-contaminated equipment, materials or wastes have to complete the registration process, and shall apply as soon as possible to ensure that their registration can be dealt with without any delays.

(5) The registration requirement is applicable also, to those who process PCBs for the purposes of analysis, research, disposal and destruction including—

(*a*) waste management industry, including transfer stations, recycling facilities, destruction facilities, importers and exporters of wastes ;

(*b*) analytical laboratories and research facilities ; and

(*c*) colouring pigment manufacturing.

Who is required to register.

2. The generators, owners or operators of PCB-contaminated equipment, material or wastes is required to register—

(*a*) residual stocks of PCBs, for example oils, which are contained within a receptacle (a drum or tank) ; and

(*b*) items or equipment contaminated with PCBs at a concentration in excess of 50ppm.

What needs to be reported.

3.—(1) Any equipment that contains PCBs which are at a concentration in excess of 50ppm shall be reported and these substances may be held in containers in their own right or as an integral part of a piece of equipment, for example in an electrical transformer.

(2) Where the PCBs are contained within equipment then that equipment shall contain in excess of five litres (5dm3) of contaminated materials as well as having a PCB concentration of over 50ppm; where a person hold an electrical transformer that is contaminated equipment, that person is entitled to hold it until the end of its useful life once registered, provided it is—

(*a*) decontaminated to less than 50ppm of PCBs ; or

(*b*) already contains less than 50ppm of PCBs.

Keeping registration current.

4.—(1) A registered generator, owner or operator shall provide an up to-date information about the substances or equipment he hold which means he is required to let the relevant authority know in writing about any changes in the operation or ownership that he registered with the the Designated National Authority (DNA).

(2) A person entitled to handle or operate PCBs need to renew his registration every year.

(3) The generator, owner or operator shall request for new application or renewal form from the DNA.

(4) It is the responsibility of generator, owner or operator to ensure compliance with the requirements of these Regulations.

Cancelling of registration.

5.—(1) Registrations can be cancelled where it is determined that, or there is notification that—

(*a*) generator, owner or operator's application contained information which was incorrect or false ; or

(*b*) generator, owner or operator no longer holds the substances or equipment.

(2) Where the Agency decides to cancel a registration, the person shall be notified in writing with reasons.

(3) The generator, owner or operator has the right to appeal against the Agency's decision and the Agency will provide the appellant relevant information on appeals if applicable.

Recording keeping.

6.—(1) Operators shall keep and maintain all records which comprise of annual records, annual document log, additional records (e.g correspondence) for a period of at least 3 years.

(2) Operators shall keep all discrepancy reports, exception reports, 1 year exception reports, and unmanifested PCB waste report.

(3) Operators are required to keep annual records and documents log for 3 years from last use and additional documents, e.g., special correspondence and permits are to be kept for 3 years from last use.

NINTH SCHEDULE [*regulation* 17 (a)]

LABELLING, PACKAGING, TRANSPORTING, AND STORING PCB-CONTAINING MATERIALS AND OTHER HAZARDOUS WASTES

1. A generator, owner or operator of PCB contaminated materials and wastes is defined as the person responsible for handling, storing, transporting,or disposing of PCB containing materials or wastes and is considered the party that owns the material.

2. Other forms of generator, owner or operator include PCB materials and wastes generated in one of these two ways—

(*a*) PCB-contaminated soils and materials discovered during grading or digging (that is, remediation wastes) ; or

(*b*) PCB-contaminated buildings or equipment discovered during demolition.

3. In the situations in paragraph 2 of this Schedule, the contractor who first discovers the PCB-containing material typically is responsible for notifying the general contractor, developer or owner.

4. Provided that the PCB-containing material was present on the site prior to construction activities, the developer or owner typically is responsible for ensuring that all PCB wastes are handled and disposed of properly.

5. This provision applies to PCB-containing equipment, materials and wastes whose concentration is 50 mg/kg or more.

6. All containers and equipment containing or contaminated with PCBs, shall be clearly labelled with both a hazard-warning label and a label which gives the details of the equipment or container.

7. The details shall include the contents of the container or equipment (exact counts of equipment or volume of liquid), the type of waste, the name of the site from which it originated so as to allow traceability, the date of repackaging where appropriate and the name and telephone number of the responsible person.

8. It is the responsibility of the owner of PCB-containing equipment, materials and wastes to have labels and notices produced in accordance with these Regulations.

9. The purpose of paragraph 8 of this Schedule is to ensure that PCB-containing equipment, materials and wastes are labelled as soon as possible even when it is still in use.

10. The label shall be affixed no later than 30 days after the day on which the equipment or the liquid ceases to be used.

11. Where the PCB content of the equipment is known, it is recommended to label the equipment that is still in use.

12. It is not necessary to affix a new label on equipment or containers that already bear a label that indicates the presence of PCBs.

13. It is not required to affix a label for equipment that is too small, including lamp ballasts and for these, the label shall be affixed to their storage container.

14. Prior to any demolition or remodeling activities, identify and label all PCB-containing equipment or material that will be disturbed as follows—

(*a*) large mark (ML) is the larger, preferred label and is square from 6 inch by 6 inch to 2 inch by 2 inch ;

(*b*) small mark (MS) is the smaller label that shall be used only on items that will not accommodate the ML and is rectangular from 1 inch by 2 inch to 0.4 inch by 0.8 inch ; and

(*c*) the items in paragraph (*a*) and (*b*) of this paragraph shall be labeled—

(*i*) large PCB transformers, PCB low- and high-voltage capacitors and equipment containing these transformers or capacitors at the time of removal from use if not already marked,

(*ii*) large PCB high-voltage capacitors at the time of manufacture, at the time of distribution in commerce if not already marked and at the time of removal from use if not already marked,

(*iii*) electric motors using PCB coolants,

(*iv*) hydraulic systems using PCB hydraulic fluid,

(*v*) heat transfer systems (other than PCB transformers) using PCBs,

(*vi*) PCB article containers containing articles or equipment that shall be marked, and

(*vii*) each storage area used to store PCBs and PCB items for disposal.

15. The generator, owner or operator is required to maintain an inventory of registered equipment with reference to the location of each item.

16. PCB waste generators, transporters and owners of PCB-containing facilities shall ensure proper packaging, labelling, and storage of PCB waste prior to transportation to disposal facilities.

17. PCB equipment shall have distinct markings on the intended use and the corresponding PCB content.

18. Containers of PCB wastes shall be durable, corrosion resistant, leak-free, in good condition and free from damage and shall follow the UN standard of packaging.

19. PCB liquid from transformers shall be drained prior to any transport activity.

20. Liquid PCB wastes shall be stored in sealed, new or in good condition 200-litre steel drums or high density polyethylene (HDPE) drums, and fitted with double bung fixed ends.

21. The steel drum shall be treated or painted to prevent oxidation and rusting.

22. There shall be 7 to 10 cm airspace left at the top of the drum to allow liquid expansion.

23. The liquid PCB wastes shall be placed in heavy duty steel or HDPE drums, with removable lids and a gasket made of PCB resistant material such as nitrile rubber, cork, or teflon etc where applicable.

24. The drum shall have a clear and visible label, in compliance with these Regulations.

25. The following items shall be packed in heavy duty and leak-proof polyethylene bags and the bags shall then be placed in steel or HDPE drums in good condition and fitted with removable lids; the drum shall also have a clear and visible label, in compliance with the code of practice—

(*a*) combustible PCB contaminated solid wastes such as materials used for cleaning PCB equipment ;

(*b*) cleaning or absorbing of spillage such as sawdust, rags, etc. ;

(*c*) PCB contaminated PPEs such as gloves, gaskets or clothing ; and

(*d*) used PCB test kits.

26. The following items shall be placed in heavy duty steel or HDPE drums, with removable lids and a gasket made of PCB resistant material such as nitrile rubber, cork, or teflon, where applicable—

(*a*) non-combustible PCB contaminated solid wastes which include used PCB containing equipment such as transformers, capacitors, heat transfer systems ;

(*b*) contaminated components removed from such systems such as windings ;

(*c*) PCB contaminated containers and equipments such as steel drums, pumps, tanks, metal filters ; and

(*d*) scrap, retro-filled transformers if its PCB content is higher than 2 ppm.

27. The drum shall be packed with absorbent material so that any leaks would be absorbed.

28. PCB equipment which would not fit in steel drums, shall be wrapped with HDPE and inspected for leakage prior to storage and transport.

29. PCB contaminated containers and drums shall never be re-used to store other materials other than PCB wastes.

30. Containers of PCB wastes shall be properly marked with permanent marker or on a plain white label as "Empty, Unclean PCB", but shall bear no other labels including class or hazardous waste PCB or marine pollutant which would confuse an inspector—

(*a*) identifying and labeling the material ;

(*b*) notifying appropriate authority e.g. Federal Ministry of Environment ;

(*c*) properly storing the material, and properly disposing of the material ; and

(*d*) notifying the authority—

(*i*) of PCB containing equipment, materials or wastes during grading or digging, and

(*ii*) that the storage and handling requirements for such discovery can be very complex and depend on the amounts and concentrations.

TENTH SCHEDULE [*regulation* 13 (*b*)]

STORAGE AND DISPOSAL REQUIREMENTS

1. The general requirements for handling PCB-containing equipment, materials or wastes identified on site, or for the purpose of construction and demolition, prior to demolition or remodeling projects consist of—

(*a*) identifying and labeling the material ;

(*b*) notifying appropriate authority ;

(*c*) properly storing the material, and properly disposing of the material ; and

(*d*) notifying the authority—

(*i*) of PCB containing equipment, materials or wastes during grading or digging, and

(*ii*) that the storage and handling requirements for such discovery can be very complex and depend on the amounts and concentrations.

PCB concentration or assumptions.

2. Where a person is storing or disposing of PCB waste, it is mandatory that such person complete a notification of PCB activity form and submit to the appropriate Agency.

Storage requirements.

3.—(1) Storage requirements for PCB-containing materials depend on the end use of those materials.

(2) Materials for reuse for up to 5 years in an approved, permanent PCB storage area can be approved for storage.

(3) Materials for disposal can be stored for up to 30 days in a temporary storage area or for up to1 year in a permanent PCB storage location.

(4) In all cases, materials shall be marked with the date they were removed from service and the area shall be inspected every 30 days for any spills or leaks.

(5) A temporary storage for disposal area shall meet the following requirements—

(*a*) be marked with a PCB ML label ;

(*b*) have a roof and walls to protect the materials from rain or snow ;

(*c*) have impermeable floor with 6-inch curbing and no drains ;

(*d*) have containment volume equal to at least two times the volume of the largest PCB article or 25 percent of the total volume of all PCB articles, whichever is greater ;

(*e*) not be located in a 100-year flood plain ; and

(*f*) have all leaking equipment stored in a non-leaking PCB container with absorbents and have non- leaking equipment on pallets.

4. PCB-containing material can only be stored in an area permitted by the appropriate authority to store hazardous wastes and where the owner or operator maintains an on-site storage area, such owner or operator shall complete the notification of PCB activity form developed by the DNA.

5. If at any time during site inspection or material handling, a person discover a spill or leak, such person shall clean it up within 72 hours of discovery.

6. The requirements of the plan vary depending on the size and concentration of the spill but can include the following—

(*a*) for high concentration spills (defined as 500 ppm or greater PCBs, or low concentration spills involving more than 454g PCBs by weight, or more than 1022 litres of untested material) ; and

(*b*) within 24 hours of the spill or within 48 hours for spills involving PCB transformers if the spill involved 4.54kg or more by weight of PCBs.

7. The following shall apply in relation to paragraph 6 of this Schedule—

(*a*) notify local environmental agencies ;

(*b*) notify local authorities immediately if there was a fire ;

(*c*) restrict and label the visible spill area ;

(*d*) record and document the extent of PCB contamination of the estimated spill area ;

(*e*) immediately begin cleanup of the visible spill area; once the concentration level of the PCB spill is determined, begin the appropriate cleanup depending upon the release location, exposure risk, PCB concentration, and future use of the site ;

(*f*) test the area to confirm that the PCB concentration met e.g. FMEnvt-specified levels; for low concentration spills (defined as less than 500 ppm PCB, or less than 454g of PCBs by weight, or less than 1022 litres of untested material) ; and

(*g*) double wash or rinse all contaminated surfaces within 48 hours of the spill, properly dispose of the wash water.

8. Collect a standard wipe test sample from impervious surfaces, using hexane wipe samples to detect PCB contamination and confirm that the concentration is not more than 10 ?g (micrograms)/100 square centimeters.

9. At the completion of cleanup, records and certification forms shall be maintained for a period of 3 years and the records shall contain the following—

(*a*) identification of the source of the spill (e.g., type of equipment) ;

(*b*) estimated or actual date and time of the spill ;

(*c*) the date and time cleanup was completed or terminated (if cleanup was delayed by emergency or adverse weather, include the nature and duration of the delay) ;

(*d*) a brief description of the spill location ;

(*e*) a re-cleanup sampling data used to establish the spill boundaries if required ;

(*f*) a brief description of the sampling methodology used to establish the spill boundaries ;

(*g*) a brief description of the solid surfaces cleaned and of the double wash or rinse method used ;

(*h*) approximate depth of soil excavation and the amount of soil removed ;

(*i*) a certification statement signed by the responsible party stating that the cleanup requirements have been met and that the information contained in the record is true to the best of his knowledge ; and

(*j*) any spills that are deemed greater than 72 hours old shall be cleaned up (remediated) by certified methods as discussed in the relevant part of these Regulations.

10. The methods referred to in this Schedule are not allowed to clean up the following—

(*a*) surface or ground waters ;

(*b*) sediments in marine and freshwater ecosystems ;

(*c*) sewers or sewage treatment systems ;

(*d*) any private or public drinking water sources or distribution systems ;

(*e*) grazing lands ; or

(*f*) vegetable gardens.

Waste transporter.

11.—(1) The waste transporter shall completely accomplish in other copies of the waste transport, record or manifest prior to transportation and the transporter shall retain a copy of the transport record in the driver's cabin of the vehicle.

(2) The waste transporter shall upon arrival at the treatment, storage or disposal facility give other copies of the waste transport record to the waste treater for acceptance and confirmation.

Waste treater.

12.—(1) The waste treater shall verify the accuracy of the contents of the waste transport record or manifest; similarly, the waste treater shall also accomplish the waste transport record after verification and retain a copy of the said manifest form for 24 months upon receipt of the PCB waste.

(2) Where inaccuracies are found, the treater shall inform the generator of such inaccuracy within a reasonable period of time.

(3) The treater has the right to deny acceptance of the PCB waste if acceptance of such waste may cause danger or hazard to the operations of its facility.

(4) Where the PCB waste is accepted for storage, treatment or disposal, the waste treater shall sign the corresponding manifest.

(5) A certificate of treatment shall be issued immediately upon treatment, but not beyond 6 months from the time of acceptance.

13. Contents of PCB Spill Kit on Vehicles

Quantity	*Type of Material*
1	List of Spill Kit Contents
1	Emergency Contact List
1	Material Safety/ Data Sheet for PCBs
2 Pairs	Tyvek or Similar Overalls
2 Pairs	PCB Resistant Knee Length Safety Boots
2 Pairs	PCB Resistant Gauntlets
2 Pairs	Goggles
1	Fire Extinguisher, Dry Chemical 4.5 kg
1	Brush, Bannister and Pan, including rags
1 Container	Liquid Oil Dispersant, Premixed (1 litre) – to remove residual slipperiness from public access areas following oil spills
2	Bags—Polyethylene Waste Disposal, Double Sealed at Bottom, 915 mm x 1200 mm x 1300 mm
3 sets	Early Warning Device (EWD)
1 Bag	Absorbent Material (cement bag size)
1	Spill Kit Container for Above Equipment and Material
1	Long Handled Shovel
1	First Aid Kit
	Hand-operated pump with pump hose
	Code of Practice for PCBs

ELEVENTH SCHEDULE [*regulation* 14 (3)]

REGISTRATION OF PCB WASTE TRANSPORTER

Registration.

1. The Agency shall in consultation with the DNA register all transporters of PCB-containing material or wastes.

Submissions.

2. Applicants or transporters shall submit the following requirements—

(*a*) official letter of request ;

(*b*) duly accomplished registration form for hazardous waste transporter ;

(*c*) business permit and Corporate Affairs Commission (CAC) registration certificate ;

(*d*) description or specification of conveyance ;

(*e*) details of transport services to include requirements for high fencing or canopy on both sides of vehicles, hazard warning panels clearly marked, emergency and safety equipment, spill cleanup kit ;

(*f*) containers as prescribed by the code of practice ;

(*g*) photographs of conveyance (inside and outside shots of vehicle) ;

(*h*) sketch or location of garage ;

(*i*) certificate of registration of vehicle and official receipt issued by the relevant authority ;

(*j*) contingency and emergency preparedness plan including provisions on fire-fighting equipment, Personal Protective Equipment (PPE), and other emergency equipment ;

(*k*) certificate of training or seminars of drivers and helpers on safety precautions in handling and transporting PCBs ; and

(*l*) insurance bond.

Permit for PCB wastes transportation.

3.—(1) Transporter of PCB containing equipment, material or waste shall have the required permit required for transport.

(2) Transport of PCB wastes shall be under the supervision of trained and experienced personnel that have undergone the training required for the registration of PCB waste transporters.

(3) Transport vehicles shall have drop-side on both sides, with a canopy.

(4) Transport vehicles shall have hazard warning panels clearly marked with black indelible ink against yellow retro-reflective background and the panels shall be displayed at the front and rear of the vehicle in a position that does not conceal any lights, license plates or other legally required signs or markings

(5) The Manifest shall be kept on the driver's cabin or in the driver's side door compartment at all times.

(6) Transport Vehicles shall be equipped with safety equipment, including appropriate fire extinguisher for emergency use and a spill cleanup kit.

(7) The precautions to be observed during the transport shall include the following—

(*a*) all materials to be transported shall be packaged and labeled in accordance to the code of practice ;

(*b*) all liquid wastes shall be transported in closed transport vehicle or van ;

(*c*) all loading and unloading operations shall be carried out with care to avoid any damage which may result in leakage and spillage ; and

(*d*) the drums or the PCB contaminated equipment shall be loaded and fastened securely so that they are in an upright position and do not move about or fall off the vehicle.

Manifest system for PCB waste transport record

4.—(1) A manifest system is designed to implement, control and monitor the movement or transport of PCB-containing equipment, material or wastes from generator to storage or disposal facility.

(2) In every stage of delivery, the waste transport record or manifest shall be completely prepared prior to collection and transport of PCB equipment, material or waste from generator's premises.

(3) The waste transport record or manifest shall contain the following information—

(*a*) name and address of the waste generator ;

(*b*) name of the waste transporter ;

(*c*) registration number of the waste transport vehicle ;

(*d*) quantity of the waste transported ;

(*e*) name and address of transit points and the final destination of the PCB waste ; and

(*f*) method of waste treatment, storage, export, or disposal at the destination.

TWELFTH SCHEDULE [*regulation* 13 (*b*)]

REGISTRATION OF PCB WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITY

REQUIREMENTS :

To operate PCB waste treatment, storage or disposal facility, a person is required to submit the duly accomplished details that shall contain the following supporting document requirements—

(*a*) company profile showing track record of operators in PCB or hazardous waste management, personnel training, names of persons to contact in case of emergency ;

(*b*) vicinity map and site development plan showing location of storage facilities, clean work areas, dirty work areas, treatment facility, equipment, waste loading and unloading areas, vehicle parking area ;

(*c*) components and equipment of the TSD facility ;

(*d*) volume of PCB waste that can be handled by the TSD facility ;

(*e*) description of treatment process including rated capacity, process flow, material balance, residues, power and water requirements, process control, maintenance requirements, number of manpower or plant personnel ;

(*f*) expected quantity or volume of residues and method of treatment and disposal of residues ;

(*g*) emergency and contingency plan including proposed measures to be undertaken during spills, cleanup and disposal of PCB contaminated articles, absorbent materials and decontamination of PCB-contaminated materials ;

(*h*) storage management plan including size of storage area, spill containment system, type of flooring, location of drains, ventilation system ;

(*i*) reporting, record-keeping and monitoring plan for process control parameters, emissions, and discharges ;

(*j*) site cleanup and abandonment plan ;

(*k*) copy of Environmental Compliance Certificate (ECC) ;

(*l*) copy of Environmental Impact Assessment (EIA) ;

(*m*) copies of discharge permit and permit to operate air pollution source and control installation ;

(*n*) certificate of accreditation of Pollution Control Officer (PCO) ;

(*o*) photographs of the transport, storage and disposal facility showing processing areas, storage areas ; and

(*p*) insurance bond.

THIRTEENTH SCHEDULE [*regulation* 20 (2)]

HEALTH AND SAFETY REQUIREMENTS AND PROCEDURES

Personal Protective Equipment (PPE).

1.—(1) Workers shall eliminate risk of exposure to PCBs by utilizing the following personal protective equipment or proven equivalent measures—

(*a*) appropraite chemical resistant coveralls with hood ;

(*b*) protective boot covers ;

(*c*) full-face respirator ;

(*d*) protective gloves ;

(*e*) heavy duty gauntlets or ductile taping of pant's ankles to boot covers, and wrists to gloves ;

(*f*) hard hat for overhead dangers and head protection ; and

(*g*) goggles for eye protection.

(2) The main danger when handling liquids with high PCB concentrations is skin absorption; careful consideration shall be given to the selection of protective clothing including coveralls, boots or boot covers, gloves and eye protection.

(3) Clothing and footwear shall be resistant against splash and spills.

(4) For major spill clean-up operations, a full suit of non-porous material is appropriate ; disposable coveralls and PCB resistant knee length safety boots shall be used.

(5) Safety gadgets coveralls.

(6) Eye protection against liquid splashes is necessary, goggles are adequate for this purpose and chemical safety goggles face shield, or safety glasses with side shields are satisfactory.

(7) Working with hot fluid shall be avoided since fumes may be generated when PCB fluids are heated above 55°C.

(8) Protective equipment shall also be worn to prevent inhalation of fumes.

(9) A full-face respirator fitted with a cartridge suitable for PCBs shall be used and ventilation of the working area shall be sufficient to dispose the generated vapors.

(10) Where the respirator becomes slightly contaminated or clogged, wipe the respirator with a paper towel and kerosene.

(11) Where the respirator becomes heavily contaminated, it shall be disposed of in accordance with the code of practice.

(12) PCBs will penetrate most materials, but certain materials including natural rubber are particularly permeable to PCBs and are thus unsuitable for use as protective- clothing.

(13) Chemical resistant fluorinated rubbers or elastomers are more suitable and laminated materials offer the best protection against PCBs.

(14) For continuous handling of PCB, resistant viton, polyethylene, butyl rubber, nitrile rubber or neoprene gloves shall be used.

(15) A material is not completely impervious to PCBs and therefore it is necessary to make certain that arrangements are in place to regularly change all PPE.

(16) The equipment supplier shall provide details on the rate of PCBs permeate protective equipment, this information will be useful in estimating, for each task, the time it takes for PCBs to penetrate through the protective equipment.

(17) The supplier shall be able to provide typical breakthrough times for the different applications and advise where there is a need to reduce this time to allow for other factors such as abrasion.

(18) Where rubber boots are used, the boots need to be regularly discarded and the foot protection reinforced by the use of disposable boot covers.

(19) For laboratory work, laboratory coats and suitable disposable gloves are necessary for protection against skin contact and where there is a danger of dust or fume formation (for example by heating) then the use of a fume hood is recommended.

(20) Treat all potentially contaminated protective equipment as PCB waste and dispose of it accordingly and decontamination and reuse is not allowed.

Safety procedures.

2.—(1) Preference shall be given to the use of disposable protective clothing due to difficulty in decontamination.

(2) Contaminated protective clothing shall be promptly removed and the area of skin contaminated with PCBs shall be washed with or rinsed immediately.

(3) Level C PPE respirators shall be worn, for work at normal temperatures, a suitable type is a full face-piece respirator with an appropriate cartridge while for high temperature or work in confined space, Level B PPE that includes a self- contained breathing apparatus (SCBA) is required.

(4) Workers shall be trained before they are allowed to use this type of breathing apparatus and where the respirators do not have eye protection, the chemical type goggles shall be worn.

(5) Hands shall be washed after handling PCBs (even if wearing full protection) before eating, drinking, smoking or using toilet facilities initially with waterless hand cleaners and paper towels, which shall then be disposed of in accordance with the code of practice.

(6) A shower is required after a day's work, or after handling large amounts of PCB.

FOURTEENTH SCHEDULE [*regulation* 20 (4)]

DECONTAMINATION OF PCB- CONTAINING AND CONTAMINATED TRANSFORMERS

General requirements.

1.—(1) The generator, owner or operator of PCB-containing transformers is allowed to remove residue from his facility provided the generator owner or operator demonstrates to the satisfaction of the Agency that the residue is not a hazard to human health or the environment as determined by a test protocol or method approved by the Agency.

(2) A transformer consists of a casing containing a core immersed in a liquid and the liquid is a mineral oil (usually contaminated with PCB) or askarel (40 to 80% PCB); the core consists of tightly wounded aluminum or copper wire laminations encased in paper or wood (porous material).

(3) These Regulations have been developed to assist generator, owners or operators to apply them in demonstrating that residues generated in the treatment of transformers containing PCB in mineral oil or askarel are suitable for safe disposal in a manner that will not pose further danger to human health, safety and the environment.

Procedure.

2. The procedures outlined below shall be observed or applied in the process of decontaminating transformers and any deviation from this process shall receive prior written approval from the Agency, including the following—

(*a*) initial testing- the testing shall be conducted by a POP or PCB accredited and certified laboratory, and as follows—

(*i*) obtain a sample of the transformer liquid and test for the PCB concentration in accordance with the laboratory procedures established by the Agency, and

(*ii*) depending on the concentration of PCB in the transformer liquid, proceed to subparagraph (b), (c) and (d) of this paragraph ;

(*b*) where the mineral oil in transformers contains or is contaminated with less than or equal to 50 ppm PCB—

(*i*) the transformer shall be drained carefully to avoid spills and leaks, and

(*ii*) the drained oil shall be managed as a (waste oil) hazardous material ;

(*c*) where the mineral oil in transformers contains or is contaminated with 50-500 ppm PCB—

(*i*) the transformer shall be carefully drained, retrofilled with oil containing <2ppm PCB to cover the core and left to stand for 24 hours, then drained again,

(*ii*) the original drained oil shall be removed and managed as a PCB hazardous waste,

(*iii*) the oil used to flush the transformer shall be tested and managed as a PCB hazardous waste where the concentration is greater than 50 ppm or as a waste oil hazardous waste where the concentration is less than or equal to 50 ppm,

(*iv*) the generator, owners or operators shall submit the results of oil testing for PCBs, including those from the original testing, to the Agency, along with transformer manufacturer's name, transformer size and serial number, and

(*v*) an approval of the Agency shall be obtained prior to removal of the waste oil and the transformer casing from the decontamination facility ;

(*d*) mineral oil transformers contaminated with 500-5,000 ppm PCB—

(*i*) each transformer shall be disassembled to separate the porous material from the impervious transformer casing of the transformer,

(*ii*) sample both the porous material and the casing interior surface,

(*iii*) to sample the interior surface of the casing, the wipe method referred to under paragraph 7 of the tenth schedule to these Regulations shall be used, test the components to determine the concentration of PCBs in the porous material (in mg/kg) and on the casing interior surface (in µg/100 cm^2),

(*iv*) decontaminated by autoclaving solvent cleaning or other similar process, or filled with oil containing <2ppm PCB to cover the core and stored for 90 days, at which time the oil within the transformer shall be sampled and tested to determine the PCB concentration in the oil,

(*v*) the transformer shall be carefully drained,

(*vi*) where the concentration of PCB in the porous material is equal to or less than 50 mg/kg, the Agency may authorize removal of the decontaminated porous material from the facility,

(*vii*) where the concentration of PCB on the casing surface is less than 10 µg/100 cm^2, the Agency may authorize removal of decontaminated transformer casing from the facility, and

(*viii*) where a decontaminated transformer component does not meet the applicable standard in this paragraph and subparagraph (*e*) of this paragraph, the component shall be decontaminated again by the approved method and retested,

(*ix*) where the PCB concentration of the oil in subparagraph (*a*)(ii) of this paragraph is greater than 50 ppm, the transformer shall again be carefully drained, filled with oil containing <2ppm PCB and again stored for 90 days ; this method shall be repeated and the oil sampled and tested to determine the PCB concentration until the concentration of PCB in the oil within the transformer is less than or equal to 50 ppm, alternately, the decontamination method may be switched to that described in subparagraph (*a*)(*i*) of this paragraph,

(*x*) the transformer shall be stored for a further 30 days, at which time the oil shall be again sampled and tested to determine the PCB concentration,

(*xi*) where the concentration of PCB in the oil after the storage period is less than or equal to 50 ppm, the Agency may authorize removal of the decontaminated materials from the facility, and

(*xii*) where the concentration of PCB in oil in subparagraph (*c*) of this paragraph is greater than 50 ppm, the transformer unit shall be decontaminated again by starting at the method in subparagraph (*a*) of this paragraph, at this point it is possible to switch to the alternative decontamination method described in subparagraph (*a*)(*i*) of this paragraph ;

(*e*) mineral oil transformers contaminated with above 5000 ppm PCB—

(*i*) the practical limit for decontaminating PCB-contaminated transformers is approximately 0.5% w/w of total PCB (5000ppm),

(*ii*) decontaminating transformers containing pure PCB oils or oils with a high level of PCB contamination is not recommended, to prevent continuous leaching of residual PCBs from paper and wood components within the transformer, which is likely to result in contamination of the replacement transformer oil to a level in excess of 0.05% total PCB,

(*iii*) transformers with a total PCB contamination higher than 0.5% or 5,000ppm shall be disposed of in an environmentally sound manner, as may be prescribed by the Agency,

(*iv*) each transformer shall be processed as follows—

(*a*) carefully drain the PCB containing liquid from the transformer and store the liquid for management as a PCB hazardous waste,

(*b*) disassemble the transformer into impermeable (metal) materials and porous (wood and paper) material components,

(*c*) manage the porous material as a PCB hazardous waste,

(*d*) decontaminate the impermeable material by solvent cleaning or some other method until the surface contamination, measured by the wipe test is reduced to less than or equal to 10 µg/100 cm^2,

(*e*) submit the results of testing for PCB concentration from subparagraph (*d*) of this paragraph and the original concentration of PCB in the liquid contained in the transformer to a manager along with the name of the transformer manufacturer, transformer size and serial number,

(*f*) an approval from the Agency shall be obtained prior to removing PCB liquid or the decontaminated impermeable material from the decontamination facility, and

(*g*) store the decontaminated impermeable components according to the Hazardous Waste Regulation until approval of the Agency for a suitable disposal option is received.

Final Steps.

3.—(1) Before a transformer component is removed from the facility, the owner, generator or operator of the transformer shall make a written request to the Agency by providing details of how the decontaminated transformer components or the residue is to be managed and including the following information in a tabular form—

(*a*) name of the transformer manufacturer ;

(*b*) size (name plate oil volume) and serial number of the transformer ;

(*c*) initial PCB concentration in the oil (prior to decontamination) ;

(*d*) if the procedure in paragraph 2 (*a*)(*i*) of this Schedule was used—

(*i*) concentration of PCB in the porous material after decontamination, in mg/kg, and

(*ii*) concentration of PCB on the impervious surfaces after decontamination, in µg/100 cm^2 ; and

(*e*) if the procedure in paragraph 2 (*a*)(*ii*) of this Schedule is used—

(*i*) PCB concentration in the oil after each 90 day period in paragraph 2 (*d*)(*ix*), and

(*ii*) PCB concentration in the oil after each 30 days storage period in step 2 (*d*)(*x*).

(2) All oil drained from the transformer shall be recovered and managed as a waste oil hazardous waste or PCB waste hazardous waste, depending on whether the concentration of PCB in the oil is equal to and less than 50 mg/kg or greater, respectively.

(3) The decontaminated transformer casing, with or without the porous material, shall be recycled at a metal recovery facility or managed otherwise by a method approved by the Agency.

(4) Any porous material removed from a decontaminated transformer may be landfilled in accordance with the set guidelines or managed otherwise by a method approved by the Agency.

MADE at Abuja this 23rd day of December, 2020.

DR MOHAMMAD MAHMOOD ABUBAKAR
Honourable Minister of Environment