NATIONAL CASE STUDY

PCB MANAGEMENT IMPLEMENTATION OF THE PHILIPPINES

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PHILIPPINE STRATEGY FOR PHASEOUT AND ENVIRONMENTALLY SOUND MANAGEMENT OF PCB

ACTIONS REQUIRED TO MEET THE GOALS (2025-2028)

PCB Phase-out

- National Policy on PCB
- Control and Enforcement (Permitting and Monitoring)
- Identification, Sampling and Testing
- National Inventory
- Funding phase-out

ESM of PCB

- National Policy on PCB
- Control and Enforcement (Monitoring of Regional Offices)
- Identification, Sampling and Testing
- Funding
- Review of NIP

NATIONAL POLICY ON PCB

Regulations on PCB Management

Republic Act 6969 – "*Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990.*"

Department Administrative Order 2004-01
Chemical Control Order for PCB

- **Implemented March 2004**

Definition of Terms:	
PCB Equipment:	(PCB ≥ 500 ppm)
PCB-Contaminated Equipment:	(50 ppm ≤ PCB < 500 ppm)
Non-PCB Equipment:	(2 ppm < PCB < 50 ppm)
PCB-Free Material:	(PCB ≤ 2ppm)

Stockholm Convention

Signatory to the Convention : **May 23, 2001**
Ratification : **February 27, 2004**
Entry into Force : **May 27, 2004**

Phase out of PCB > 50 PPM

PHASE OUT SCHEDULE

Chemical Control Order for PCB

DENR Administrative Order No. 01, series of 2004 (DAO 2004-01)
Chemical Control Order for PCBs

Activity	PCB Equipment	PCB-Contaminated Equipment	PCB Article	PCB Wastes	PCB Packaging	PCBs	Non-PCB Equipment
1. Importation	Banned by March 19, 2004						Allowed until March 19, 2007
2. Trade/Sale/Distribution	Banned by March 19, 2004						
3. Local Production/Recycling/ Use as Raw Material	Banned by March 19, 2004						
4. Use	Allowed until March 19, 2014						
5. Storage	All existing decommissioned units that are sealed and with no leaks and those that have been drained of PCB fluids are allowed for storage until March 19, 2010						
	In-service units that will be decommissioned from March 19, 2004 to March 19, 2010 are allowed to be stored until two (2) years after the retirement period but not later than March 19, 2014						

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For more information:

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Stockholm Convention

- **Elimination of use by 2025**
- Reduce exposures and risks
- No export or import unless for ESM
- No recovery for purpose of reuse if > 50 ppm PCBs
- **Final disposal by 2028**

OTHER POLICY RELEASES

- Code of Practice for PCBs issued in 2009
- Technical Guidance document for PCBs Management (EMC-2015-007-Technical-Guidance-Document-for-PCBs-Management.pdf)
    - Identification / Registration / Inventory / Handling / Storage / Transport / Disposal
    - Health and Safety / Emergency Preparedness and Response

- PCB Management Plan to be submitted by all PCB owners
    - Sampling and Analysis Plan, Health and Safety Plan, Emergency Preparedness and Response Plan and Storage Facility Closure Plan
- Training manual for PCB (output of the UNIDO-GEF PCB-WEEE Project)

TECHNICAL GUIDANCE DOCUMENT

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Table of Contents

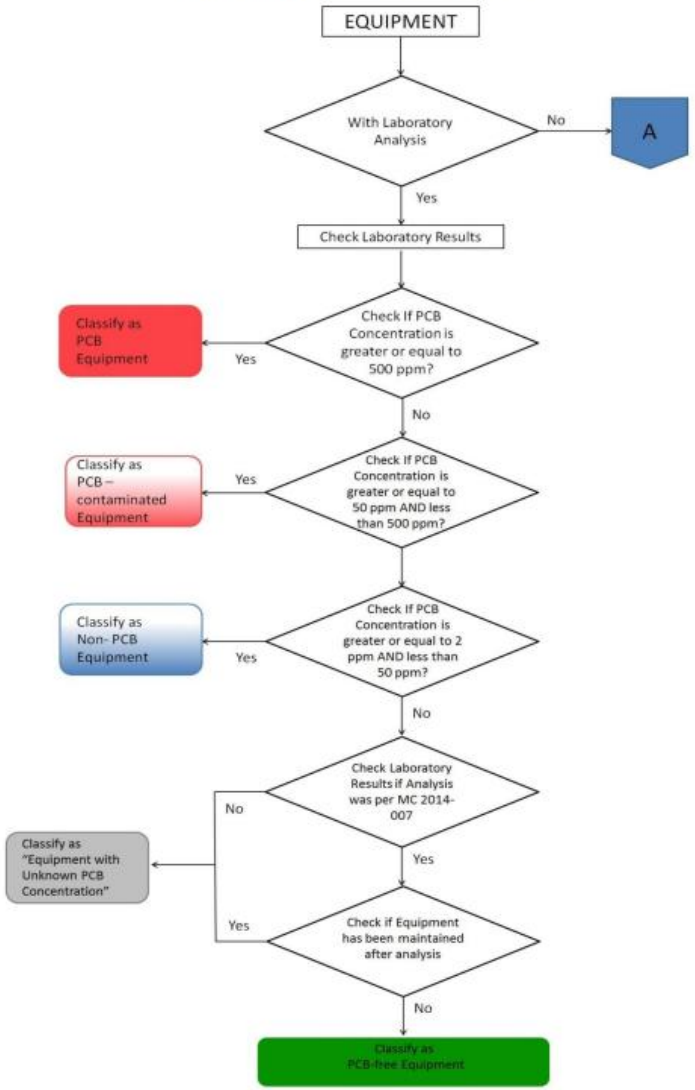
List of Figures

List of Tables

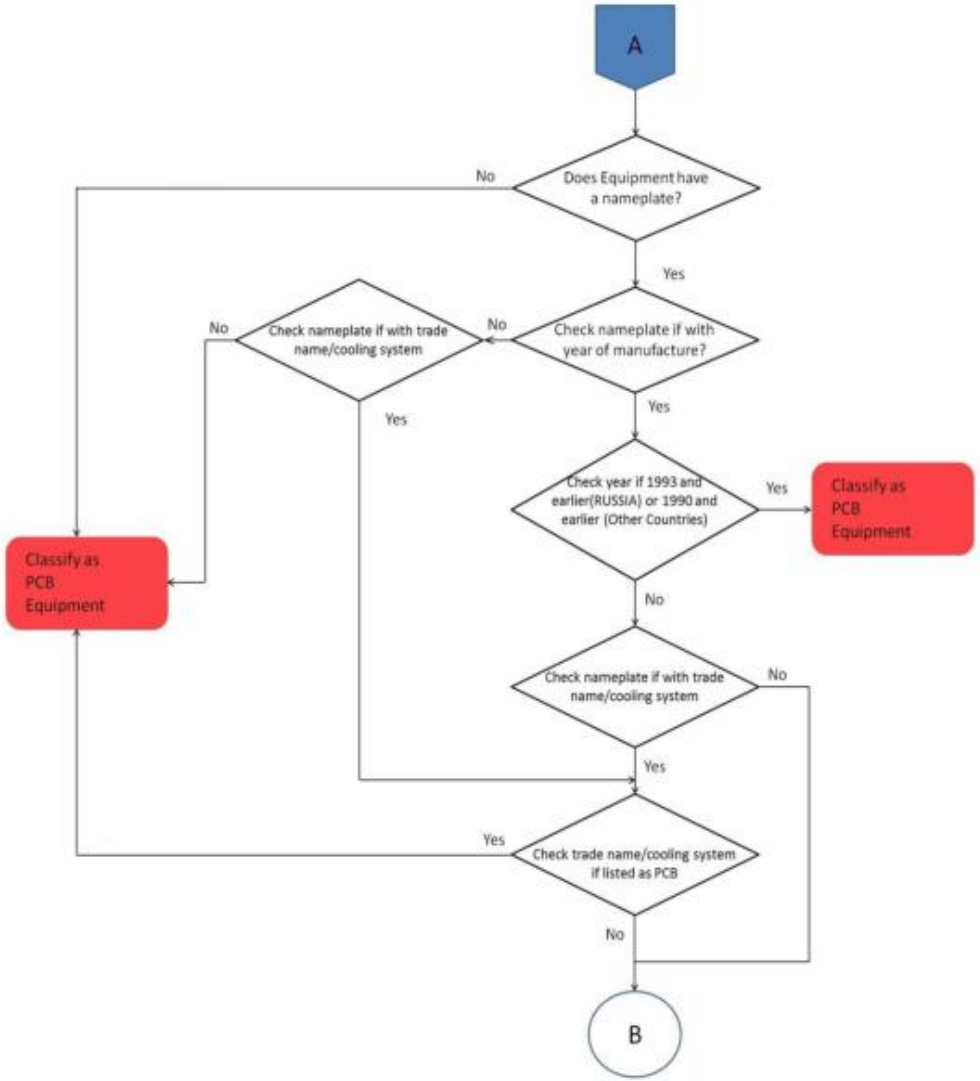
List of Annexes

TECHNICAL GUIDANCE DOCUMENT (PCB Identification)

Figure 4. PCB Identification Process



Technical Guidance Document for Polychlorinated Biphenyls (PCBs) Management



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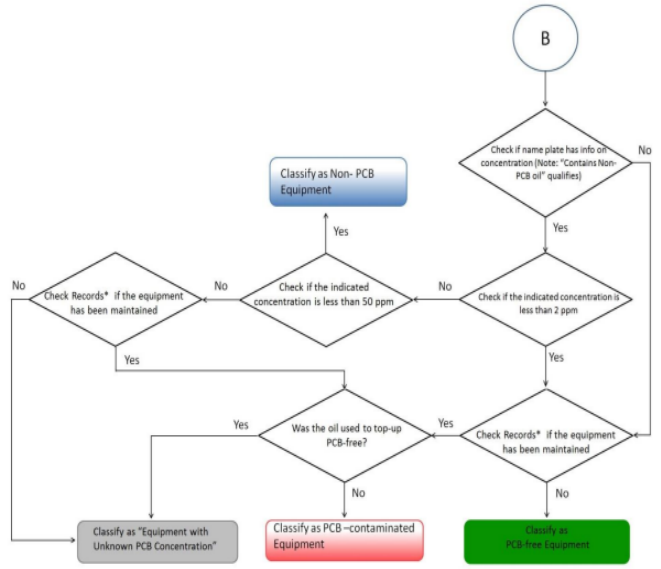

*** No maintenance records or no information on maintenance automatically classified as PCB-Contaminated**

- **Result of Analysis**
- **Nameplate information (Year of Manufacture, cooling system, PCB level)**
- **Maintenance Record**

CONTROL AND ENFORCEMENT

- On-site sampling and equipment screening (CISE METHOD)

- Facility Inspections by the Regional Offices (17 Regions) → Storage, handling, disposal records, implementation of PCB Management plan.
- Online Registration of PCB Equipment (PCM Management Plan is submitted in this system)

PCB INVENTORY (2024)

	Inventory (MT)	Phased-Out (MT)	Remaining (MT)
Equipment	**229722.89**	**3288.831**	**340399.089**
Oil in Equipment	**114065.03**		
Wastes	**18585.1**	**7577.54**	**11007.56**
Total	**362373.02**	**10866.371**	**351506.649**

1. Based on Philippine Standard of PCB Free standard of < 2 ppm
2. Equipment and oil in which there are no records, plate or information on its PCB level are "suspected" and are included in the inventory of contaminated equipment.
3. Retro-filling of equipment is not allowed due to possibility of cross-contamination.

OPTIONS IN PCB TREATMENT IN THE PHILIPPINES

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Summary of Advantages and Disadvantages

Option	Advantages	Disadvantages
Off-site Treatment	- Locally available so service cost is expected to be lower than others - In line with the Basel Convention directive to prioritize local capacities - Electric cooperatives given assistance by the UNIDO PCB-WEEE project	- Limited capacity - Treating PCB concentrations above 10,000 ppm is not economical - PCB equipment needs to be decommissioned and transported, hence firms need to buy new PCBs equipment
On-site Treatment	- Decontamination can be done even if the PCB equipment is in operation; no need for decommissioning and transport hence no need to buy new PCB equipment - In line with the Basel Convention directive to prioritize local capacities	- Decontamination subject to availability of decontamination mobile unit - Firms needs to register as Category A TSD Facility - Treating PCB concentrations above 10,000 ppm is not economical
Export	- No capacity limit as long as the temporary storage facility can handle - No PCB concentration limit as long as the foreign treaters and importing countries allow them	- PCB equipment needs to be decommissioned and transported, hence firms need to buy new PCBs equipment - Export of hazardous waste subject to Basel Convention requirements - Market loss for the local treaters / industry

Challenges in PCB Management

1. **Maintaining the inventory**
   - Updating of the online inventory System
   - Monitoring by the Regional Offices
   - Difference in the local standard vs Stockholm Convention

2. **Cost of testing, disposal and replacement**
   - Bureaucracy in the approval of budget and loans, particularly for Electric Cooperatives in the country (120).
   - Power transformers with high level of contamination

3. **Updating of local policies**

CURRENT PCB MANAGEMET ACTIVITIES

1. **OPERATION OF THE NON-COM POPS FACILITY FOR THE TREATMENT OF PCB OIL AND EQUIPMENT**
   - Upgrading of the facility (GEF Funded project through UNIDO)
   - Disposal of 600MT of PCB equipment and oil from Electric Cooperatives subsidized through the project.

2. **USE OF CHLORINE ION SPECIFIC ELECTRODE (CISE) METHOD IN PCB SCREENING**
   - Cheaper than having actual laboratory testing.
   - For screening only and not for issuance of Certificate of Treatment.

3. **CONTINUOUS MONITORING AND VALIDATION OF THE REGIONAL OFFICES ON THE INVENTORY AND MANAGEMENT OF PCB**
   - Validation of the inventory of PCB owners

NEXT STEPS

1. **Aligning the inventory** to identify equipment with contamination >2ppm PCB <50ppm and those with >50 ppm. Priority will be given to those equipment with >50ppm

2. **Policy on Power Transformers –** Economic consideration on the disposal of contaminated power transformers with high level concentration of PCB but has not reach its end-of-life.

3. **Maintenance of the operation Non-Com POPs Facility**
   - Sustainability plan in place from the project with UNIDO-GEF

NEXT STEPS

4. **Strengthen the Information and Education Campaign.**
   - In the rural areas and isolated islands
   - Turnover of Pollution Control Officers
   - Training of new Regional Officers on PCB Screening.
5. **Strengthen coordination with other Government Agencies regulating the Power Sector**
   - Department of Energy
   - National Electrification Administration
6. **Updating of the National Implementation Plan (NIP)**
   - Original NIP (2006)
   - 1st Updating of the NIP (2014)
   - 2nd Updating of the NIP (Starting 2026)

Figure 13 - South African delegation visits Non-Com POPs facility, June 2023

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