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Department of Environment and Natural Resources
ENVIRONMENTAL MANAGEMENT BUREAU

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MEMORANDUM CIRCULAR No. 2014 - 007

Subject : GUIDELINES FOR THE REGISTRATION OF LABORATORIES TO PERFORM ANALYSIS OF POLYCHLORINATED BIPHENYLS (PCBs) IN TRANSFORMER OIL, WASTE OIL AND NON-POROUS SURFACE MATERIALS

Pursuant to the Department of Environment and Natural Resources Administrative Order (DENR AO) No. 1998-63 entitled "Guidelines for the Designation of DENR Recognized Environmental Laboratories"; consistent with the requirements of Republic Act No. 6969 or the "Toxic Chemicals and Hazardous and Nuclear Wastes Control Act of 1990" and the DENR AO No. 2004-01 otherwise known as "Chemical Control Order (CCO) for Polychlorinated Biphenyls (PCBs)", this Memorandum Circular is hereby issued to provide guidance and to facilitate registration of laboratories performing analysis of PCBs in transformer oil, waste oil, and non-porous surface materials.

Section 1.0 Scope and Coverage

This Circular applies to all existing DENR recognized environmental laboratories and other laboratories applying for EMB Registration on the analysis of PCBs in transformer oil, waste oil, and non-porous surface materials for the purpose of complying with the requirements of the CCO for PCBs.

Section 2.0 Requirements

The following are the requirements of the laboratory to secure EMB Registration:

2.1 Method of Analysis

- 2.1.1 The laboratory shall have the capability to analyze PCBs using the gas chromatograph (GC) with electron capture detector (ECD).
- 2.1.2 Analytical procedures adopted shall have traceability to an internationally accepted method of analysis.
- 2.1.3 The Aroclor Method shall be used for quantitation; however, if the sample does not conform to a known Aroclor mixture, then it shall be analyzed for the PCB congeners cited in Section 2.1.6.
- 2.1.4 Reporting of results shall be as individual Aroclor or as individual congeners and, as total PCBs in mg/kg for oil samples; and in microgram/100 cm² for non-porous surface samples.
- 2.1.5 Compound identification based on a single-column analysis shall be confirmed on a second dissimilar column or using another analytical technique.
- 2.1.6 The list of the minimum nine (9) Aroclors and nineteen (19) individual PCB congeners for analysis is given in Annex 1.

2.2 Quality Assurance (QA) / Quality Control(QC)

- 2.2.1 The laboratory shall prepare and adopt a QA program for PCBs analysis.
- 2.2.2 The laboratory shall include in its analytical procedure the minimum QC consisting of the following: regular analysis of reagent blanks, spiked samples, quality control samples, surrogate spikes; initial and continuing calibration verification; and method detection level determination.

2.2.3. Quality control charts shall be established, maintained and accessible to EMB assessors.

2.2.4 The laboratory must have a satisfactory performance in EMB – organized or recommended proficiency tests.

2.3 Track Record

The laboratory shall have analyzed a minimum of 50 PCB-containing samples. These may include the QC samples mentioned in Section 2.2.2.

2.4 Signatory of Test Results

The laboratory test report shall be certified by a duly registered chemist with a track record of having analysed 50 PCB-containing samples.

2.5 Physical Layout and Safety Provisions

The laboratory shall meet the requirements of DENR AO No. 1998-63 Section 3d.

2.6 PCB Disposal Plan

The laboratory shall submit a PCB Disposal Plan to EMB aligned with the requirements of DENR AO No. 2013-22: Revised Procedures and Standards for the Management of Hazardous Wastes.

Section 3.0 Procedure in the Registration Process

3.1 The laboratory shall submit to EMB a duly accomplished and notarized application document containing the following data and information:

- 3.1.1 Name and address of laboratory;
- 3.1.2 Name, citizenship, and domicile of owner of the laboratory;
- 3.1.3 Technical and support personnel of the laboratory;
- 3.1.4 Scope and nature of work of the laboratory;
- 3.1.5 Relevant environmental and business certificates;
- 3.1.6 Scope of desired registration;
- 3.1.7 Track record of the laboratory and personnel;
- 3.1.8 PCB analytical method or procedure;
- 3.1.9 Method reference/s;
- 3.1.10 Laboratory test report forms;
- 3.1.11 QA/ QC program;
- 3.1.12 Chain-of Custody procedure;
- 3.1.13 Physical layout and safety provisions;
- 3.1.14 Pollution control and waste management practices;
- 3.1.15 PCB disposal plan; and
- 3.1.16 Floor plan of the laboratory and related facilities (scale = 1:100).

3.2 The EMB shall issue notice of on-site assessment after preliminary evaluation of the completeness of the application document.

3.3 A team shall be organized to assess the laboratory on-site. The team shall be composed of two (2) EMB assessors, and one (1) EMB regional assessor; and shall prepare a report upon completion of the assessment.

3.4 After determining the compliance of the laboratory to all the requirements of this memorandum circular, the team shall submit the assessment report and recommendation report to the EMB Director within fifteen (15) working days for the issuance of the Certificate as EMB Registered PCB Laboratory.

3.5 The Certificate shall contain the following information:

- 3.5.1 Name and address of the laboratory;
- 3.5.2 Scope of registration;

- 3.5.3 Test report signatory/ies;
- 3.5.4 Effectivity and date of expiry;
- 3.5.5 Signature of the EMB Director; and
- 3.5.6 EMB dry seal.

Section 4.0 Laboratory Responsibilities, Grounds for Revocation of the Certificate and Reinstatement of the Revoked Certificate

The laboratory shall adhere to the provisions of the DENR AO No. 1998-63 Sections 5, 6 and 7 as a registered PCB laboratory.

Section 5.0 Registration Expiration and Renewal


5.1 The Registration Certificate as EMB Registered PCB Laboratory shall be valid within one (1) year from the date of issuance.

5.2 The laboratory shall apply for DENR Recognition if the track record requirement of DENR AO No. 1998-63 has been met; otherwise the laboratory shall apply for the renewal of the registration certificate.

Section 6.0 Revision of Laboratory Registration Requirements

The requirement for registration as PCB laboratory shall be revised or updated based on the results of assessment or as the need arises.

This Memorandum Circular shall take effect immediately.


EVA S. OCFEMIA, Ph.D.
OIC – Director

Annex 1. Aroclors and PCBs for Analysis

Compound	CAS#	IUPAC#
Aroclor 1016	12674-11-2	
Aroclor 1221	11104-28-2	
Aroclor 1232	11141-16-5	
Aroclor 1242	53469-21-9	
Aroclor 1248	12672-29-6	
Aroclor 1254	11097-69-1	
Aroclor 1260	11096-82-5	
Aroclor 1262	37324-23-5	
Aroclor 1268	11100-14-4	
2-Chlorobiphenyl	2051-60-7	1
2,3-Dichlorobiphenyl	16605-91-7	5
2,2',5-Trichlorobiphenyl	37680-65-2	18
2,4',5-Trichlorobiphenyl	16606-02-3	31
2,2',3,5'-Tetrachlorobiphenyl	41464-39-5	44
2,2',5,5'-Tetrachlorobiphenyl	35693-99-3	52
2,3',4,4'-Tetrachlorobiphenyl	32598-10-0	66
2,2',3,4,5'-Pentachlorobiphenyl	38380-02-8	87
2,2',4,5,5'-Pentachlorobiphenyl	37680-73-2	101
2,3,3',4',6-Pentachlorobiphenyl	38380-03-9	110
2,2',3,4,4',5'-Hexachlorobiphenyl	35065-28-2	138
2,2',3,4,5,5'-Hexachlorobiphenyl	52712-04-6	141
2,2',3,5,5',6-Hexachlorobiphenyl	52663-63-5	151
2,2',4,4',5,5'-Hexachlorobiphenyl	35065-27-1	153
2,2',3,3',4,4',5-Heptachlorobiphenyl	35065-30-6	170
2,2',3,4,4',5,5'-Heptachlorobiphenyl	35065-29-3	180
2,2',3,4,4',5',6-Heptachlorobiphenyl	52663-69-1	183
2,2',3,4',5,5',6-Heptachlorobiphenyl	52663-68-0	187
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	40186-72-9	206