



**forestry, fisheries  
& the environment**

Department:  
Forestry, Fisheries and the Environment  
**REPUBLIC OF SOUTH AFRICA**



## **CALL FOR PROPOSALS**



### **Environmental and Social Risk Assessment for the Development of Contaminated Sites Management Plan**

**FOR THE PROJECT**

**Environmentally Sound Management and Disposal of Polychlorinated biphenyls (PCBs) in  
the Republic of South Africa**

**(GEF ID: 9579)**

## **1. Introduction**

The Global Environmental Facility (GEF), through the Development Bank of Southern Africa (DBSA), is supporting a project in South Africa titled Environmentally Sound Management (ESM) and disposal of Polychlorinated biphenyls (PCBs) and PCB-contaminated oil, equipment, and wastes in South Africa (SA PCB). The project's objective is to reduce and eliminate the use and releases of PCBs to the environment through development and implementation of the ESM and disposal of PCBs and PCB-contaminated oil, equipment and wastes in South Africa.

The project consists of the following three components:

- (i) Component 1: Institutional capacity building and awareness raising;
- (ii) Component 2: Final treatment and disposal of PCBs and PCB-contaminated oil, equipment, and wastes;
- (iii) Component 3: Monitoring, evaluation, and replication.

The project advances the operationalization of South Africa's National Implementation Plan (SA NIP), which has been formulated and updated through intensive stakeholder consultation. The SA NIP in itself seeks to position South Africa well to meet her obligations with regards to the Stockholm Convention on Persistent Organic Pollutants (POPs) "hereinafter referred to as Stockholm Convention". As Party to the Stockholm Convention, South Africa has made strides in putting in place and implementing mechanisms to enable its compliance to this treaty. Such initiatives include the development of related policies, regulations, and standards, including the regulations to phase out the use of PCB materials and PCB containing materials (PCB Regulations) and a South African National Standard (SANS 290) on Mineral Insulating Oils: Management of Polychlorinated biphenyls.

The SA PCB project is thus part of the country's ongoing efforts to effect the ESM of PCBs and the compliance to the Convention. In terms of the Convention's requirements all equipment containing concentrations of PCBs above 0.05% (50ppm) must be phased out by 2025, and all resulting wastes containing PCBs must be subject to ESM for final disposal by 2028. This project therefore aims to facilitate the country's compliance to the provisions of the Convention and to assist the country to eliminate PCBs.

## **2. Background**

Polychlorinated biphenyls (PCBs) are a class of synthetic organic chemicals that have a low electrical conductivity and high resistance to thermal breakdown, oxidants, and other chemicals. They are widely used as dielectric fluids in electrical transformers and capacitors. PCBs are among the most toxic and persistent POPs listed in the Stockholm Convention. They are characterized by toxicity and environmental persistence, which

is very similar to that of dioxins. Some of the adverse effects associated with exposure to PCBs include damage to the immune system, liver, skin, reproductive system, gastrointestinal tract and thyroid gland. Based on the re-assessment of scientific evidence, PCBs have recently been re-classified as class 1 carcinogens from the International Agency for Research of Cancer (IARC-WHO).

PCBs have been listed as a Group II hazardous substance in South Africa by the Hazardous Substances Act, 1973 (Act No.15 of 1973) and have been allocated a unique code in South Africa's Tariff Book. This allows for them to be identified specifically in cases of import and/or export. They have also been placed on the Customs and Excise list of "Prohibited and Restricted" imports and exports, therefore any PCBs and PCB-contaminated oil and equipment entering the country are to be retained by the Customs Division, except for the purposes of environmentally sound treatment and disposal.

In ensuring that the PCBs are phased out in the country, on 10 July 2014, the Department of Forestry, Fisheries and the Environment (DFFE) published the "Regulations to phase-out the use of PCB materials and PCB contaminated materials" (hereafter referred to as the "South Africa PCB Regulations") under section 44(1) (aA) and (aB) of the National Environmental Management Act, 1998 (Act No. 107 of 1998). The main objective of the regulations is to phase-out the use of PCBs in electrical equipment and dispose of the resulting wastes.

The key stakeholders in South Africa that own electricity generating and transmission equipment which could contain PCBs and PCB-contaminated oil are: Eskom (the country's only utility company, which is responsible for bulk supply of electricity); municipalities (approximately 165) licensed by the National Energy Regulator of South Africa (NERSA) and other energy intensive industries such as mining, cement, steel, aluminium, chemical, and petrochemical manufacturing, and transportation. Eskom generates approximately 95% of electricity used in South Africa and also oversees the management of electrical equipment for 106 municipalities. Of the 280 municipalities (metro, district, and local) in South Africa, Eskom is responsible for maintenance and repair of equipment, such as transformers and capacitors, in 106 municipalities. The remaining 165 municipalities are directly licensed by NERSA, and ESKOM is only responsible for bulk supply of their electricity. These municipalities oversee their own transmission and distribution including the procurement and maintenance of their equipment.

The presence of PCB-contaminated equipment raises concerns regarding historical and ongoing releases of PCBs from leaks, spills, maintenance activities, storage facilities and equipment failures. These releases may have resulted in contamination of soils, groundwater, surface water, stormwater systems, sediments and municipal infrastructure. To support environmentally sound management and future remediation activities, There is

a need to undertake site-specific risk assessments and develop contaminated sites management plans for municipalities where PCB-contaminated equipment has been identified.

The Article 6 of the Stockholm Convention states that Parties shall “endeavour to develop appropriate strategies for identifying sites contaminated by chemicals listed in Annex A, B or C; if remediation of those sites is undertaken it shall be performed in an environmentally sound manner”. Municipalities reported that they have runoff contamination at most substations and that records of leakage of transformers are not typically kept. Instead, the leaks are simply dealt with as part of the maintenance practices. Furthermore, some municipalities have also reported that they have transformers that are not situated in proper pans to catch oil leakage. Therefore, there is a need to conduct environmental and social risk assessments for the potentially contaminated sites and develop corresponding contaminated sites management plans.

### **3. Purpose of the Consultancy**

The specific objectives of the consultancy are:

- a) Assess PCB Contamination Risks in the municipalities, State owned entities and private sector as follow;
  - Identify actual and potential PCB-contaminated sites associated with municipal electrical infrastructure.
  - Determine the extent of contamination in environmental media.
  - Assess contaminant migration pathways and exposure scenarios.
- b) Conduct Human Health and Environmental Risk Assessments
  - Evaluate risks to municipal employees.
  - Evaluate risks to nearby communities.
  - Assess ecological risks to terrestrial and aquatic ecosystems.
  - Identify sensitive receptors and vulnerable populations.

#### **3 Develop Site-Specific Management Plans**

- Develop contaminated sites management plans for each municipality assessed.
- Identify suitable remediation and containment options.
- Develop monitoring and verification requirements.
- Estimate implementation costs.

#### **4 Support National PCB Elimination Efforts by the disposal contractor**

- Provide recommendations for prioritization of contaminated sites.
- Develop a national framework for municipal PCB contaminated site management.
- Support achievement of Stockholm Convention obligations.

## **4. SCOPE OF WORK**

The consultant shall undertake the following tasks:

### **Task 1: Project Inception**

The consultant shall in the fulfilment of the task consider the following;

- i. All project documentation.
- ii. PCB inventory data generated through the SA PCB Project.
- iii. Applicable to national legislation, regulations and standards.
- iv. Develop a detailed project methodology and implementation plan.
- v. Develop health and safety procedures for site investigations.

Deliverables

- Inception Report.

### **Task 2: Desktop Review and Site Prioritisation**

The consultant shall:

- i. Review historical records relating to PCB-contaminated equipment.
- ii. Review previous spill incidents and environmental investigations.
- iii. Compile a register of municipalities with confirmed PCB-contaminated equipment.
- iv. Develop risk criteria for prioritisation of municipal sites.
- v. Prioritise sites for investigation based on environmental and human health risks.
  - a) Factors considered shall include:
    1. PCB concentration levels;
    2. Preliminary conceptual site model.
    3. Number of contaminated transformers.
    4. Equipment condition;
    5. Spill history;
    6. Proximity to residential areas;
    7. Groundwater vulnerability;
    8. Proximity to rivers, wetlands and protected areas;
    9. Potential for human exposure.

Deliverables

- a) Desktop study report.
- b) Municipal PCB Contaminated Sites Prioritisation Report.

### **Task 3: Site Inspections and Environmental Investigations**

The consultant shall undertake detailed investigations at prioritised municipalities.

The investigations shall include:

- i. Transformer substations;
- ii. Transformer yards;

- iii. Storage facilities;
- iv. Workshops;
- v. Maintenance facilities;
- vi. Waste storage areas;
- vii. Areas affected by historical spills and leakages.

The consultant shall:

- i. Conduct visual inspections.
- ii. Map affected areas (including geological layout of the area)
- iii. Collect environmental samples where required.
- iv. Assess current site conditions.
- v. Identify contamination sources.

**The Environmental media to be investigated may include:**

- a) Soil;
- b) Groundwater;
- c) Surface water;
- d) Sediments;
- e) Stormwater systems;
- f) Concrete and building materials;
- g) Waste materials.

**To note: All laboratory analyses shall be conducted by SANAS-accredited laboratories.**

### **Deliverables**

- i. Site Investigation Reports.
- ii. Sampling Results Report.
- iii. GIS Mapping Database.

### **Task 4: Human Health Risk Assessment**

The consultant shall:

- a) Identify potential exposure pathways.
- b) Assess worker exposure risks.
- c) Assess public exposure risks.
- d) Identify sensitive receptors.
- e) Evaluate short-term and long-term health impacts.

The assessment shall include:

- i. Direct contact exposure;
- ii. Inhalation exposure;

- iii. Ingestion exposure;
- iv. Occupational exposure scenarios.

**Deliverable**

- Human Health Assessment Report.

**Task 5: Environmental Risk Assessment**

The consultant shall:

- i. Assess impacts on soil quality.
- ii. Assess contamination of surface water and groundwater.
- iii. Assess impacts on ecosystems.
- iv. Evaluate contaminant migration pathways.
- v. Assess risks to biodiversity and ecological receptors.

**Deliverable**

- Environmental Risk Assessment Report.

**Task 6: Development of Contaminated Sites Management Plans**

The consultant shall prepare a separate contaminated sites management plan for each municipality assessed.

Each plan shall include:

- Site Profile
  - Municipality name;
  - Location;
  - Description of facilities (where contamination was found);
  - Inventory of PCB-contaminated equipment;
  - Source of contamination.

**6.1 Risk Assessment Findings**

- Extent of contamination;
- Human health risks;
- Environmental risks;
- Risk ranking.

**6.2 Management Measures**

- Site access control measures;
- Spill prevention measures;
- Worker protection requirements;
- Emergency response procedures;
- Waste management requirements.

**6.3 Remediation and Risk Reduction Measures**

- Recommended remediation technologies;

- Site containment measures;
- Soil management measures;
- Groundwater management measures;
- Waste disposal options.

#### 6.4 Monitoring Plan

- Monitoring parameters;
- Monitoring frequency;
- Performance indicators;
- Verification requirements.

#### 6.5 Cost Estimates

- Capital costs;
- Operating costs;
- Remediation budget estimates.

#### 6.6 Implementation Roadmap

- Activities;
- Responsibilities;
- Timeframes;
- Reporting requirements.

#### Deliverable

- Contaminated Sites Management Plans.

### **5. EXPECTED DELIVERABLES**

The consultant shall submit:

- 5.1. Inception Report.
- 5.2. Municipal PCB Contaminated Sites Prioritisation Report.
- 5.3. Site Investigation Reports including;
  - Laboratory Analysis Reports.
  - GIS Database and Site Maps.
  - Sampling and Analysis Plan.
- 5.4. Human Health Risk Assessment Reports.
- 5.5. Environmental Risk Assessment Reports.
- 5.6. Municipality-Specific Contaminated Sites Management Plans.
- 5.7. Final Consolidated Project Report.

### **6. Reporting.**

The Consultants shall submit a written report on the progress of the implementation of their activities to the Africa Institute on a monthly basis and be available for presentation

to the project management unit (PMU) meetings upon request. The final deliverables must be submitted by the end of April 2027.

## **7. Time Frame**

The consultant is expected to complete this work over a period of six months between November 2026 and May 2027.

## **8. Qualifications and Experience**

The following are key attributes required for the consultancy. The criteria should apply to the project leader and team members responsible for the project implementation.

- (a) A minimum master's degree in either chemistry, environmental management, Environmental Health or any other relevant field. Higher qualifications will be an added advantage;
- (b) 5 years' experience in working with environmental remediation on POPs/PCBs/electrical transformers related field;
- (c) The team leader and team members should have experience and demonstrable capacity to conduct environmental remediation and present findings in oral and written forms;
- (d) Fluent in English with strong oral and written communication skills;
- (e) Some team members fluent in South African local languages;
- (f) Full understanding of South Africa's landscape and exposure to, and understanding of, its multicultural environment;
- (g) Have a comprehensive plan for capacity building for SA based companies and individuals in all aspects related to PCBs;
- (h) Proficient in commonly used computer programmes and especially in MS Office suite;

## **9. To accompany the proposal (for each Bid submitted) shall be the following:**

- (i) A detailed proposal on the development of the Environmental and Social Risk Assessment for the Development of Contaminated Sites Management Plan in the municipalities, SOEs and Private sector in South Africa.
- (ii) A cover letter indicating the bidder's suitability for the job, supported by a comprehensive curriculum vitae/company profile, copies of qualifications, proposed approach and work plan.
- (iii) The pricing structure, with all the necessary details. This should be transparent and inclusive and be submitted separately and properly marked.
- (iv) The service provider's track record.

The evaluation of Bids can only be done on the basis of information required by the Africa Institute and that provided by the bidder. Bidders failing to meet all the mandatory requirements shall automatically be disqualified.

## 1. Bids Evaluation

### a. Rating Scale

In evaluating the proposals, the following rating scale shall be used for each evaluation criterion.

|              |               |      |      |         |      |           |
|--------------|---------------|------|------|---------|------|-----------|
| Outcome      | Non-compliant | Poor | Fair | Average | Good | Excellent |
| Rating/score | 0             | 1    | 2    | 3       | 4    | 5         |

### b. Evaluation Criteria and Weighting

|                          | Evaluation criteria       | Sub-criteria evaluated                                                                                         | Weight (%) |
|--------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------|------------|
| <b>Functionality</b>     | PCB Phase out plan        | Proposed methodology and approach for undertaking phase out plan.                                              | <b>30</b>  |
|                          |                           | Work plan: Clarity, comprehensiveness and practicality                                                         | <b>10</b>  |
|                          | Track Record              | Demonstrated relevant track record, including the provision of a list of contactable references                | <b>20</b>  |
|                          | Qualifications            | Meeting all required minimum qualifications                                                                    | <b>10</b>  |
|                          | Knowledge of the country. | Demonstrable knowledge of the country, and its multicultural environment, for which the Bid has been submitted | <b>10</b>  |
| <b>Pricing Structure</b> |                           |                                                                                                                | <b>20%</b> |

The Bid must score a minimum of 2.7 weighted average in functionality to be evaluated further on price. Bids that do not meet this minimum threshold will not be evaluated further on other criteria.

## 2. Enquiries and Details of where Proposals are to be submitted

The Bids (with correct Bid No.) should be packaged in two envelopes (marked functionality and Pricing) and marked for the attention of the Executive Director: Africa Institute for Environmentally Sound Management of Hazardous and Other Wastes; and should be submitted using either of the following

| Physical delivery                                             | By post                                                                  | By e-mail                                                                                                                                                                                                                    |
|---------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environment House<br>473 Steve Biko Road<br>Arcadia, Pretoria | Environment House<br>Private Bag X447,<br>Pretoria 0001, South<br>Africa | Functionality and pricing<br>proposal should be sent<br>separately, with e-mail<br>subject giving indication of<br>what the proposal is for.<br>Email address:<br><a href="mailto:NMasha@dfpe.gov.za">NMasha@dfpe.gov.za</a> |
|                                                               |                                                                          |                                                                                                                                                                                                                              |

Enquiries should be sent by e-mail to the Executive Director, Biaca H Dlamini at [BHDlamini@dfpe.gov.za](mailto:BHDlamini@dfpe.gov.za) . We endeavor to respond to all e-mail enquiries within 48 hours. Enquiries submitted by post may take longer.

## 3. Closing Date

The closing date for applications is 23 October 2026. Late submissions will not be considered.

