# Appendix 3.a: Technical Offer Form (both the hard copy and soft copy to be submitted in a separate sealed envelope without price information)

**As indicated in the Terms of Reference, the Contractor is requested to provide a Technical Offer for all the services indicated in the Terms of Reference.**

# **Content of the Bidder's Technical Proposal**

A response is required in the technical part of the bid, for every item requested below. If data are not available or if the information requested is not relevant or applicable to the proposed technology, the bidder should state so and provide an explanation. The submission of marketing brochures that do not provide relevant technical information is not encouraged. The bidder must state categorically whether their offer complies fully with the tender specifications and if not, the bidder should indicate any deviations.

Independently if the PCB contaminated oil is decontaminated in Sri Lanka or treated or incinerated abroad , the technical offer should include the following:

1. Offered oil specifications
2. Detailed description of the offered oil, in accordance with and inclusive of all information/data requested in the Technical Specifications. Any deviation from the Technical Specifications (Annex A to the ToR) shall be clearly listed and provided, including, where relevant, catalogues, technical leaflets, and country of origin.
3. General descriptions
4. Description of the destruction technology and process, including relevant chemical reactions, overall process flow, and the by-products from the process of PCB destruction, the name and category of the waste according to the EU and Sri Lankan regulations, management of it (quantity, quality, reprocessing, disposal, etc.).
5. Descriptions of how the offered system fulfills the provisions of the Stockholm Convention on POPs and the Basel Convention provision with regard to PCB standards for equipment, PCB oil and PCB wastes and unintentional production of POPs (Annex C of the Stockholm Convention). At the same time, the offered system should fulfill relevant Sri Lanka national legislation and standards.
6. System specifications including:
7. Processing capacity of the system (litres per batch and batches per 8-hour shift period or litres per hour).
8. Range of PCB concentrations and matrices that the system is capable of processing; provide a summary of treatability studies for PCB concentrations and matrices similar to those of the project stockpile.
9. Typical operating parameters (e.g., temperatures, pressures, concentrations, etc.) of the PCB destruction unit.
10. Total Destruction and Removal Efficiency (DRE) if PCB waste is incinerated
11. Total destruction efficiencies (DE) based on residual PCB level in treated PCB-contaminated mineral oil:

* PCB-residual level of less than 5 mg/kg (ppm)

1. Amount of wastes (solid residue, wastewater, air emissions etc.) generated per ton of waste treated assuming the initial PCB level in the contaminated mineral oil is 1000 mg/kg or ppm.
2. Requirements for after destruction treatment of e.g. waste waters, any gaseous, liquid and solid wastes, etc.
3. Component specifications and overall layout:
4. Description and specifications\* of all major equipment groups comprising the destruction technology [\* provide functional specifications (what the equipment does), performance specifications (performance required from the equipment) and design specifications].
5. Representative drawing(s) showing the overall layout and general configuration(s) of the major equipment groups
6. General facility specifications for on-site, off-site and on-load treatment operations;
7. Additional technical information:
8. Results of the characterization and chemical analyses of process residues, including all solid, liquid and gaseous stream residues. The data should be based on the commercial operation of the same or essentially similar technology and should include information on the input, detection limits and qualifications of the testing laboratory.
9. Fate of hazardous chemical constituents and other contaminants found in PCBs and POPs wastes, e.g. description of fate of the chlorine content in PCBs, chlorinated aromatic and poly-molecular aromatic compounds such as polychlorinated benzenes and naphthalene and heavy metals such as lead, arsenic and mercury.
10. Description of process control and details of instrumentation.
11. Applicability to other POPs (Can the technology be used to destroy other POPs? If so, which other POPs and what DE’s could be achieved? Provide supporting documentation).
12. Bidder's qualifications, including company history, years in business including financial standing of Contractors, scientific and engineering expertise, operational experience, laboratory capacity and other technical qualifications.
13. List of independent and accredited laboratories previously used for certifying the processing results of the destruction technology including their addresses, history, years in business and contact persons.
14. Results of chemical analyses (including data on the input, sampling time, detection limits and qualifications of the testing laboratory) specific to PCDDs, PCDFs and chlorinated phenols in the output streams.
15. Results of chemical / physical analysis concerning the properties of dielectric oil before and after the regeneration of dechlorinated transformer oil, including but not limited to dielectric strength, dielectric dissipation factor, viscosity, pour point, moisture content, breakdown voltage, Sulphur content, oxidation stability, flash point, etc.
16. Supporting documentation of total destruction and removal efficiencies including:

* Results of chemical analyses of PCBs in all solid, liquid and gaseous streams (including information on the input, number of samples tested, the phase of the operation during which samples were obtained, detection limits, and qualifications of the testing laboratory).
* Mass balances and other calculations to obtain total destruction efficiencies of PCBs and other toxic pollutants of concern.

1. Information on the commercial operating history of the technology including:

* List of past and current commercial installations and/or operations, including their addresses and contact information.
* The period of time the commercial services were or have been in operation, at least 5 years of operation experience is required.
* The total amounts of PCBs and/or other POPs that have been processed in the commercial facilities.
* Description of positive and negative experiences in the treatment processes.
* Official approvals, certificates and permits issued by governmental agencies and/or institutions documenting approval for installation and performance.

1. Supporting documentation on the safety of the technology including:

* Identification and analysis of potential risks and hazards.
* Description of all safety design features, safety and emergency procedures, contingency plans, and other approaches for minimizing risks and mitigating hazards.
* Occupational safety and health records or other supporting documentation to demonstrate the safety of the technology during commercial operation.

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| Conformance With Tender Specifications | |
| Is your technical offer in exact conformity with the tender specifications? | (Yes or No) |
| If not, indicate where there are deviations: |  |

Registered office or other Address of the Bidder: Postal Address:

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Signature of authorized official of Bidder or person otherwise authorized to sign the proposal on behalf of the Bidder:

Name (print): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_­­­­­­ Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Title/Position: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Place (City and Country): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_