Sindh Solid Waste Management Board

CONSULTANCY SERVICES FOR TECHNO-ECONOMIC FEASIBILITY STUDY, INCLUDING PREPARATION OF PRELIMINARY DESIGN, COST ESTIMATION, PC-I DOCUMENT, RFP DOCUMENT ETC. FOR INTEGRATED INDUSTRIAL SOLID WASTE SYSTEM IN ALL INDUSTRIAL AREAS OF KARACHI

BRIEF SCOPE / TERMS OF REFERENCE FOR THE ASSIGNMENT

(Note: This is outline of ToR – Detailed ToRs, deliverables etc. shall be provided to shortlisted firms in RFP document)

The brief scope of work of the consultancy assignment is as follows:

Background:

Karachi is the biggest city of Pakistan having population of around 20 Million. Solid Waste Management is the biggest problem in the city at the moment. Total waste generation of the city is about 12,000 tons/day. Out of 12,000 tons the 9,000 tons of waste is generated within the administrative jurisdiction of Karachi Metropolitan Corporation (KMC) / District Municipal Corporation (DMC) and District Council Karachi (DCK). The remaining 3,000 tons of waste is generated in areas of other civic administrative bodies e.g. Cantonment boards, SITE, KPT, Pakistan Railways etc.

Karachi is industrial and corporate hub of Pakistan. City alone contributes approximately 20% to country's GDP and accounts for more than 50% of government's revenue. Karachi has four major industrial zones namely:

i. Korangi Industrial Area (3000 industrial units),
ii. Landhi Industrial Area,
iii. Sindh Industrial Trading Estate (SITE) (2500 industrial units) and
iv. F.B. / North Karachi Industrial Area.

Unfortunately no system exists in Karachi and rest of Sindh for proper collection and disposal of 'Industrial Solid Waste'. As per Sindh Solid Waste Management Board (SSWMB) Act, 2014, SSWMB is responsible for management

of all sorts of waste including 'Industrial Solid Waste' i.e. handling, storing, transporting and removal of 'Hazardous Industrial Waste' from Sindh.

In order to improve the current pathetic situation of the 'Industrial Solid Waste Management in Karachi', SSWMB plans to establish an **Integrated Industrial Waste Management System (mainly focused on Industrial Hazardous Waste)** in the city. As a part of implementation of 'Integrated Industrial Solid Waste Management Strategy' the SSWMB intends to hire the services of reputed and experienced National Consulting Firms for conducting Techno-economic Feasibility Study to suggest most appropriate, technologically sustainable, economically feasible and environmentally safe option of **Integrated Industrial Waste Management System (mainly focused on Industrial Hazardous Waste)** for Karachi. The consultant shall also be responsible for reparation of Preliminary Design, Cost Estimation, preparation of PC-I Document, RFP document, etc., for the proposed **Integrated Industrial Waste Management System** in the city.

Scope of Consultancy Works:

- Analysis and Waste characterization of Industrial Solid Waste generated in different Industrial Areas of Karachi. Special attention is to be focused on following components:
    - Hazardous Industrial Waste;
    - Non-hazardous Industrial Waste;
    - Domestic Municipal Waste generated in Industrial Areas.

- Conduct new and review existing studies relating to different types of industrial waste;
- Survey industries to determine type and magnitude of waste disposal problem;
- Assess available hazardous waste treatment and disposal alternatives, and costs involved, to compare economic impact of alternative methods;
- Propose the best possible industrial solid waste disposal & treatment system;
- Conduct feasibility of the proposed industrial solid waste disposal & treatment system based on scientific methodologies/criteria while taking into account technical, environmental and community related aspects and to prepare layout and maps;
- Preliminary Engineering Design of Industrial Solid Waste Disposal & Treatment System (Equipment specification and preliminary designs of civil works, utilities and electrical installations etc.);
- **Foreign Consultants Inputs (Minimum 100 hours):** Foreign consultants'/experts' inputs shall be taken for design criteria, specifications and engineering designs/ functionality requirements by local consultants and the same should be documented and integrated into the considering the ground realities.

- Rough Cost Estimates on the basis of Preliminary design.
- Preparation of Feasibility Report.
- Co-ordination with Sindh Environmental Protection Agency (SEPA) for conducting Environmental Impact Assessment (EIA)/IEE if required.
- Preparation of Project PC-I incorporating all the Project Costs on the basis of Preliminary design.
- The total services shall also include any other extra work assignment relating to the project by competent authority of SSWMB not covered in contract. However, this shall be carried out on mutually agreed terms and conditions.
- Preparation of Bidding Documents as per SSPRA Rules 2010 (Amended 2013).
- Pre-qualification of Contractors as per SSPRA Rules 2010 (Amended 2013), if required.

The consultants shall adequately address the following objectives within their engineering analysis and designs:

- Site selection for placement of 'Bins' for safe storage of different types of Industrial Solid Waste;
- Site selection for 'Industrial Waste Transfer Stations', if required;
- Safe and efficient flow of traffic for collection and transfer trucks into and out of, as well as within the Industrial Areas;
- Safe and efficient unloading of collection trucks and loading of transfer trucks;
- Adequate storage capacity of Solid Waste to enable accommodation of peak periods of unloading by collection trucks;
- Adequate enclosure and ventilation for control of noise, odour and dust and to meet aesthetic needs;
- Office facilities for site supervisor and supporting staff;
- The fencing and gate control facilities, including weighbridges, to secure the site;
- Provision for parking space, workshop facilities and washing facilities;
- Drainage and sanitation facilities to fully meet the projected flow of twenty-year storm water;
- Ancillary services.

Note: 6 Copies of each report shall be submitted by the Consultants.