**TERMS OF REFERENCE**

**ENVIRONMENTAL SPECIALIST**

**KARACHI WATER & SEWERAGE SERVICES IMPROVEMENT PROJECT**

1. **Introduction**

Karachi is Pakistan’s largest city, main seaport and international trade hub. It encounters numerous challenges among which water supply and sewerage are the worst affected services, falling far short of the city’s expanding needs. To mitigate this gap, develop these services for Karachi and strengthen the Karachi Water and Sewerage Corporation (KWSC) to become a financially viable and technically well performing water utility that ensures clean, safe drinking water and sewerage services to public, the Government of Sindh GoS / KWSC partnered with the World Bank Group through the Karachi Water and Sewerage Services Improvement Project (KWSSIP). The Karachi Water and Sewerage Services Improvement Project (KWSSIP) encompasses a USD 1.6 billion reform-led investment program, to be implemented in four phases over a period of 12 years. Phase 1, with an investment portfolio of USD 100 million, is currently under implementation, and a Project Implementation Unit (PIU) has been established for this purpose. The PC-1 for the Second Phase of KWSSIP amounting to US$600 Million (PKR167.10 Billion) has been approved by ECNEC. The project has been approved by the World Bank Board on 12th December 2024. The project is being implemented by the Government of Sindh (GoS) and the Karachi Water and Sewerage Corporation (KWSC) through multiple procurement processes, expected to occur within a short timeframe. The project activities aim to achieve key milestones, including addressing environmental aspects associated with the proposed project components.

**Project Components**

KWSSIP-2 has been developed for institutional and governance reforms in KWSC along with a strategic investment for the improvement of water & sewerage infrastructure in Karachi.

Following are the project components:

**Component 1 – Operational & Enabling Environment Reform**

1. Institutional Reforms and Capacity Building in HR
2. Implementation of Communication Program & Capacity Development of CRM
3. Implementation of Gender Action Plan
4. Capacity Building in Asset Management, GIS and Data Collection Strategy
5. Preparation and Implementation of Water Safety Plans
6. Outsourcing of Metering & O&M
7. Advance Studies for the adaptation of Trenchless technology of Infrastructure development in Karachi Water and Sewerage Program
8. Financial Management improvement

**Component 2 – Infrastructure Investments**

1. Rehabilitating Water Supply and Sewerage in Selected Low-Income Communities
2. Priority Sewer Network Rehabilitation and Extension:
3. Priority Water Network Rehabilitation including O&M equipment, meters & DMAs to reduce NRW
4. Priority Works for Reducing Energy Consumption:
5. K-IV Augmentation and Downstream Allied Works:
6. Rehabilitation of Existing Filtration Plants (NEK K-II, 100 MGD, Pipri JBIC 50 MGD)
7. Viability Gap Funding (VGF) to support PPP Interventions

**Component 3 – Project Management and Studies**

1. Design Review and Construction Supervision of the Proposed Sub-Projects of Phase-2:
2. Follow-up studies on energy audits:
3. Preparation of KWSSIP -3, feasibility, E&S study, designing & PC-1, follow up study from the Master Plan Study

**Component 4 – Contingent Emergency Response Component**

**Associated Facilities of KIV Augmentation Project**

Two associated facilities have been identified under the K-IV Augmentation Project in accordance with the World Bank Environmental and Social Framework (ESF), which defines associated facilities as those not financed under the project but directly and significantly related to it, implemented concurrently, and necessary for the project's viability. The first is the **K-IV Main Project**, implemented by WAPDA with Federal Government financing. Its Phase I, currently under execution, involves a 260 MGD bulk water conveyance system from Keenjhar Lake to Karachi, spanning approximately 220 kilometers and terminating at three reservoirs on the city's outskirts. The **K-IV Augmentation Project**, under KWSSIP-II, will interconnect this infrastructure with Karachi’s existing water supply network. The second associated facility is the **K-IV Power Component**, being implemented by the Sindh Transmission and Dispatch Company (STDC), which involves a dedicated 132 kV transmission line from Jhimpir-II Grid Station to the K-IV pumping complex, along with a new grid station, an 11 kV line, and operational staff housing. This component ensures an uninterrupted 50 MW power supply from HESCO. As both the K-IV Main Project and its power infrastructure are indispensable for the functioning of the Augmentation Project, they are classified as associated facilities requiring compliance with national regulations and the World Bank ESF.

**Karli Baghar Feeder Upper (KBFU) Rehabilitation Project**

Although not categorized as an associated facility under the World Bank’s Environmental and Social Framework (ESF), the Karli Baghar Feeder Upper (KBFU) Rehabilitation Project is a key stakeholder intervention that supports sustainable water delivery to Keenjhar Lake. By improving the canal’s structural integrity and conveyance efficiency, the project contributes to regulating inflows into the lake. These improvements enable the system to meet the demands of the K-IV Augmentation Project while generating surplus flows for irrigation downstream, thereby helping maintain hydrological balance.

1. **Scope / Objectives of Environmental Specialist**

The Environmental Specialist will support the Senior Environmental Specialist at the PIU in the implementation of environmental and health and safety requirements across all KWSSIP-2 construction sites and sub-projects. The Specialist will ensure field-level monitoring, reporting, and coordination with contractors, design and supervision consultants, and other stakeholders for effective on-site implementation of the Environmental and Social Commitment Plan (ESCP), Environmental and Social instruments, and Health & Safety procedures, in compliance with the World Bank Environmental and Social Framework (ESF) and applicable national/provincial laws.

In addition to working for PIU KWSSIP towards the WB ESS compliance, the Environmental Specialist will also assist the Project Director of the Resettlement Unit of KWSC in implementing the Environmental & Social Review – Gap Analysis for the KIV Main Project in alignment with the requirements of local regulations and World Bank ESF.

The specialist will also support Senior Environmental Special in liaising with related entities like the KWSC, the Planning and Development Department’s Project Coordination and Monitoring Unit, the Water and Power Development Authority, Sindh Transmission and Dispatch Company (STDC) and the Sindh Irrigation Department to support compliance with the KWSSIP-2 E&S instruments and ESCP.

1. **Key Responsibilities**

* Assist in the implementation of E&S instruments and environmental mitigation measures at construction and operational sites.
* Review of reports from the consultants and contractors; environmental screening if and when any new scheme is included or when there are changes in the environmental settings of any approved schemes; provision of relevant training sessions; review of bidding documents; review and validate contractor invoices from E&S perspective
* Support the Senior Environmental Specialist for the development and implementation of the Critical Habitat Assessment (CHA) and Keenjhar Lake Conservation Action Plan (KLCAP)
* Conduct regular site visits and inspections to monitor environmental compliance of the implementation of stipulated E&S measures in accordance with the legal requirements and instruments by the relevant implementing project entities.
* Document and properly report field observations, support the identification of environmental non-compliances, and assist in follow-up actions.
* Support in collecting environmental monitoring data (e.g., air, noise, water quality) and preparing regular monitoring reports.
* Monitor contractor compliance with all environmental compliance requirements including but not limited to basic Occupational and Community Health and Safety (OHS/CHS) requirements (e.g., community safety, workers’ PPE procurement and utilization, site housekeeping, safety signage).
* Support in tracking incidents, near misses, and unsafe conditions on-site and report to the Senior Environmental Specialist.
* Assist contractors and field teams in ensuring the toolbox talks are conducted, including inductions, and awareness sessions on health and safety practices.
* Participate in field-level reviews of safety measures during high-risk activities like excavation, work at heights, and lifting.
* Liaise with relevant consultants and contractors’ HSE representatives to facilitate effective implementation of E&S measures.
* Follow up on environmental and safety checklists and assist in maintaining site-level compliance records.
* Support PIU E&S Team in grievance redress efforts related to environmental or worker safety concerns.
* Assist in organizing and delivering awareness sessions and training on basic environmental and safety topics for workers and field teams.
* Ensure proper record keeping and prepare site monitoring reports, recording each site visit which will be compiled to prepare monthly and quarterly (or as needed) E&S Monitoring Reports for Senior Management and the World Bank, highlighting key E&S non-compliances/unforeseen E&S risks, proposing E&S corrective measures and flag anyaspects which need to be escalatedto the PIU Senior Environmental Specialist.
* In close coordination with the PIU E&S and related technical Teams, repare regular E&S progress reports.
* Develop environmental training materials and deliver regular training for the PIU Management/Technical Teams, Consultants and Contractors, in coordination with the E&S team.
* Maintain logs of site visits, checklists, and photo documentation of E&S conditions.
* **Ensure timely reporting of any environmental or social incidents and accidents** in accordance with the World Bank’s Environmental and Social Incident Response Toolkit (ESIRT) and as specified in the Environmental and Social Commitment Plan (ESCP), including preparation of initial incident reports, root cause analysis, and implementation of corrective and preventive actions as required.
* Perform any other related duties assigned by the Project Director for the implementation of environmental and safety actions, ensuring compliance with the local and World Bank ESF policy.

**Support the Resettlement Unit (RU) KWSC in the implementation of Environmental and Social Review Gap actions for the KIV Main Project, including but not limited to the following tasks:**

* Provide technical guidance to PIU K-IV Main (WAPDA) and its Supervision Consultant for the effective implementation of environmental monitoring measures.
* Verify that tree plantation activities are carried out in accordance with the approved ESIA for K-IV Main.
* Ensure the preparation and implementation of key safeguard instruments, including the Labor Management Procedures (LMP) and the Stakeholder Engagement Plan (SEP).
* Monitor the implementation of occupational health and safety measures on-site as outlined in the LMP.
* Ensure that all relevant trainings related to the World Bank’s Environmental and Social Framework (ESF) are conducted in a timely and effective manner.
* Assist the RU in preparing monthly and quarterly progress reports for submission to the K-IV Coordination and E&S Implementation Committee.
* Support the effective operation of the Grievance Redress Mechanism (GRM), including the documentation, tracking, and resolution of grievances.
* Conduct regular field visits to K-IV Main project sites to assess and verify compliance with World Bank ESF requirements.
* Coordinate closely with PIU K-IV Main (WAPDA), the Supervision Consultant, and the Independent Monitoring Consultant (IMC) to monitor and report on progress related to E&S Gap implementation for the K-IV Main Project.

1. **POSITION REQUIREMENTS**

**QUALIFICATION**

* Master’s degree in Environmental Engineering, Environmental Sciences or a related field from a recognized university.
* Certification or training in ISO 9001:2015 (Quality Management Systems), ISO 14001 (Environmental Management Systems), or other relevant areas.
* Active affiliations with recognized industry or professional organizations will be considered an advantage.

**EXPERIENCE / CORE COMPETENCIES**

* At least 05 years of relevant experience in Environmental Impact Assessments (EIAs), Environmental Management Plans (EMPs), Environment, Health, Safety, and Quality (HSE&Q) planning/design, implementation, training, monitoring, and evaluation of HSE&Q-in the water and sanitation sector or other relevant large infrastructure projects
* Relevant work experience with the World Bank, other multilateral organizations, and donors will be considered an added advantage.
* Working knowledge of government departments and their operational processes.
* Experience in critical habitat assessments and biodiversity management would be an added advantage.
* Strong knowledge of the principles and practices of corporate sector HSE&Q program management and administration.
* In-depth knowledge of Federal, Provincial, and local laws, standards, regulations, and policies related to environmental health and safety.
* Strong understanding of methods, techniques, and practices used in workforce training.
* Ability to identify unsafe working conditions and practices through on-site inspections.
* Ability to assess environmental impacts through on-site project inspections and address them with appropriate mitigation programs.
* Solid research skills with the ability to interpret and apply technical information to prepare clear and concise management reports. Capable of supporting decisions and recommendations with logical, well-documented information.
* Proven ability to collaborate effectively with diverse groups to achieve desired results.
* Ability to establish and maintain cooperative relationships with colleagues and stakeholders.

1. **REPORTING LINE**

The Environmental Specialist will report to the **Senior Environmental Specialist**, KWSSIP. He/She will liaise/ support with the Project Director Resettlement Unit in E&S Review Gap Implementation and work closely with the relevant stakeholders including PIU KIV Main contractors, supervision consultants, and community stakeholders.

1. **CONTRACT DURATION**

The Specialist is required to work for the KWSSIP-2 for the period of Two (02) years. The Probation Period will be for 3 months during/up to which contract may be terminated owing to unsatisfactory performance. Contract can be terminated with one month notice period by either party. The position is based in Karachi with travel requirements to the site as & when required.

1. **SALARY AND BENEFIT**

Market competitive salar based on qualification and experience will be offered.

1. **SELECTION PROCESS**

An individual will be selected in accordance with process stipulated in Section VII of “Approved Selection Methods: Consulting Services, Clause 7.34, Approved Selection Methods for Individual Consultants under The World Bank Procurement Regulations for IPF Borrowers (Fifth Edition September 2023).