BEIRUT AND MOUNT LEBANON WATER ESTABLISHMENT

SECOND GREATER BEIRUT WATER SUPPLY PROJECT - SGBWSP

TERMS OF REFERENCE

ENVIRONMENTAL, HEALTH AND SAFETY (EHS) SPECIALIST

Project Background

The proposed Project is a follow-on operation to the Greater Beirut Water Supply Project (GBWSP, P103063). In December 2010, the World Bank approved this US$200 million investment project (Loan No. 7967) to finance the GBWSP. The financing plan included US$140 million to be financed by the BMLWE and US$30 million by the GoL. The GBWSP, scheduled to close on April 30, 2025, aimed to provide an additional 250,000 cubic meters of water per day in the GBML area. Its design marked the first time water would be sourced from surface water sources, specifically the Awali River, springs, and the Lake Qaraoun fed by the Litani River. The GBWSP infrastructure includes an inter-basin bulk water conveyance tunnel that feeds into a gravity-based "source to tap" water supply system to deliver a reliable, year-round supply to the Project area. The LRA operates all infrastructure along the Litani, including a series of hydropower plants and dams that the bulk water supply system relies on.

As of March 2025, most activities under the GBWSP have been completed. Key investments funded by the GBWSP have been finalized, including the excavation of a 24-kilometer bulk water conveyance tunnel, the rehabilitation of over 400 kilometers of the water supply distribution network in Greater Beirut, and the construction of 23 water reservoirs with storage capacities ranging from 500 to 1,000 cubic meters. Additional works include network rehabilitation and the installation of a Supervisory Control and Data Acquisition (SCADA) system. Due to the ongoing conflict, the construction of the water treatment plant at Wardanieh under a Design-Build-Operate contract will be well advanced (89 percent by end April), but not completed by the GBWSP's closure.

The Second Greater Beirut Water Supply Project builds on the progress already achieved under the GBWSP and on the ongoing water reform agenda while addressing emerging challenges. The SGBWSP will finance the completion of the water supply infrastructure, ensuring the achievement of the objective of bringing additional water supply to extended areas of GBML. In addition, the Project will support the necessary add-ons to the Wardanieh WTP to manage increased levels of pollution expected at different times of the year. A The SGBWSP will also support institutional strengthening to improve the operational and commercial performance of the BMLWE in line with the MoEW vision for the recovery of the sector outlined in the NWSS 2024-2035 and the conclusions of analytics funded by the Bank and other donors.

The SGBWSP will be executed by the Ministry of Energy and Water (MOEW) who has delegated the implementation of components 1, 4 and 5(a) to CDR. Components 2, 3 and 5(b) and (c) will be also implemented through the PMU at BMLWE.

Project Components

The Second Greater Beirut Water Supply Project consists of the following six components. The total project investment cost is estimated at US$257.8 million financed in its totality by the Bank.

The Project consists of the following parts:

Component 1. Completing remaining Bulk Water Supply Infrastructure

(a) Design, construction and construction supervision of bulk water supply infrastructure, as applicable, consisting of:

(i) the Joun regulator structure;

(ii) water tunnel conveyors, including related lining;

(iii) inverted siphon with ventilation shafts in the Damour river; and

(iv) the surge shaft with surface venting at Khalde.

(b) Design, construction and construction supervision, as applicable, of water supply transmission pipelines across Project Areas.

(c) Design, construction and construction supervision, as applicable, of the Hadath 125, Hadath 90 and Hazmieh 90 supply reservoirs and associated interconnecting pipeline and pumping stations.

(d) Carrying out of rehabilitation works for key Project-related infrastructure in Selected Sites under Component 1.

Component 2. Strengthening Treatment Processes for Improved Water Quality

Provision of additional features to the Wardanieh water treatment plant, through:

(a) Establishment of a daily raw water quality monitoring and an early warning system;

(b) Supply of a Powder Activated Carbon (PAC) system including powder storage, feeder, and dosing system;

(c) Support to the completion of works and operation of the Wardanieh WTP on an adaptative management mode;

(d) design and installation of an optimal add-ons configuration based on results under (a) and (c);

(e) Support to the improvement of water quality management and the BMWLE, including the rehabilitation and upgrade of BMLWE's laboratory at the Dbayeh through the expansion of existing facilities and the purchase of related equipment, and the reinforcement of chlorination practices to ensure residual chlorine in BMWLE's distribution network; and

(f) Carrying out of rehabilitation works for key Project-related infrastructure in Selected Sites under Component 2.

Component 3. Reforms for improved utility operations

(a) Support to the Non-Revenue Water reduction in the Project Areas

(b) Support to the modernization of BMLWE's operational and commercial management systems, through:

(i) Reinforcement of Information and Communication Technology (ICT) infrastructure, including inter alia, carrying out of audit of IT facilities, implementation of cyber security improvements, changes to the current operational technology network;

(ii) reactivation of the Supervisory Control and Data Acquisition (SCADA), including inter alia, integration of existing DMAs to the system, installation of solar panels in the Project Areas;

(iii) carrying out of a fixed asset inventory, including classification and reclassification, to be integrated in the BMLWE's existing enterprise resource planning (ERP) software;

(iv) Support to the carrying out of a census to update BMLWE's customer cadaster and to identify commercial losses;

(v) improvement of customer management and internal processes, including, inter alia, migration of billing and collection system to the BMLWE's ERP software, integration of ERP data with geographical information system, digitalization of paper processes, supporting the digitalization of the call center;

(vi) support to the implementation of the BMLWE's Entity Audit; and

(c) Support to the development and implementation of the BMLWE's communications strategy; and implementation of semi-annual public awareness campaigns to raise public and stakeholder awareness of BMLWE operations and of critical water-related issues, including inter alia on, water quality, water conservation and NRW reduction.

Component 4: Land Acquisition and Resettlement Compensation

Implementation of the Resettlement Action Plan, including, inter alia, providing Resettlement Assistance to Project-affected Persons.

Component 5: Project Management and Capacity Building

(a) Establishment and operation of the CDR-PMU, including the financing of Operating Costs.

(b) (i) Establishment and operation of the BMLWE-PMU, including the financing of Operating Costs; capacity building, technical assistance; (ii) carrying out as well as monitoring and evaluation of an apprenticeship program; and (iii) strengthening BMLWE's capacity on utility-related technical skills and on-the-job experience, financing of consultants' services for the BMLWE entity audits.

Component 6: Contingent Emergency Response

Provision of immediate response to an Eligible Crisis or Emergency, as needed.

Scope of Work and Responsibilities

The Environmental, health and safety (EHS) Specialist within the PMU at the CDR and the BMLWE will be responsible to assist the PMU Project Managers / Coordinators on the day-to-day environmental, health & safety aspects of the project, including overall implementation of the Environmental, health and safety (EHS) requirements. He/She will:

- Develop a time-bound action plan to fulfill ESCP obligations and integrating environmental requirements with social aspects in collaboration with the Social Specialist.
- Coordinate with the Owner Engineer (OE) and their team to ensure EHS considerations are embedded in engineering designs, bidding documents, and construction supervision.
- Review and monitoring contractor deliverables such as Environmental and Social Management Plans (ESMPs), Occupational Health and Safety (OHS) manuals, and site-specific mitigation measures.
- Participate in internal and external meetings, including World Bank missions, to report on EHS progress, challenges, and corrective actions.
- Prepare comprehensive quarterly progress reports, including environmental and occupational and community health & safety updates, in coordination with the Social Specialist.
- Ensure the implementation of the World Bank-cleared ESIA, ESIA Addendum and Environmental and Social Management Plan (ESMP) and screening tools for subprojects, especially in relation to water treatment and distribution infrastructure.
- Prepare expression of interest and/or terms of reference for Supervision Consultants and Contractors to implement the ESMP for the SGBWSP;
- Provide technical EHS inputs to procurement processes, including preparation and review of EHS clauses in bidding documents and evaluation of contractors' and consultants' EHS capacity Receive, open, and coordinate the EHS evaluation of bids and consultants' proposals;
- Review all EHS reports (work plan, progress reports, annual reports, etc.) produced by the contractor and supervision consultant following the ESMP and provide feedback on monitoring, mitigation, and institutional strengthening-capacity building and training activities
- Provide operational support on all environmental issues related to the SGBWSP and promote compliance with the World Bank's environmental safeguard policies.
- Follow up to ensure issues raised are promptly addressed, and/or contractual measures invoked.
- Establish and oversee procedures for notification, investigation, documentation, and reporting of environmental, occupational and community health and safety incidents and accidents, including serious incidents, in accordance with World Bank incident reporting requirements

Oversee implementation of contractor OHS systems in line with ESS2 and GIIP, including:

  - Job Safety Analyses (JSAs)
  - Toolbox talks
  - PPE programs

    - Worker accommodation and welfare (as applicable)
- Oversee implementation of community health and safety measures related to:
    - Excavation and trench safety
    - Traffic and access management
    - Public exposure to construction hazards
    - Emergency response coordination with local authorities
- Review and validate environmental monitoring data (e.g., water quality, noise, air emissions, waste management) submitted by contractors and supervision consultants, and ensure corrective actions are implemented where standards are exceeded.
- Design and deliver periodic EHS training and awareness sessions for PCU staff, contractors, and supervision consultants on ESMP implementation, OHS practices, emergency preparedness, and World Bank ESF requirements.
- Maintain an ESCP implementation tracking matrix, monitor deadlines and responsible parties, and recommend updates or corrective actions as needed, in coordination with the World Bank.
- Coordinate with relevant national and municipal environmental and OHS authorities to ensure alignment with national regulations, permits, and inspection requirements.

Key Requirements

Education

- Advanced degree (Master's preferred, Bachelor's minimum) in Environmental Science, Environmental Engineering, Civil Engineering, Occupational Health and Safety, or a closely related field.

Experience

- Minimum 7–10 years of professional experience in environmental, health, and safety management on infrastructure or water sector projects.
- Demonstrated experience implementing World Bank Environmental and Social Framework (ESF) requirements, including Environmental and Social Commitment Plans (ESCPs), Environmental and Social Impact Assessments (ESIAs), and Environmental and Social Management Plans (ESMPs).
- Proven track record supervising EHS performance of contractors and supervision consultants on construction projects, including review of OHS systems, site-specific mitigation measures, and incident reporting.
- Experience with water supply, water treatment, or distribution infrastructure projects is strongly preferred.
- Prior experience working within a Project Management Unit (PMU) or similar institutional arrangement on donor-funded projects is an advantage.
- Familiarity with national environmental and OHS regulations and permit requirements in Lebanon

Technical Skills and Knowledge

- Strong working knowledge of World Bank Environmental and Social Standards, particularly ESS1 (Assessment and Management of Environmental and Social Risks), ESS2 (Labor and Working Conditions), and ESS4 (Community Health and Safety), as well as Good International Industry Practice (GIIP).
- Demonstrated ability to review and provide quality feedback on contractor EHS deliverables, including ESMPs, OHS manuals, Job Safety Analyses (JSAs), emergency response plans, and environmental monitoring data (water quality, noise, air emissions, waste management).
- Experience designing and delivering EHS training and awareness sessions for diverse audiences, including PMU staff, contractors, and site workers.
- Ability to develop and maintain ESCP implementation tracking matrices, monitor compliance deadlines, and recommend corrective actions.
- Familiarity with grievance mechanisms, community health and safety measures (excavation/trench safety, traffic management, public exposure to construction hazards), and worker welfare standards.

Soft Skills and Other Requirements

- Excellent analytical, report-writing, and communication skills in English; proficiency in Arabic is required.
- Ability to coordinate effectively across multiple stakeholders, including contractors, designers, government counterparts.
- Strong organizational skills and ability to manage competing priorities
- Demonstrated integrity and ability to operate independently with sound professional judgment.

Type of Contract

The EHS Specialist will sign 2 separate part-time contracts with the CDR and the BMLWE.

Duration of Assignment

The initial part-time contracts (CDR and BMLWE) duration is 12 months, renewable based on performance and project requirements.

Deliverables

Monthly attendance time sheet.
Monthly work reports outlining EHS implementation performance, highlighting non-compliance issues and corrective actions taken, including the accidents and incidents report.
Quarterly reports covering all environmental aspects for all Contracts with all supporting documents
All documents shall be submitted to the Project Managers/Coordinators at the PMU-CDR and the PMU-BMLWE respectively within 7 days from the end of the month with the relevant invoice.

Location

The position will be based at both the CDR and the BMLWE Offices, with occasional field visits as required.