

**Terms of Reference for
Conducting an Investigation for the Accident and for OHS measures in
Turkey Energy Efficiency in Public Buildings Project (P162762)
Occupational Health and Safety Consultant**

Background

The Türkiye Energy Efficiency in Public Buildings (P162762) Project (Project) was approved by the World Bank's Board of Executive Directors on November 5th, 2019 and was effective on March 16th, 2020. The project closing date is December 31st, 2025. The overall objective is to reduce energy use in central government buildings and develop a transition plan to develop and scale-up suitable sustainable financing and institutional mechanisms to support a national program. The Project has been implemented by the General Directorate of Construction Affairs (GDCA) of the Ministry of Environment, Urbanization and Climate Change (MoEUCC). The Project Implementation Unit (PIU) of the GDCA, which will be established for the project and will be responsible for overall implementation, management and coordination of the proposed Project.

The sub Project of Esenyurt State Hospital Building Energy Efficiency has 4 block and 23080 m2 construction area and is located in İstanbul. The main activities of the sub projects are heating and cooling system renovation applications, replacing luminaires with LED luminaires suitable for lighting levels, establishment of trigeneration system, photovoltaic panel installation, establishment of building automation system and energy monitoring system. The sub project's start up date is June 30th, 2021 and close up date is June 30th, 2022

An Environmental and Social Management Framework (ESMF) was prepared for the project before appraisal with respect to the WB Operational Policies. Accordingly, the Environmental and Social Management Plans (ESMPs) were prepared for each sub-project under the Project. The ESMP of the sub-project where the accident occurred was prepared in December 15th, 2020.

Description of the incident

The incident occurred on 03.07.2022 in the panel room of the Esenyurt State Hospital Building (sub-project) in Istanbul, which is within the scope of the works contract under the Component 1. The employee of the subcontractor of the lead construction firm was installing the energy management system equipment when an electrical fire led to a small explosion. The fire and electrical arc caused 2nd and 3rd degree burns on body and he was hospitalized for 22 days. After the incident, the hospital management cut off all the energy coming to the electrical panels, replaced the damaged materials, and then put the electrical panel into operation temporarily.

Objective of the work

The accident is classified as a serious accident according to the WB Environment and Social Incidents Response Toolkit (ESIRT). A Root Cause Analysis (RCA) is required for the subjected serious accident. The root cause is a fundamental, underlying, system-related reason why an incident occurred that identifies one or more correctable system failures. The reoccurrence of a

similar incident can be prevented through the RCA which will be addressing the root causes of this incident. The main steps of the RCA are:

1. Identify and define the incident
2. Gather data
3. Determine possible causal factors
4. Identify the root cause(s)
5. Recommend and implement solutions (e.g. corrective actions)
6. Put a monitoring system in place and verify solution effectiveness

The objectives of the TOR are to: 1) identify the root cause of the accident, 2) identify immediate measures to be taken to improve the safety at the site and at other Project sites throughout the Project area and 3) identify effective preventive measures to be implemented to reduce OHS risks. The scope of the work:

Scope of the work

- Conduct RCA and of the incident according to the internationally accepted methods and identify the sequence of events and factual circumstances, and the immediate, underlying and root causes that led to the incident. The analysis would include what exactly happened, the unsafe acts, conditions or practices that contributed to the incident occurring, and the planning, organization and system failings that led to the accident. It would be important to find out what health and safety measures were at that site regarding to work with electricity, use of PPE, working permit as well as any community safety measures. The risk information/training provided to workers on site and level of supervision on unskilled labor should also be assessed. The incident analysis should also address the accident responsiveness and if there were better practices that could have been followed in dealing with the incident.
- Recommend actions to be taken to rectify the failure(s) that led to the incident. The actions should consider the workers, supervisor consultants, the PIU and the overall management system(s) such as training, sub-contracting, supervision, auditing, reporting, etc.
- Review the OHS measures in Safeguards instruments and plans in construction tender/bidding documents/contracts and recommend enhancements as needed. The assessment including gap analysis should identify what the existing procedures and OHS commitments for safe performance of construction activities (working with electricity, excavation, scaffolding, working at heights, welding, etc.) are and should recommend appropriate procedures for the enhancement of the procedures
- Reviewing all relevant site-based documents including but not limited to training records, risk analysis, vehicle and equipment maintenance records and logs, incident registers, grievance logs, regular monitoring reports to supervision consultant and the PIU, supervision, inspection and audit reports by any regulatory authority, notices/warnings from the supervision consultant to the contractor, any records/reports regarding investigation of this incident etc.
- In addition to collection of evidence, documents, information, hold interviews with relevant parties to do a proper assessment including the construction contractor, environmental, social and OHS experts, present personnel at the time of the incident,

project manager, supervision consultant's project manager, environmental, social and OHS experts and any other relevant people/institution as needed, such as eyewitnesses.

- Review the capacity of the PIU to implement the OHS requirements of the Project regarding to WB safeguards policies and national OHS legislation. The assessment should review PIU organization chart, monitoring and supervision schemes, trainings, approval process to access to the site to begin work, etc.
- Review the capacity of Contractor and supervision consultants to implement OHS standards. The assessment should review the training plans for skilled and unskilled labor for effectiveness and propose improvements to the training and communication program so that workers are adequately guided to safely perform their work.
- Review the number of designated OHS staff/experts of the contractor and supervision consultant, their working arrangements (part/full time) and their frequency of conducting site visits to assigned construction sites.
- Review the existing arrangements for recruiting labor and what type of insurance (life or injuries and occupational health risks) and compensations are provided.
- Review compliance to the Labor Law and other international treaties by the PIU, Contractor and Subcontractors.
- Assess the sufficiency of the measures that the PIU, Contractor and sub-contractors take to minimize risk on the local communities and communicate with them. Recommend improvements, as necessary.
- Identification of the corrective actions: Taking into consideration the completeness of the relevant management systems, procedures and processes, identify corrective actions to address the immediate, underlying and root causes of the incident. The corrective actions should have 'SMART' objectives (i.e. Specific, Measurable, Actionable by the project, Realistic and with clear Timescale for implementation), and be prioritized according to the risk control they provide. For each action, a responsible person and timeline should be identified.

Outputs

The consultant shall prepare the following outputs:

- A root-cause incident investigation report describing the incident and the immediate, underlying and root causes of the incident, together with recommended corrective action to prevent recurrence.
- A diagnostic analysis of OHS measures and recommended measures for improvements regarding training, supervision, reporting etc.

The report is to be a concise and accurate record of the incident and shall be accompanied by photographs, maps and drawings as necessary. A separate annex of evidence and supporting information will be provided. The language of the report will be English.

Timing

The draft incident investigation report should be submitted within 12 days from commencement of the RCA. The final report should be submitted within 5 days from receiving the comments on the draft.

Following receipt of the final report, the consultant shall respond to any questions about the incident that may arise while implementing the response to the incident, including any queries that may come from the World Bank.

Qualification of the Independent Consultant(s)

- At least bachelor's degree in Engineering, Architecture or other technical field
- Minimum 10 years of work experience as Occupational Health and Safety (OHS) specialist in construction projects (being familiar with working with electricity will be asset)
- Minimum 3 years of work experience in the OHS assessment and management in projects financed by the international organizations or other international donors, preferably the World Bank
- Having an experience carrying out RCA analysis according to the internationally accepted standards and methods
- Having a certification in OHS related field (A or B Class OHS Certificate of the Ministry of Labor and Social Security of Turkey)
- Having an International Certificate (NEBOSH, OSHA, etc.) will be asset
- Having a complete understanding of Occupational Health and Safety Law No. 6331, Labour Law No.4857, Social Security and General Health Insurance Law No. 5510 and all relevant applicable regulations of Turkey, ILO Code of Practice,
- Having a knowledge on World Bank Operational Policies, Environmental and Social Framework and respective World Bank Group Environmental, Health, and Safety Guidelines or any other internationally acceptable standards will be asset
- Excellent interpersonal and communications skills
- Fluency in English is a must

Confidentiality

All documents provided to the consultant for carrying out this task should be considered confidential, and other than as needed to fulfil the tasks required in this ToR, the incident shall not be discussed, or information communicated to any other organization or individual.