

**Republic of Türkiye
Ministry of Transport and Infrastructure**

Directorate-General of Infrastructure Investments

TERMS OF REFERENCE

**Independent Project Implementation Oversight Consultant (PIOC) Services
for the**

Istanbul North Rail Crossing Project (INRAIL)

1. Background

The Istanbul North Rail Crossing Project (“INRAIL” or “the Project”) is a flagship investment of the Government of Türkiye (GoT) to provide an alternative, overland railway infrastructure link across the Bosphorus Strait that bypasses the Istanbul Metropolitan Area. Currently, the only cross-Bosphorus railway link is the Marmaray immersed tube tunnel, which was primarily designed for passenger services and faces significant freight capacity and maintenance constraints. Freight trains can only use the Marmaray tunnel during limited night-time windows, creating a major bottleneck for the several national and intercontinental rail corridors that traverse Istanbul. This bottleneck increases logistics costs, reduces the competitiveness of rail in Türkiye’s logistics system, and reduces the attractiveness of Türkiye as a transit hub for time- and cost-sensitive international/intercontinental Eurasian cargo. This results in higher greenhouse gas (GHG) emissions, greater congestion in Istanbul’s Metropolitan Area, and missed opportunities for truck-to-rail modal shift.

To address these challenges, the Project will construct a 127km greenfield railway line as a high-capacity overland alternative across Bosphorus. The line will be double-tracked, electrified, fully signalized, and mixed-used, designed to carry passengers and freight.

The proposed railway line will start at the Çayırova station on the Asian side of the Istanbul Metropolitan Area and end at the Çatalca station on the European side. The line will cross the Bosphorus Strait using the existing track space allocated for this purpose on the Yavuz Sultan Selim Bridge (“YSS Bridge”, or “Third Bridge”), at the Bosphorus’ northern end. The line will be connected to the Turkish national high-speed rail network, with the intended ability of moving passenger trains at a top design speed of 160 km per hour. Freight trains will move at speeds of 80-120 km per hour. Between Çayırova and Çatalca, the line will connect Istanbul Airport (IST) on the European side and Sabiha Gökçen International Airport (SAW) on the Asian side to the urban and inter-city railway network, thus facilitating (i) domestic and international air and rail passenger connectivity, and (ii) urban mobility within the Istanbul Metropolitan Area.

The two airports will be the only stations along the target line. These stations will serve passenger flows and support multimodal logistics, including rail freight-to-air freight transfers. The line's current alignment is almost entirely within the right-of-way of the existing North Marmara motorway, thereby minimizing the need for land acquisition. Its technical design, which is intense in tunnels (~50% of length) and viaducts (~17% of length), minimizes environmental and social impacts and improves safety.

2. INRAIL Project Description

INRAIL comprises 3 components, as follows:

Component 1: Design, Infrastructure, and Superstructure Construction Works. The technical work under this component will include the following:

- Preparation of detailed engineering designs for all construction and installation works within the scope of the Project, which are expected to be conducted under a design-build implementation approach, aiming at improving infrastructure quality outcomes and accelerating physical progress by integrating these interdependent functions under the same provider.
- Construction of 122.3 km of double-track main line and about 4.7 km of single-track connection lines, resulting in a total of nearly 127 km of electrified and fully signalized high-speed railway with a maximum design speed of 160 km/hr. This includes 5 twin-tube tunnel boring machine (TBM) tunnels totaling 36.2 km, 22 double-track New Austrian Tunneling (NATM) tunnels totaling 23.3 km, 17 cut-and-cover tunnels totaling 3.7 km, and 2 viaducts and 40 bridges totaling 22.1 km. The infrastructure and superstructure will adhere to Türkiye's recently updated national standards for structural integrity, which explicitly address climate-related hazards such as flooding, wind, and extreme temperatures.
- Full electrification of the project line, installing an overhead catenary system to be supported by three traction transformer centers (154/25 kV) positioned along the route two near the termini and one centrally. Energy will be sourced from nearby 154 kV lines operated by Türkiye Electricity Transmission Inc., with all transformers conforming to national and international standards.
- Installation of European Rail Traffic Management System (ERTMS)/European Train Control System (ETCS) Level 1 signaling and telecommunication systems along the project line. All signaling and telecommunications systems will be compatible with train speeds up to 250 km/h, while also supporting safe and efficient operation of lower-speed trains. Integration with existing systems will be achieved through necessary connections, interfaces, and software for electrification, signaling, communication (including continuity with the Centralized Traffic Control (CTC) center), Supervisory Control and Data Acquisition (SCADA), and related facilities.
- Construction of dedicated structural reservations designed to incorporate potential freight connections with cargo terminals at IST.

- Construction of a new underground railway station for the project line at SAW, with siding tracks to be incorporated in separate parallel tunnels to segregate freight and passenger trains to improve safety and operational performance.
- The adaptation of and connection with the existing railway station at IST, incorporating siding tracks with structural separation for freight and passenger trains to improve safety and operational performance.

Component 2: Design Supervision and Construction Supervision. Component 2 comprises the provision of consulting services to supervise all design and construction/installation works under Component 1, in accordance with FIDIC regulations, across all Project contracts.

Component 3: Project Implementation and Oversight Support. This component will enhance project implementation by mobilizing a Project Management Consultant to provide direct implementation support to AYGM, and by engaging an independent Project Implementation Oversight Consultant (PIOC) to support both AYGM and Project Financiers (see below). These latter services are the topic of these Terms of Reference (ToR).

3. Project costs and Financing:

INRAIL has an estimated total cost of US\$8.1 billion (including VAT, project management and supervision, and contingencies). Financing will be provided by a consortium of International Financial Institutions (IFIs) (henceforth referred to interchangeably as “the Financiers” or “the Project Financiers”), with expected indicative contributions as follows:

1. World Bank (IBRD), designated as Lead Financier: US\$2.0 billion.
2. Asian Development Bank (ADB): US\$1.5 billion.
3. Asian Infrastructure Investment Bank (AIIB): US\$1.5 billion.
4. Islamic Development Bank (IsDB): US\$0.75 billion.
5. OPEC Fund: US\$0.5 billion; and
6. European Bank for Reconstruction and Development (EBRD): US\$0.5 billion.

The remaining US\$1.522 billion will be provided by the GoT, primarily to cover land acquisition, contingencies, and applicable taxes.

The Project will be implemented by Türkiye’s Ministry of Transport and Infrastructure (MoTI), through its Directorate-General of Infrastructure Investments (AYGM). A dedicated Project Implementation Unit (PIU) within AYGM’s Department of Railway Construction will have direct responsibility for managing the Project’s implementation.

AYGM (the “Employer”) will implement the Project in accordance with the Yellow FIDIC book (FIDIC Conditions of Contract for Plant and Design-Build -yellow book 2017-2022), engaging:

- **Civil Works Contractor(s)** (henceforth referred to interchangeably as “Contractor” or “Contractors” – the Project is expected to engage more than one contractor) responsible for designing and building the Project. All Works contracts shall be under the provisions of FIDIC Conditions of Contract for Plant and Design-Build, whereas for Signaling and Telecommunication contract will be guided by terms and conditions as per Bank standard Design, Supply and Installation document.
- **Construction Supervision Consultant/Engineer** (henceforth “CSC” or “the Engineer”) to administer the design-build civil works contract(s) and act as the Employer’s representative on

site, per FIDIC regulations, with the following duties: (a) administering the design-build contract(s) and ensuring full supervision and monitoring of the Contractor's performance, with timely completion, adherence to budget, and compliance with the Employer's Requirements, approved design, and contract terms; (b) safeguarding construction quality and overseeing site safety throughout the works; (c) managing all contractual matters between the Employer and the Contractor; and (d) facilitating the successful handover of the completed works as an operable and maintainable system; and

- **Project Management Consultant (PMC)** provide support to the Employer on the daily tasks of implementing and managing the Project, including complying with all Financier requirements and related financing agreements, as well as with national laws and obligations.
- **Project Implementation Oversight Consultant (PIOC):** the PIOC will provide independent project implementation oversight, including technical support and quality assurance, throughout the project lifecycle to help meet AYGM and Financiers' requirements. The PIOC will provide structured, periodic—and in some cases real time or near real time—oversight and quality assurance of key aspects of project implementation, including but not limited to design, construction, fiduciary performance, environmental, Occupational Health and Safety (OHS) and social performance, and risk management. The PIOC support is intended to ensure the timely, fit-for-purpose, and on-budget delivery of a flagship project of national and international importance. The definition of the PIOC duties will be elaborated in this ToR. Communication and reporting by the PIOC will be directed to the Employer and the Financiers only.

Please refer to the Indicative project implementation arrangement chart annexed to this ToRs.

Upon completion, AYGM will transfer the Project-financed infrastructure to TCDD, which will operate and maintain the completed railway assets over its economic life. The PIOC is expected to support this handover process.

The Project will be implemented according to the World Bank's Environmental and Social Framework (ESF), Additional requirements may be considered to meet policies of other co-financiers and added to the scope of the relevant task. Its implementation will be guided by the following Environmental and Social (E&S) instruments: Environmental and Social Impact Assessment (ESIA), Environmental and Social Management Plan (ESMP) and sub-management plans (both AYGM and Contractor plans), Stakeholder Engagement Plan (SEP), Labor Management Procedure (LMP), and a Resettlement Framework (RF) to inform the preparation of a Resettlement Action Plan (RAP) and Livelihood Restoration Plan (LRP) during implementation. These instruments have been prepared, publicly consulted, and disclosed by AYGM, and will be updated, re-consulted, and re-disclosed when detailed engineering designs are undertaken during Project implementation.

4. Objective of the Assignment

AYGM, as the Employer, wishes to ensure that the Project is delivered in full compliance with AYGM and Financier requirements. The assignment for the PIOC is designed with a view to assisting the Employer with scope and quality assurance needed to ensure that such requirements are met. AYGM now seeks to engage a consulting company to serve as the Project's independent Project Implementation Oversight Consultant (the "Consultant" or the "PIOC") to provide such support.

The objective of the assignment is to provide independent oversight and reporting on the quality of work and installations delivered under the Project and compliance with requirements. This would be performed on a periodic basis involving sample technical audits together with regular reporting to the Employer and the Financiers.

The PIOC shall satisfy itself, based on evidence gathered, that all design, construction, testing, equipment installation, system integration, and construction/systems acceptance and commissioning works are delivered in compliance with the Employer's requirements, national legislation and Financiers' requirements and to ensure that all major issues identified during the oversight process have been successfully resolved, and the resulting railway asset is suitable for operations as intended.

Over and above the oversight and quality assurance role, the PIOC's work is intended to inform the Employer's and Financiers' efforts in identifying any issues and constraints that could prevent delivery of targeted outputs during implementation of the Project. The PIOC's value-added shall support the Employer with its independent monitoring for the delivery of the Project scope against the schedule milestones in the Project contracts, quality, and safety of implementation, alerting the Employer and the Financiers to the potential risks ahead and providing practical problem-solving recommendations for mitigating the identified risks.

The PIOC's role is advisory and oversight in nature, focused on ensuring transparency, compliance, performance, and advising the Employer and Financiers. Nothing in this ToR shall be construed as transferring any powers, authorities, or responsibilities of the Engineer under FIDIC Contracts to the PIOC.

5. Scope of Work

The scope of work of the PIOC will cover periodic monitoring of the implementation of the Project's activities in its entirety, including design, infrastructure and superstructure civil works, and equipment and systems installation, testing, and commissioning. Monitoring of Project implementation will ensure that quality and safety standards and guidelines, as stated in the contracts and other supporting documents, are being complied with and that resources are available as required to achieve the implementation schedule.

The assignment's scope of work will cover six broad tasks:

1. Audit the CSC/Engineer's quality management standards, process for design review and approvals, and site supervision activities to ensure that the Employer's requirements are met.
2. Audit the Contractor(s)' standards for design-build civil works, both during design and execution, based on witnessing and/or examination of the quality of processes, inputs, works, materials and components incorporated in the permanent works, compliance with the quality norms and performance criteria, and compliance with safety requirements based on the oversight of the related arrangements.
3. Review of goods and materials procurement based on quality control of documentation for the goods purchased, on a sampling basis, to assure itself of adequacy and quality of such documentation and controls.
4. Review quality of rolling stock testing, commissioning, and acceptance based on attendance of the tests undertaken by the Contractors and/or CSC/Engineer. In exceptional circumstances,

where the PIOC thinks the Employer's interests will be further protected by undertaking additional tests, the PIOC shall recommend such tests.

5. Review of Project's progress and adequacy of delivery arrangements based on random checks of timeliness and quality of the resources being deployed.
6. Conduct periodic Environmental, Social, Health and Safety (ESHS) audits with the aim of identifying significant environmental, occupational health and safety and social issues in the Project activities, and assess their status, specifically in terms of meeting the requirements of the E&S instruments and sub-plans referenced therein, including Contractors' ESMPs, the World Bank Environmental and Social Framework (ESF)¹, and Turkish law.
7. Undertake continuous risk management assessments, update same as necessary throughout implementation, and promptly inform the Employer and Financiers on changes in the Project's risk profile and their root causes.

The PIOC shall gain all the evidence that is reasonably required to assure itself that all the works:

- Have been successfully completed and in conformance with the Employer's and Financiers' requirements, budget, and schedule.
- All major issues identified during the testing and commissioning process have been successfully resolved.
- The Project-financed assets are adequate for commencement of operations.

The above services will be provided through the following tasks:

Task 1: Review of Project Works

The PIOC will examine the quality of delivered works and confirm that delivery meets quality norms and performance criteria and is being done in compliance with safety requirements based on the audit of related arrangements. In confirming that the quality norms and performance criteria as described in the Employer's requirements and all related safety requirements are successfully met, the PIOC will complete the following tasks:

- Review standards used by the CSC/Engineer(s) and Contractor(s) and advise Client on suitability.
- Verify that adequate expertise has been deployed by the Contractors and CSC/Engineer to carry out quality control and/or resolve technical problems and/or issues.
- Monitor the overall implementation of the project to ensure strict adherence to the Employer's Requirements, approved designs, contract terms, and relevant international best practices. This includes verifying that all activities are carried out in accordance with the agreed-upon standards and specifications.
- Review the CSC/Engineer's process for design review and approvals and site supervision, ensuring the Employer's Requirements are met. When and if necessary, conduct mandatory checks or independent verification of certain design elements, which can be subject to audit.
- Assess the quality of the design-build works, compliance with the method statements and Employer's requirements by the Contractor(s). For quality assessment purposes, the PIOC may

¹ Additional requirements may be considered to meet policies of other co financiers and shall be communicated to the Consultant.

carry out spot or sample technical audits on key design elements, visual examinations, reviews of test results and quality control documents, and/or attendance and witnessing of important rolling stock tests² including those at acceptance and commissioning.

- Prepare a simplified and quantified description of infrastructure, equipment, and processes that were monitored for technical quality.
- Verify records keeping by the Employer, the CSC/Engineer, and the Contractors. The reviewed records should include site notebooks, site reports, work orders, minutes of preliminary and final acceptance of Works, ESIA and ESMP prescribed measures and plans, minutes of meeting where key decisions have been made and signed off by the CSC/Engineer, Employer, and Contractors.
- Review the Project's E&S Instruments prior to finalisation and prior to Contractor mobilisation and or start of construction works. Opine on the following documents to the Financiers to support World Bank issuance of No-Objection on behalf of Co-Financiers:
 - a) Updated ESIA (developed by the Contractors for each Lot)
 - b) Updated ESMP (developed by the Contractors for each Lot) and its sub management plans
 - c) Contractors' Environmental and Social Management Plan
 - d) Contractors' Biodiversity Management Plan
 - e) Contractors' Labor Management Plan
 - f) Contractors' Cultural Heritage Management Plan
 - g) Resettlement Plan (RP) and Livelihood Restoration Plan (LRP) (developed by the Contractors for each Lot)
 - h) Sectional Completion Report confirming that (sectional) RP and LRP have been implemented to ESS5 and other co-financier requirements to be defined.
 - i) Change Management Procedure (developed by the Contractors for each Lot)
 - j) Contractors' Traffic/Transportation Management Plan
 - k) Contractors' Occupational Health & Safety Plan and Procedures
 - l) Contractors' Community Health, Safety and Security Management Plan
 - m) SEA/SH Action Plan and the Accountability Response Framework for INRAIL
- Verify that progress in delivery of works is being maintained along with availability of the Contractors', CSC/Engineer's, and Employer's resources so that the contractually agreed targets remain realistic. Where actual and potential deviations from the schedule and cost targets are being identified, the PIOC will identify their root causes and offer practical suggestions to rectify them.
- Track progress against the Project Implementation Plan by monitoring key milestones related to civil work, contract management performance, and commissioning processes. This involves

² These include equipment and system testing and testing of the quality of civil and structural works, where applicable.

identifying any delays or deviations from the schedule and recommending corrective actions to the Employer to keep the project on track relative to agreed-upon completion timelines. Assess critical path progress, keep ongoing track of implementation delay risk, verify progress and delay risk based on CSC/Engineer progress reports and PIOC's own observations on the ground, and undertake completion timeline modeling with proactive scenarios.

- Evaluate the quality and completeness of the Employer's project reporting, documentation, and record-keeping practices - including what concerns the required monthly, semi-annual, and annual environmental and social monitoring reports as established in the Environmental and Social Commitment Plan (ESCP)- and provide the Employer with advice on how to strengthen them. Ensure that all project records are accurate, up-to-date, and maintained in accordance with contractual and regulatory requirements.
- Verify that all construction and installation works meet the required technical specifications, climate resilience criteria, and safety standards. Special attention should be given to critical infrastructure components such as tunnels, viaducts, electrification systems, and signaling equipment. This includes confirming that these elements are designed and constructed as per the required standards.
- Verify that the interfaces between different contracts are being properly managed and in compliance with the Interface Management Plans.
- Identify any systemic quality issues and recommend corrective measures to the Employer.
- Verify that safety assurance is managed as per Employer's and Financiers' requirements and that the safety protocols are adhered to.

Task 2: Review of Goods and Materials Procurement

The PIOC, through random sampling and documentation checks, shall verify that goods and materials, including those requiring Factory Acceptance Test (FATs), Site Acceptance, and other similar tests, required for the Project have been procured in compliance with the Employer's requirements. The PIOC will also verify that quality control documentation for such items is readily available and accurate.

Task 3: Review of Testing and Commissioning

Based on the evidence obtained, the PIOC shall verify that:

- All construction, infrastructure and equipment testing, system integration, and commissioning work have been successfully completed and in conformance with the criteria for such works.
- All major issues identified during the testing and commissioning process have been successfully resolved.
- The railway assets are adequate for commencement of operations.

Where the PIOC has identified problems or potential for problems with testing and commissioning, the PIOC will make recommendations to the Employer on how to rectify the problems and achieve the targeted level of performance in testing and commissioning.

All requests for inspection and tests, from the Contractor to the CSC/Engineer and Employer, shall be copied to the PIOC to allow the PIOC to plan for the opportunity and decide to witness the tests conducted. The PIOC shall maintain a detailed record of all such tests attended.

Task 4: Review of Project's Progress Adequacy of Delivery Arrangements

In addition to the technical aspects of the delivery of works, the PIOC will confirm that the overall Project delivery arrangements are sufficiently robust and suitable to ensure that the Project's delivery timelines are met. The PIOC will conduct periodic reviews of supporting method statements and plans and schedule³ arrangements for contract administration and management, Contractors' third-party interfaces, and sufficiency of available resources for the identified tasks.

The PIOC's assessment will also cover the quality control documentation for goods purchased and works constructed on a sampling basis, commensurate with the need to achieve reasonable confidence in the adequacy and quality of such documentation and controls.

Task 5: Independent E&S Reviews and Monitoring and ESHS Audits

The PIOC shall act in an independent advisory and assurance capacity. The PIOC's Environmental and Social oversight shall focus on identifying and managing risks, and verifying compliance with all World Bank ESF requirements and other Co-financier requirements that may be defined and include in the scope of this task.

Additional requirements necessary to meet the Environmental and Social (E&S) policies of other co-financiers, as agreed under the respective loan agreement of such lender, shall be communicated to the Consultant and added to the final scope of work. In particular, additional requirements arising from EBRD's Environmental and Social Policy are currently being assessed through a gap analysis, which is ongoing. Once this analysis is finalized and the relevant requirements are agreed between the parties, these will be communicated to the Consultant and incorporated into the final scope of work.

The PIOC will develop familiarity with key ESHS instruments of the Project, including the C-ESMPs that will be prepared by the Contractors and approved by the Employer, as well as the relevant sections of the Project's ESF instruments.

The PIOC shall review the methodology assumptions, and conclusions of the Environmental and Social Impact Assessment and evaluate whether proposed mitigation measures are adequately integrated into design and Environmental and Social Management Plans.

The PIOC will conduct periodic audits of ESMP implementation and compliance with national regulations, World Bank ESS requirements⁴. Following these audits, the POIC will prepare

³ These include Project related documents such as implementation completion plan (baseline and updates), S-curve, possession plans, risk register, issue register, etc.

⁴ Additional requirements may be considered to meet environmental and social policies of other co-financiers and included in the scope of this task.

independent audit reports highlighting compliance levels, gaps, and proposed corrective actions; and submit same directly to the Employer and to the Financiers. The main objective of the ESHS audits is to report the ESHS performance of the Project against the C-ESMPs and relevant instruments and to identify significant ESHS issues in the Project activities. The PIOC will also track the closure of corrective actions from previous audits and inspections.

The PIOC is expected to develop tools to be used for conducting this assignment, visiting the sites, interviewing the relevant stakeholders (i.e., supervisors, workers, host community members, etc.), reviewing the relevant documentations and document the field findings. The PIOC is expected also to develop and propose corrective measures to bring the project into compliance with the requirements as needed.

More specifically:

- The PIOC will periodically monitor the implementation on site of the project's environmental and social instruments under the World Bank's ESF, including site-specific C-ESMPs, labor management procedures, cultural heritage management, biodiversity management, occupational health and safety (OHS) measures, community health and safety protocols, and grievance redress mechanisms (GRMs). The PIOC will verify that these instruments are effectively implemented by the Contractors and supervised by the CSC/Engineer. It will conduct site visits, review reports, and assess compliance with the ESMP and other E&S instruments. The PIOC will document findings, highlight instances of non-compliance or emerging risks, and provide independent assurance to the Employer regarding the effectiveness of safeguards implementation.
- The PIOC will advise the Employer on appropriate corrective actions when ESF non-compliance or emerging risks are identified. It will recommend enhancements to mitigation measures, revisions to procedures, additional training, or escalation of issues to relevant authorities or financiers. It will facilitate dialogue among stakeholders, the Engineer, and contractors to resolve complex issues, without issuing instructions directly to contractors. And it will document and communicate all recommendations to the Employer, to support informed decision-making and continuous improvement in safeguards management.
- The PIOC will independently verify that all project activities comply with the World Bank's ESF, relevant ESSs, Turkish laws, and Good International Industry Practice (GIIP). It will advise the Employer and Project Financiers on compliance status and areas for improvement.
- **Assessment of Project Alignment with ESSs:** Assess site adherence to key ESSs (ESS1, ESS2, ESS3, ESS4, ESS5, ESS6, ESS8, ESS10). Identify gaps and risks and recommend corrective actions to the Employer, while ensuring these proposed corrective actions are duly reported to Financiers
- **Integration of E&S Considerations:** Collaborate with the Employer to ensure E&S requirements are integrated into all project phases. Participate in site visits and monitoring activities and advise on risk identification and mitigation.
- The PIOC will conduct External Resettlement Monitoring (ERM) as an independent monitor in accordance with ESS5, the approved RP and LRP, and applicable national legislation. The scope will include verification of eligibility and entitlements, compensation and assistance delivery (including to informal users and vulnerable groups), functionality of resettlement-

related grievance mechanisms, and assessment of livelihood restoration outcomes. The PIOC will prepare ERM reports and recommend corrective actions to the Employer and, where required, to the Financiers.

- The PIOC will conduct external labor audits under ESS2 to assess compliance with national labor legislation, the Project's LMP, and ESS2 requirements, including working conditions, worker accommodation (where applicable), labor influx management, SEA/SH measures, worker grievance mechanisms, and occupational health and safety. Findings and corrective actions will be documented and reported to the Employer.
- The PIOC will conduct periodic reviews of the quality of stakeholder engagement process. These reviews will assess, among others, the inclusiveness of consultations (including participation of women, vulnerable and disadvantaged groups), the timeliness and accessibility of information disclosure, the responsiveness to stakeholder feedback, the adequacy and performance of Community Liaison Officers (CLOs), and the functionality of the Grievance Redress Mechanism (GRM). Findings from these reviews will be documented and communicated to AYGM for the Stakeholder Engagement Plan (SEP) update and adjusting engagement approaches as needed to ensure continuous improvement.

Task 6: Continuous Risk Management

- **Identification and Assessment of Key Risks.** The PIOC will preemptively and systematically identify and assess key project risks across technical, financial, environmental and social (E&S), and institutional domains. This includes evaluating potential threats to project objectives, such as design or construction challenges, interface issues, cost overruns, funding shortfalls, regulatory changes, and stakeholder concerns. For each identified risk, the PIOC will recommend appropriate mitigation measures, drawing on best practices and lessons learned from similar projects.
- **Maintenance of the Project Risk Register.** The PIOC is responsible for maintaining a comprehensive Project Risk Register. This register will capture all relevant risks, their assessments, mitigation strategies, responsible parties, and status updates. The PIOC will ensure that the register is regularly reviewed and accessible to key stakeholders, facilitating transparency and accountability in risk management.
- **Tracking Risk Indicators and Updating the Risk Register.** The PIOC will monitor risk indicators throughout the project lifecycle, ensuring timely detection of changes in risk status. In close coordination with the Employer, the PIOC will update the project risk register, documenting new risks, changes in risk severity, and the effectiveness of mitigation actions. The risk register will serve as a living document, supporting proactive risk management and informed decision-making.
- **Periodic Assessment of Project Risks.** The PIOC will conduct quarterly assessments of project risks, focusing on cost, schedule, technical, and regulatory domains. These assessments will include analysis of risk trends, evaluation of the effectiveness of mitigation measures, and identification of any new or evolving risks. The PIOC will report findings to the Employer, highlighting areas requiring attention or additional resources.
- **Review of Risk Mitigation Actions.** The PIOC will review risk mitigation actions proposed by the CSC/Engineer and Contractors and monitor their implementation. This review will assess

the adequacy, feasibility, and alignment of proposed actions with project objectives and safeguard requirements. The PIOC will provide recommendations to the Employer on strengthening mitigation strategies where necessary.

- **Identification of Emerging or Residual Risks.** The PIOC will proactively identify emerging or residual risks that may impact project delivery or outcomes. These risks will be brought to the attention of the Employer and Financiers for timely decision-making and intervention. The PIOC will support the Employer in evaluating options and implementing additional measures to address such risks.

6. Assignment Duration and Key Considerations

The duration of the PIOC's assignment is designed to match the duration of the Project, currently set to close by end-December 2033.

The PIOC's team will be deployed full-time in Ankara and/or Istanbul and visit the Project/Contractors' sites no less frequently than monthly, or as often as warranted by Project implementation status, to review quality and safety of execution. Where the PIOC observes large variations in the Contractors' scope or quality, the PIOC may recommend to the Employer a different schedule for visits.

To ensure effective oversight and avoid role overlap, the following principles shall guide the PIOC's engagement:

- **Advisory and Oversight Role:** The PIOC's primary function is to advise, monitor, and report on project implementation, providing independent assurance to the Employer and Project Financiers regarding compliance, risk management, and overall performance.
- **No Direct Instructions to Contractors:** The PIOC shall not issue instructions to contractors or make decisions that directly affect contract execution. All directions to contractors remain the sole responsibility of the Engineer, as defined under the FIDIC contract.
- **No Certification or Approval Functions:** The PIOC shall not certify payments, approve designs, require testing, or accept works. These functions are exclusively performed by the Engineer in accordance with the contract provisions.
- **Strategic and Independent Focus:** The PIOC operates at a strategic level, focusing on compliance with Employer's requirements and regulatory and financing requirements, risk identification and mitigation, and performance monitoring. The PIOC does not engage in day-to-day site management or operational decision-making.
- **Integrated Oversight for Complex Rail Projects:** Rail projects typically involve multiple contracts (e.g., civil works, signaling, electrification, telecommunication). INRAIL is no exception. The PIOC shall provide integrated oversight across all components and contracts ensuring coordination and consistency in monitoring and reporting.
- **Safety Assurance:** The PIOC shall ensure strict adherence to safety standards and protocols, supporting the Employer in maintaining a safe working environment throughout project implementation.
- **Environmental and Social Instruments:** The PIOC shall monitor compliance with environmental and social requirements as stated in the Environmental and Social Commitment Plan (ESCP) for the project as well as site-specific ESMPs.

- **Stakeholder Engagement:** The PIOC shall support continuous engagement with affected communities, government agencies, and other stakeholders, facilitating transparent communication and addressing concerns as they arise.
- **Distinction from the CSC/Engineer:** The PIOC is an independent advisory and oversight entity, distinct from the Engineer. While the Engineer is responsible for contract administration, technical approvals, and direct interaction with Contractors, the PIOC provides high-level assurance, strategic monitoring, and reporting to the Employer and Project Financiers, without intervening in contract execution or certification processes. The PIOC shall coordinate closely with the Engineer but shall not direct, supervise, or countermand the Engineer’s instructions. Any observations or recommendations concerning the Engineer’s performance shall be made directly to the Employer. The PIOC may request information or clarifications from the Engineer through channels established by the Employer and may review documents or reports shared with the Employer.

7. Assignment Deliverables

The PIOC will submit the following deliverables:

Report	Description	Timeline
Inception Report	<p>Detailing work plan, methodology, and initial findings.</p> <p>The Inception report should also propose a formal communication and interface management plan, clearly defining lines of communication and responsibility with project stakeholders.</p> <p>The Inception Report shall also describe the specific data sought from the Employer, CSC, and the Contractors, and the PIOC’s own arrangements made to collect data and interact with stakeholders, summarize progress in collecting data, and advise of any difficulties encountered in data collection and access to stakeholders.</p>	<p>Within 1 month of contract start.</p>
Brief Monthly Site Visit Reports	<p>Summarizing oversight activities, findings, and recommendations.</p>	<p>Monthly.</p>
Ad hoc technical notes and recommendations as required		<p>Upon significant risks materialization, major non-conformances identified, or upon reasonable ad hoc request by Financiers</p>

Report	Description	Timeline
Quarterly Progress Report and Presentation for Employer and Financiers	Documenting observations, recommendations and compliance status on all tasks listed in this ToRs. All progress reports must include, inter alia, an executive summary dashboard with key performance indicators (KPIs), an updated project risk register, a summary of the compliance matrix, and a section on interface issues.	Quarterly
Bi-annual Comprehensive Oversight Reports for Financiers	Comprehensive assessment of project implementation, risks, and recommendations.	Every six months before lender supervision mission
Project Completion Report	Evaluating the project, assessing its achievements, performance, and lessons learned	By project end

Quarterly Progress Reports will be submitted within fifteen (15) calendar days from the end of the agreed quarterly period. These reports will be based on the PIOC's site visits and will summarize the activities undertaken during the reporting period, summarize all the findings from the report period's Monthly Reports, describe progress and any constraints encountered, and provide a summary of the PIOC's interface with the Employer, CSC, and the Contractors. Specifically, the reports will, at a minimum, include the following content:

- Summary of key findings arising from the oversight work, including monthly site visits, in respect of quality, safety, schedule, and compliance with technical, ESHS and operational requirements.
- Identified areas for improvement, including their root causes, along with the plan of action to improve upon the current situation.
- PIOC's assessment of the Project being able to meet the contracted cost and time targets.
- The updated project risk register and detailed list of risk factors that negatively impact implementation of the Project and its ability to achieve contractual quality, cost, and delivery targets.
- Supporting statements and certifying that all construction, works and equipment testing, system integration, commissioning, and acceptance had been carried out in a satisfactory manner.
- Upon successful commission, review the documentation providing confirmation that commissioned sections and/or the whole asset are ready for railway operations.
- Prioritized list of items, and supporting evidence, requiring urgent action by the Employer.
- Summary of all other issues and supporting evidence, deemed relevant by the PIOC.
- Outline plan for the monthly visits for the next quarter reporting period.

The Employer will make available to the PIOC all necessary documents and will assist the PIOC in making appropriate appointments with the relevant parties⁵ for the purpose of delivering its services on the assignment.

The **Bi-annual Reports to Financiers** will be informed by the **Quarterly Reports**, and the Quarterly Reports in turn will be informed by the **monthly reports**, which are meant to be briefer than quarterly reports but cover a similar set of issues.

The **Project Completion Report** will provide a summary of all work completed by the PIOC during the Assignment and a summarized commentary on all issues of relevance to Project delivery. The report shall be submitted by the Project's closing date.

Following the completion of each **Quarterly Report**, the PIOC will **organize a session to present the findings** to the Employer, the CSC, Contractors, and Financiers. The purpose of the presentation will be to summarize and present the key messages emanating from the completed work, discuss the PIOC's findings and obtain guidance from the stakeholders. The timing of each quarterly session will be set to enable the stakeholders to complete preparatory reading of the PIOC's deliverables before the session.

Within 5 working days of each workshop the PIOC will also distribute consolidated minutes of the discussions held.

8. Team Requirements

The PIOC shall mobilize a multidisciplinary team to provide comprehensive, independent support across the disciplines that are the subject of the Assignment. The PIOC team will be expected to possess the following expertise and qualifications:

1) **Team Leader:** The Team Leader will be responsible for overall coordination, management, and delivery of PIOC services. The Team Leader will serve as the primary point of contact with the Employer and the Project Financiers, to ensure effective integration of all technical, contractual, environmental, and social inputs.

Qualifications:

- Advanced degree in engineering, project management, or related discipline.
- Minimum 15 years of experience in managing large-scale infrastructure projects, preferably in the railway sector.
- Demonstrated leadership in multidisciplinary teams and experience with World Bank-financed projects.
- Strong communication, stakeholder engagement, and reporting skills.

2) **Railway Engineering (2 profiles):**

- Senior railway engineers with experience in design, construction, and commissioning of major railway infrastructure (track works, civil structures, stations, facilities).
- Specialists in railway signaling and telecommunications, with knowledge of modern signaling systems and safety protocols.

⁵ These may include Employer's/PIU staff, other national and subnational GoT institutions, contractors, third parties, the CSC, and others as appropriate.

- Electrification engineers with expertise in overhead catenary systems, substations, and power grid integration.

Qualifications:

- Advanced degree in civil, electrical, or railway engineering.
- Minimum 10 years of relevant experience, including international assignments.
- Familiarity with Good International Industry Practice (GIIP) and World Bank Environmental, Health, and Safety Guidelines for Railways.

3) Project Management and Contract Administration (2 profiles):

- Project manager with a proven track record in complex, multi-stakeholder infrastructure projects, preferably in railways.
- Contract administration specialists with in-depth knowledge of FIDIC Yellow Book and other international contract forms, including claims management and dispute resolution.

Qualifications:

- Certification in project management (e.g., PMP, PRINCE2) desirable.
- Minimum 8 years of experience in contract administration and project controls.
- Experience with international donors or multilateral development banks.

4) Environmental and Social Safeguards (World Bank ESF) (4 profiles):

- At least 2 Environmental specialists experienced in preparing, reviewing, and monitoring ESIAAs, ESMPs, and related instruments for transport projects.
- At least 1 Social Development and Citizen Engagement specialist with expertise in stakeholder engagement, land acquisition and resettlement, livelihood restoration, labor management, and grievance redress mechanisms.
- At least 1 Resettlement specialist with expertise in land acquisition and resettlement, including resettlement plan development and implementation of resettlement and livelihood restoration as well as in an external monitoring role.
- At least 1 Gender and inclusion expert, particularly with experience in SEA/SH and GBV risk mitigation.

Qualifications:

- Advanced degree in environmental science, social sciences, or related field.
- Minimum 8 years of experience in World Bank ESF or IFC Performance Standards application; additional e in familiarity with E&S policies of other financiers involved in this project, is preferred.
- Proven ability to conduct independent compliance reviews and provide actionable recommendations.

5) Health and Safety Management (2 profiles):

- At least 2 Occupational Health and Safety (OHS) professionals with experience in construction and railway operations, including risk assessment and incident investigation.
- Knowledge of national OHS regulations and World Bank EHS Guidelines.

Qualifications:

- Relevant professional certification (e.g., NEBOSH, IOSH).
- Minimum 7 years of documented experience in OHS management on major infrastructure projects.
- Experience in delivering OHS recommendations and capacity building.

6) Risk Management and Quality Assurance (2 profiles):

- Risk management specialists skilled in identifying, assessing, and mitigating technical, environmental, social, and contractual risks.
- Quality assurance professionals with experience in developing and implementing quality management systems for railway projects.

Qualifications:

- Advanced degree or professional certification in risk management or quality assurance.
- Minimum 7 years of experience in risk and quality management in infrastructure projects.
- Familiarity with ISO standards and World Bank requirements.

7) Additional Roles and Ad-hoc Support Functions, depending on project needs, the PIOC team may also include:

- Biodiversity and cultural heritage experts for specialized assessments.
- Communications and stakeholder engagement specialists support inclusive consultations and information disclosure.
- Data analysts and monitoring/reporting officers to ensure robust documentation and reporting to the Employer and Project Financiers.
- Railway safety and security management, with experience in transportation and railway projects.

Team Structure and Mobilization: All key positions shall be filled by qualified, full-time professionals with clear roles and responsibilities. The PIOC shall have the capacity to mobilize short-term or part-time experts for specialized tasks (e.g., archaeological assessments, vibration studies). All team members must demonstrate strong analytical, communication, and reporting skills, and work collaboratively with the Employer, CSC, Contractors, and other stakeholders.

The PIOC team must operate independently from the CSC and Contractors, focusing on oversight, advisory, and reporting functions. All specialists must be familiar with World Bank ESF requirements, Environmental and social policies of other co-financiers involved in this project, national regulations, and international best practices relevant to railway projects.

The Consultant shall clearly indicate, as part of the proposed methodology, the organization of the team, including an organizational chart for the CSC team mobilization aligned with the project lots and the proposed time allocation, ensuring efficiency and alignment with the project's needs.

The Consultant shall also develop and submit an expert/time mobilization schedule (chronogram), clearly indicating the proposed duration, timing, and location (Corporate Office/Site/etc.) of key staff inputs for each project lot, to facilitate effective management of the CSC contract. The team composition should be periodically reviewed and adjusted to ensure adequate coverage of emerging risks and project needs.

9. Logistics

- 1) **Assignment project management and support:** The contracting party for the assignment (AYGM) will identify a designated person within its PIU for the Project, with whom the Consultant will liaise on all technical matters. The assignment will require Consultant's extensive liaison with the variety of stakeholders in Türkiye and an on-site presence of its experts. AYGM will assist the Consultant by providing all existing data, documents, and information, and will also provide other types of assistance that the Consultant may reasonably request while performing the duties specified above.
- 2) **Working arrangements:** The Consultant will maintain a full-time presence at its corporate office in Ankara and/or Istanbul throughout the duration of the assignment. The composition of the Consultant's teams at corporate and site offices will reflect the nature of work and activities on site. The Consultant must indicate the city and office location out of which its team will work, including an indication of where the Team Leader and the remainder of the team will be located, and give an indication of how the team will work together and communicate to AYGM if based in different locations. The Consultant must maintain local presence in Ankara and be available to work from the offices of the Employer and/or attend meetings with the Employer when required, the proposers are requested to outline in their proposal the methodology for ensuring quality control in the workflow process as evaluation of the proposals will cover the methodology.
- 3) **Facilities and resources:** Consultant will ensure that all its personnel working on the assignment are adequately supported and equipped. In particular, the Consultant will ensure that there is sufficient administrative, secretarial, and interpreting provision to enable experts to concentrate on their primary responsibilities. Where the Consultant has engaged external resources to help with the delivery of the assignment, it will ensure transfer of funds as necessary to support their work under the contract.
- 4) **Language:** All key personnel shall be fluent in English and be fully computer literate. The team shall have a strong command of Turkish language to cover all meetings, document review and professional requirements adequately and efficiently. All reports elaborated by the Consultant shall be developed in English, but they will need to be accurately translated to Turkish. The Consultant will therefore be responsible for providing all the assignment deliverables both in English and Turkish. The Consultant may wish to consider having translators on the team or propose a viable alternative for reliable and high-quality translation.

10. Payment Schedule

Payments will be linked to deliverables and subject to approval by the Employer, including comments from the Project Financiers, provided via the World Bank as Lead Financier.

- Inception Report: 15%
- Bi-annual Reports No. 1-14: 5%
- Completion Report: 15%

Annex: Indicative Project Implementation Arrangements

