Informative Note on ESIA Revision Studies for the MAG Project

2U1K Mühendislik ve Danışmanlık A.Ş.'s approach for the revision of the ESIA Report prepared by Assystem ENVY Enerji ve Çevre Yatırımları A.Ş. is to fulfill the gaps identified as a result of Environmental and Social Due Diligence (ESDD) study and presented in the Mersin-Adana-Gaziantep (MAG) High Standard Rail Project Gap Analysıs Report prepared by Ramboll. The Report and the excel file where comments/gaps of Ramboll were presented together with the initial responses of REC Uluslararası İnşaat Yatırım Sanayi ve Ticaret Anonim Şirketi, the contractor of the MAG Project.

In this ESIA revision study, the following legislative framework and international lender standards will be considered:

- Turkish Environmental Legislation,
- International Law including conventions and treaties adopted by Turkey and/or applicable to the Project as required by the Financing Parties,
- International Finance Corporation (IFC) Performance Standards on Environmental and Social Sustainability (2012),
- World Bank Group Environmental, Health and Safety (EHS) Guidelines in force at the time of this agreement, as applicable to the Project, including:
  - General EHS General Guidelines (2007),
  - EHS Guidelines for Railways (2007),
  - EHS Guidelines for Construction Materials Extraction (2007),
- Equator Principles 4 (EP4) (2020), and
- Recommendation of the Council on Common Approaches for Officially Supported Export Credits and Environmental and Social Due Diligence, as adopted by the Organization for Economic Co-operation and Development ('OECD Common Approaches') (2016).

2U1K has prepared a text outlining our approach for impact assessment covering evaluation on area of influence, associated facilities, scope in-scope out opinions on different activities in relation to the Project. This document was discussed in a meeting held with Ramboll on a digital platform on October 13, 2021.

The followings are the outcomes of this meeting sent via e-mail to REC which shared them with us on October 14, 2021:

- Sections constructed or under construction by other companies are considered as associated facilities. However, the sections for which superstructure works and/or EST and operation will be part of the funded Project should be considered as the Project.

- 2U1K has prepared brief methodologies on additional baseline surveys on environmental aspects i.e., noise measurements at sensitive receptors along the railway route and quarries/borrow pits wherever deemed necessary, ecological surveys (in particular, missing aquatic ecology and supplementary terrestrial flora and fauna surveys as well as avifauna) and socio-cultural aspects i.e., supplementary social baseline survey, of which scope was determined after reviewing the existing ESIA's social parts, including interview with locals and village heads, site reconnaissance in order to have an idea about possible community health and safety risks etc., archaeological survey consisting of tangible and intangible assets.

  In addition to the above stated primary data to be collected, 2U1K will gather secondary data from the relevant parties including TCDD and AYGM e.g., data obtained during monitoring of construction activities of the other contractors working along the route.

- EP4 requires GHG emissions to be quantified as per the GHG Protocol which includes Scope 1 and Scope 2 emissions. For the operation phase, there will be electricity consumption by the train and the stations so these will be quantified, in order to demonstrate the benefit identified.

- As parts of the Project are brownfield and include ongoing construction activities, findings will be presented systematically especially on cultural heritage and biodiversity where earth disturbing activities have already taken place and mitigation of impacts is not currently under REC's responsibility due to the involvement of other contractors.

- The assessment will consider the latest technical specification for design train speeds (passenger/freight), number of workers and other design considerations.

- Gaziray (25 km) is a separate Project funded by the Gaziantep Metropolitan Municipality to connect Başpınar and Gaziantep city centre. All the infrastructure and superstructure including electrification and signalization are in the responsibility of another contractor. REC has nothing to do in that section. From the finance point of view, it is not included within the scope of the loan of concern.

- It was confirmed from REC that there will be no new concrete batch plant, quarry or borrow pit to be established in the scope of the MAG Project. All such existing facilities will be utilized.

- Quarries, material borrow sites, excavated material storage sites will be considered in the field surveys and assessments.

- The blasting is included in the vibration assessments, and it is clarified that blasting would take place on the route for tunnel construction works in a limited manner since the TBM will be utilized for opening the tunnels. These activities are being conducted by the other contractors and we will also refer to the national EIA reports for such assessments regarding blasting. Furthermore, information will be delivered from the contractor(s) of the tunnel works for their mitigation measures implemented on the site and monitoring activities being conducted as a requirement

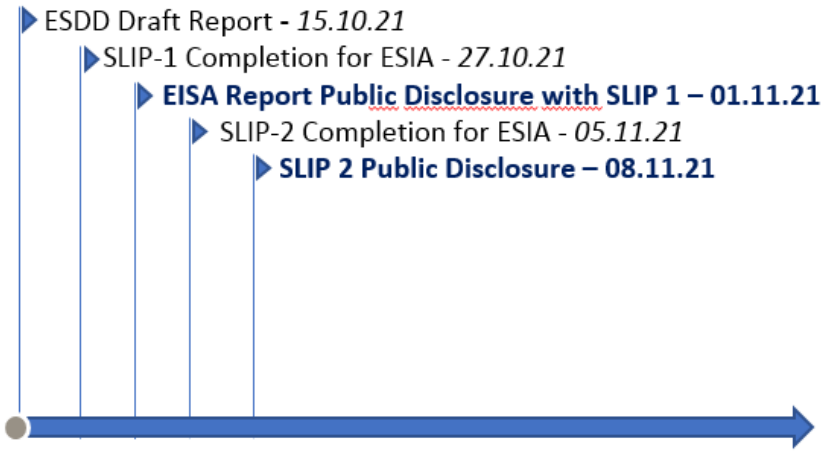
of the national EIA Report. Besides, blasting activities in the existing quarries to be used for material supply will be assessed in the ESIA report as well.

- All associated facilities will be considered under the project alternatives section and justification for the preferred option be provided based on minimization of E&S impacts. In order to determine the suitability of the sites, consideration of E&S impacts needs to be made through desktop assessment, or if data is not sufficient then through site surveys.

- Air Quality: Receptor sensitivity criteria given for the air quality will be reconsidered. If the Design Manual for Roads and Bridges is to be used, Table 2.11b of the manual will be considered. Consideration of Project risk potential as "low" (according to the manual) requires justification.

- 2U1K will work at the river crossings for aquatic ecology purposes and also, they will make flood risk assessment as well as water basin/catchment evaluation as requested in Ramboll's comments.

ESIA, SLIP 1 and SLIP 2 disclosure timeline is shown below:



SLIP 1 Content

SLIP 1 contains the followings:

- Methodologies
  - CHA Methodology
  - Air Quality Modelling Methodology
  - Archaeological Survey Methodology
  - CCRA Methodology
  - HRIA Methodology
  - Methodology for Aquatic Ecology
  - Methodology for Terrestrial Fauna Studies
  - Noise Survey Methodology

- Ornithology Methodology
- SIA Methodology
- Terrestrial Flora Survey Methodology

- Informative note on ESIA Revision Studies
- MAG Project ES Governance Document

Regarding the clarification of 2U1K's scope for Supplementary Lender Information Package (SLIP 2), the following paragraphs will be helpful.

SLIP 2 Content

2U1K will prepare the SLIP 2 document, which is being prepared in the scope of the ESIA Revision in line with the comments of Ramboll (ref. Red Flag Table in Excel Sheet), will contain the followings:

i. individual reports of the following additional baseline surveys:

- Social baseline survey,
- Noise measurements survey,
- Archaeological walkover survey,
- Ecological survey (ornithology, flora, fauna and aquatic).

ii. Route Evaluation Table (including constraints),
iii. Air Quality Modeling and Assessment Report,
iv. Noise Modeling and Assessment Report,
v. Critical Habitat Assessment,
vi. Biodiversity Management Plan,
vii. Flood Risk assessment,
viii. Climate Change Risk Assessment,
ix. Human Rights Impact Assessment,
x. Updated SEP,
xi. Updated/prepared new ESMMP including impacts, mitigations and monitoring as well as organizational structure,
xii. Non-Technical Summary,
xiii. ESAP (*to be confirmed and provided by Ramboll*).

The SLIP 2 will be delivered latest on 8th of November to REC by 2U1K.

Update of ESIA

In addition to the above stated SLIP 2 content, 2U1K has a contract with REC to perform the update of the ESIA report in line with the actions listed in the Red Flag Table of Ramboll (Excel Sheet). These actions and our confirmation for each item are provided in the following pages once again to underline the scope of our assignment. This ESIA update is aimed to be completed

in the first week of November. On the other hand, as the SLIP 2 package is decided to be delivered rather than ESIA revision at first, then 2U1K will focus on deliver of the SLIP 2. Its progress will be shared with the parties in the weekly progress meetings.

Project Area of Influence including Associated Facilities and Cumulative Effects

The Project AoI to be precisely defined. *To facilitate resolution of this, Ramboll will provide a systematic tabular summary of our current understanding of the different relevant project and third-party components that make up the overall AoI for review and agreement with REC and lenders.* Once the AoI has been confirmed any necessary updates to the ESIA and the E&S Governance/ESMP can be undertaken.

See also commentary on E&S Governance (Item 1.1), Cumulative Impact Assessment (Item 1.17), and Management Programmes (Item 1.19).

The Scope given above will be covered in the studies of ESIA revision.

Project Alternatives

An overarching route alternatives report should be developed and utilised as part of the stakeholder engagement process. This should be developed alongside the broader E&S Governance for the Project, see E&S Management (Item 1.1 in Red Flag table).

Full consideration and assessment of all technology options should be developed to demonstrate GIIP.

The Scope given above will be covered in the studies of ESIA revision.

Identification of Risks and Impacts: General

Ensure all national EIA process is completed for the different sections and components of the Project before land entry and start of any construction works.

The ESIA Report is to be updated or supplementary E&S documentation is to be prepared to address the aspects required to be addressed as per IFC requirements, guidelines, other related international standards and Good International Industry Practice (GIIP):

- Provide a detailed up-to-date Project description reflecting the current design (covering the quarries, material borrow sites, plants/facilities, camp sites, etc.) and status of activities of other contractors
- Update the legal framework and references to E&S requirements of the Lenders so as to reflect the current Project finance structure and the Lenders to be involved

- Ensure that the E&S baseline data has been collected
- in line with internationally accepted methodologies (e.g. environmental noise, cultural heritage) and represents the receptors potentially affected from Project/associated facilities located outside the Project expropriation corridor
- Conduct an IA based on an up-to-date Project description; assess significance of impacts before mitigation and residual impacts after mitigation based on a systematic methodology as described in the respective ESIA chapter – with clear distinction between construction and operation phases.
- Ensure mitigation measures presented in the ESIA Report are incorporated into an ESMP (see Item 1.19) to ensure that the mitigation measures are presented in the form of binding commitments rather than suggestions or recommendations.

The Scope given above will be covered in the studies of ESIA revision.

Identification of Risks and Impacts: Noise

Topic Specific Methodology has been provided.

Identification of Risks and Impacts: Air Quality

Topic Specific Methodology has been provided.

Identification of Risks and Impacts: Surface Water, Groundwater and Hydrology

(i) Complement baseline understanding of baseline conditions with regional hydrological context catchment and hydraulic characteristics. Identify key interfaces with the Project to inform the flood risk assessment, water quality assessment, ecosystems services and biodiversity assessment.

(ii) Update the hydrological assessment for the Project. This should include assessment of hydrological impacts, flooding, water quality and be aligned with land and surface water drainage design, design in floodplains, design of watercourse crossings and management measures for the Project. The hydrological study should be aligned with the biodiversity assessment. See also Flood Risk, Climate Change Assessment and Biodiversity Assessment.

(iii) Prepare an appropriate hydrogeological impact assessment for the Project and groundwater management plan where required.

(iv) Prepare a Project-wide water balance study summarising the water used and management for the Project. This study should inform and be complemented by an appropriate Water Management Plan.

Topic Specific Methodology for Flood Risk Assessment has been provided. Hydrological assessment will be updated and hydrogeological impact assessment will be integrated into the revised ESIA Report.

Identification of Risks and Impacts: Soils and Geology

- Provide additional information on natural hazards and associated risks and how these were considered in the planning and design of the Project.
- Provide additional information on ground contamination and groundwater quality. Undertake design check to demonstrate that any risks associated with historical contamination and properly understood and, if required, mitigated.
- Provide additional information and assessment of additional segments of the Project not covered in the ESIA.
- Prepare a Pre-construction Site Assessment protocol/procedure to be adopted prior to commencing work on a particular segment of the Projects.
- Provide clarification how morphological impacts will be mitigated and monitoring.
- Update ESMP following outcome of above assessments.

The Scope given above will be covered in the studies of ESIA revision.

Identification of Risks and Impacts:Visual

- The assessment should be updated to include all project associated facilities
- The ZTV Map should be provided for IESC review
- The impact assessment section needs to be further developed to provide a thorough qualitative/quantitative assessment of visual impacts.
- Clarification to be provided on the missing information from the assessment.

The Scope given above will be covered in the studies of ESIA revision.

Identification of Risks and Impacts: Design measures for disabilities and vulnerable groups

- Define the station and train design measures that will be applied to help ensure access for disabled people and to provide security for vulnerable groups including women.

The Scope given above will be covered in the studies of ESIA revision.

Identification of Risks and Impacts: Social Impacts

Topic Specific Methodology has been provided.

Identification of Risks and Impacts: Community Health, Safety and Security Impacts

- Update the ESIA to provide a clear conclusion on the significance of Community Health, Safety and Security.

The Scope given above will be covered in the studies of ESIA revision.

Identification of Risks and Impacts: Human Rights

- Undertake a human rights assessment in line with the requirements of Equator Principles IV, including use of the guidance document issued by the EP. This must include assessment of risk of non-compliances with labour rights (specifically, child labour, forced labour and OHS) in the supply of aggregates and other key materials for construction that are required by the Project (see PS2 in the Red Flag Table).

Topic Specific Methodology has been provided.

Cumulative Impacts

- REC to conduct a cumulative impact assessment in accordance with IFC requirements considering other potential developments that can be identified based on the readily available sources.

The Scope given above will be covered in the studies of ESIA revision.

Organisational Capacity and Competency

- The roles of the Borrower and the Buyer/Employer and their contractual responsibilities are not defined.

The Scope given above will be covered in the studies of ESIA revision.

Management Programmes

- Develop an ESMMFP incorporating the following:
    - The management/mitigation measures developed as part of the ESIA
    - Monitoring/key performance indicators for successful implementation
    - Implementation responsibilities of the Buyer (Employer)/Operator and the Contractor
- Ensure that the subject specific management plans and procedures systematically focus on the construction phase impacts which will be managed by the Employer and the Contractor.
- Verify/ensure that the following information in adequate details in all management plans:
    - Project Standards (national and international)
    - Roles and responsibilities for the implementation of the plan (where necessary including roles and responsibilities of the Employer)
    - Management measures in line with the mitigation hierarchy

- Internal and external monitoring mechanisms with defined monitoring/key performance indicators (KPIs)

- Review and update provisions clarifying that the management plans and procedures for the operation phase are required to be updated/prepared by the Employer and the Operator in compliance with the Project Standards prior to commissioning of the Project.

The Scope given above will be covered in the studies of ESIA revision.

E&S Monitoring and Review

- As per the recommendation set out in Item 1.2 in the Red Flag Table (Excel sheet).
  - Monitoring locations, frequencies and specific KPIs are to be described within the Project-specific Management Plans and Procedures.
  - The information on the EIA monitoring works required to be conducted as per the national EIA Regulation is to be provided by the Contractor.

Stakeholder Analysis and Engagement

- Update the SEP to include:
  - Clear definition of the affected communities and neighbourhoods that are classed as stakeholders.
  - A clear plan for disclosure of the ESIA, SEP and Community Grievance Mechanism, providing opportunity for affected communities and other stakeholders to understand the Project and its impacts and to provide feedback and raise issues of concern. This plan must include detail as to how to manage any COVID-19 restrictions and approaches to address the needs of vulnerable and harder-to-reach people, including those with low literacy, the elderly and disabled, and women.
  - A detailed action plan for engagement during the pre- construction and construction phases, and higher-level commitments for the first year of operation.
  - Provide detail on the roles and responsibility for engagement split across Contractor and Buyer, including the plans for use of Community Liaison Officers to conduct engagement during the pre- construction and construction phases.
  - Define the approach to ensuring that women are adequately engaged throughout all Project phases. For the pre-construction and construction phases, consideration should be given to having a woman CLO available, if this is necessary to achieve participation of women in the engagement activities.
  - State how land acquisition and resettlement related engagement will be conducted (either as a plan in the SEP or cross-reference to the RAP)

- Define the approach to recording engagement (i.e. through an engagement register and meeting minutes) and for monitoring the implementation of the SEP.
- Refine the description of positive and negative interaction so as to avoid misinterpretation of the nature of engagement.
- Within the SEP, define the approach to periodic reporting to stakeholders during construction and the start of operations. This may be in the form of an Annual Environmental and Social Report, to include as a minimum, an update on any project components, impacts or mitigation measures and plans that were not envisaged or disclosed as part of the ESIA, a summary of the stakeholder engagement that has been undertaken, and a summary of grievances that have been received and how they have been resolved (protecting confidentiality of the grievant).

The Scope given above will be covered in the studies of ESIA revision.

External Communications and Grievance Mechanisms

- Update the external grievance mechanism to align with the requirements of IFC PS1.

The Scope given above will be covered in the studies of ESIA revision.

Resource Efficiency

- Further consideration of project resource efficiency and measures to be implemented to be undertaken in accordance with relevant IFC EHS Guidelines.
- Consideration of resource efficiency and measures to be implemented should be extended to project associated facilities.

The Scope given above will be covered in the studies of ESIA revision.

Pollution Prevention

- Update the ESIA to present robust Project-specific pollution prevention measures and collate all measures (such as pollution from waste and wastewater generation, use of hazardous materials, dust and noise generating activities, etc.) into a pollution prevention control plan for the construction phase of the Project in accordance with relevant IFC EHS Guidelines.
- This plan is to be updated or a new plan to be developed to cover pollution prevention and control measures in operations.

The Scope given above will be covered in the studies of ESIA revision.

Waste Management

- Section 4.11 of the ESIA discusses waste. A number of issues have been identified during the IESC review:
    - The excavated material volume is given for the entire route without any breakdown of the sections (complete/ongoing) and whether the figures include volumes from other contractors works.
    - It is understood that the excavated material storage site alternativ es have been identified by the REC although final selection of sites is to be made. The alternatives and the E&S criteria to be considered in the final selection of sites are not discussed in the ESIA.
    - There is reference to "IFC EHS Construction Material Removal Guidelines" for
    - management of site excavation materials. It is assumed that the referred document is the WBG EHS Guidelines for Construction Materials Extraction (April 2007) that will be applicable to activities to be conducted at the quarry and material borrow sites.
    - The 1st and 2nd lines to be renovated between Mersin-Adana including the dismantling of the steel bridge will lead to generation and management of steel/scrap metal and demolition waste that is not discussed within the ESIA Report.
    - The buildings and structures overlapping with the route will be demolished leading to construction and demolition waste, which may include hazardous and non- hazardous materials and not discussed within the ESIA Report.
    - COVID-19 related wastes (masks, gloves, hygiene materials) and the waste management measures specified in the relevant Ministry circulars are not discussed within the ESIA Report.
    - The calculations for waste generation are to be reconsidered. The existing calculation approach assumes 385 people working in each of the provinces (Me rsin - 385, Adana - 385, Osmaniye - 385 and Gaziantep - 385). This assumption does not seem to be consistent with the difference scopes of work for each section, and it is unclear whether this is for the construction or operations phases (although this workforce is too small for construction).
    - A Waste Management Plan for the Construction Phase has been prepared by REC (reference to another infrastructure for the Project has been made in the name of the document). The KPIs and internal and external auditing and monitoring mechanisms are not described.
- Update the ESIA to address the issues/gaps identified (given above).

The Scope given above will be covered in the studies of ESIA revision.

Wastewater

- The ESIA – Section 4.11 discusses wastewater. A number of issues has been identified during the IESC review:
    - Water required for railway and engineering structure construction and crushing facilities is not mentioned. There is no estimation for water use quantities for different operations during the construction phase.
    - There will be significant number of site workers (direct and contracted) and the use of public toilets as suggested in the ESIA is not a safe, reliable, and convenient approach both for the public and the workers – especially under COVID-19 conditions. In line with the IFC/EBRD's Guidance Note on Worker's Accommodation (2009), adequate facilities (portable toilets, etc.) are required to be planned and provided for all Project employees in consideration of different work sites (e.g. contractor and subcontractor construction camp sites, work sites along the route, facility sites, remote work sites, etc.).
    - The calculations for wastewater generation are to be reconsidered. The existing calculation approach assumes 385 people working in each of the provinces (Mersin - 385, Adana - 385, Osmaniye - 385 and Gaziantep - 385).
    - The ESIA Report indicates that there will be no package domestic wastewater treatment plants and the domestic wastewater will be discharged to municipality networks. Confirmation is required that this is applicable to all contractor and subcontractor camp sites.
    - A Water Quality, Wastewater and Stormwater Management Plan has been prepared by REC (reference to another infrastructure for the Project has been made in the name of the document). For surface water quality, water quality monitoring locations, frequencies, parameters, KPIs and internal and external auditing and monitoring mechanisms are not described. There are references to the operation phase, whilst there is no reference to the TCDD.
- Update the ESIA to address the issues/gaps identified (given above).

The Scope given above will be covered in the studies of ESIA revision.

Climate Change and GHG

- Scope 1 and Scope 2 emissions as per GHG Protocol to be calculated for construction and operation phase of the Project. The assessment should include non-CO2 GHGs as well.
- For the operation phase calculations, the type of train, number of trips (including passenger and freight) in the 1st year of operation and in the last year of operation should be considered. It should be noted that as per EP4, during the operation phase of

the Project, if the annual emissions exceed 100k tonnes CO2-eq, then the Client is obliged to publicly disclose the results.

- For operation phase, the "no HSR Project" alternative can also be calculated to present the avoided GHG emissions through use of HSR for passengers and freight.
  A CCRA in line with EP4 requirements should be carried out for the operations phase of the Project, including physical risks at a minimum, and transition risks of annual CO2-eq exceed 100k tonnes.

The Scope given above will be covered in the studies of ESIA revision. A specific methodology has been provided.

Community Health and Safety

- (i) Provide a description of the design principles and key measures that will be applied for infrastructure design and safety.
- (ii) Undertake third-party technical review of infrastructure safety measures to the satisfaction of lenders.
- (iii) Provide a supplementary assessment of impacts to provisioning and regulating ecosystem services that could affect community health and safety.
- (iv) Provide a supplementary assessment to state the potential use of the railway for the transport of dangerous goods, and define the measures that will be put in place to manage risks to CHSS from such transport.
- (v) Provide a supplementary assessment on risks to community health from the physical safety risks to community members at active work sites, from the spread of disease, including risks arising from water- borne, water-based, water-related, and vector-borne diseases, and from communicable disease risk arising from interaction between community members and Project workers, including COVID-19.

The Scope given above will be covered in the studies of ESIA revision.

Traffic and Transport

- (i) Provide a supplemental assessment of traffic risks to community safety, including definition of key mitigation measures
- (ii) Provide a Traffic Management Plan for construction.

The Scope given above will be covered in the studies of ESIA revision.

Items from 6.1 to 6.6. (all under IFC PS6 items) including Baseline Surveys, Biodiversity Impact Assessment, Critical Habitat Assessment, Legally Protected and Internationally Recognized Areas, Management of Ecosystem Services, Invasive species management

The Scope given in the Red Flag Table (Excel sheet) will be covered in the studies of ESIA revision. Specific methodologies for biodiversity issues were provided.

Indigenous Peoples

- Update the ESIA with a short (e.g. 2 to 3 paragraphs) clarification as to why PS7 has not been addressed within the ESIA, e.g. by referring to the definition of Indigenous Peoples in PS7 and providing a commentary on no such groups having been identified within the Project area of influence.

The Scope given above will be covered in the studies of ESIA revision.

Items from 6.1 to 6.6. (all under IFC PS8 items) Protection of Cultural Heritage in Project Design and Execution, Chance Find Procedure, Consultation

The Scope given in the Red Flag Table (Excel sheet) will be covered in the studies of ESIA revision. Specific methodologies for biodiversity issues were provided.