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ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM MANUAL - CONSTRUCTION PHASE**PURPOSE SCOPE**

This Manual describes and presents the framework and the strategy for implementing SPV Environmental and Social Management System (ESMS) in accordance with SPV policies, with the commitments undertaken by SPV in the ESA, with Turkish regulatory framework, with IFC Performance Standards and IFC General and Sector Specific EHS Guidelines, EBRD Performance Requirements and OPIC Environmental and Social Policy Statement and EDC.

This manual has been structured in accordance with main requirement set out in the ISO14001 and OHSAS 18001 standards respectively for environmental management systems and occupational health and safety management systems and addresses as well requirements set out in IFC, EBRD, OPIC and EDC.

It includes guidelines and minimum requirements for EPC Contractor for defining its own ESMSs appropriate to the nature and scale of the Project Construction phase.

APPLICATION

This Manual applies to the Project Construction phase only; the Operation phase aspects will be addressed in separate documents. It applies to construction work activities under the control of SPV, of EPC Contractor and to all KIP employees.

DEFINITIONS

Kocaeli or SPV:	Kocaeli Hastane Yatırım ve Sağlık Hizmetleri A.Ş.
Kocaeli Integrated Health Campus Project (or "KIP" or simply "Project"):	Kocaeli Integrated Health Campus Project, being executed by SPV or its affiliates
EPC Contractor (or simply EPC):	Gama – Türkerler Kocaeli Adi Ortaklığı & Gama Türkerler Dubai
Site Management:	All key managerial roles involved in the Construction Site management, mainly referring to the EPC Contractor's personnel
Environmental and Social Management System (ESMS)	The complete set of documents (including but not limited to: policies, manuals, plans, procedures, work instruction and records) developed to address, manage, monitor, audit and review the environmental, social, health and safety aspects of the KIP, aimed at mitigating potential ESHS risks and impacts and improving ESHS performance
Guidelines to EPC Contractor	Guidelines to EPC for the development of its own ESMS and associated EPC Contractor Procedures appropriate to the nature and scale of the Project are contained in SPV ESMS documentation. SPV ESMS documentation, identify also minimum requirements and specific responsibilities for EPC Contractor in line with the EPC contract
Construction Site:	The Construction Site includes all areas impacted in any manner by the construction activities.
Environmental and Social Management Plans (ESMPs)	Plans issued by SPV addressing significant Environmental and Social aspects (as identified in the ESA) by defining specific management methods, mitigation measures, monitoring activities, reporting, auditing and review.

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EPC Contractor Procedure	A procedure to be prepared by EPC, to be used by EPC to describe how the mitigation and monitoring measures/actions outlined in SPV ESMPs are actually implemented.
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ACRONYMS

KİP	Kocaeli Integrated Health Campus Project
SPV	Kocaeli Hastane Yatırım ve Sağlık Hizmetleri A.Ş.
Golder	Golder Associates Turkey Ltd. Şti.
BAT	Best Available Technology
EBRD	European Bank for Reconstruction and Development
EHS	Environmental, Health and Safety
EPC	Engineering Procurement and Construction
EPRP	Emergency Preparedness and Response Plan
ES	Environmental and Social
ESHS	Environmental, Social Health and Safety
ESA	Environmental and Social Assessment
ESMP(s)	Environmental and Social Management Plan(s)
ESMS	Environmental and Social Management System
ESAP	Environmental and Social Action Plan
EU	European Union
GHG	Greenhouse Gas
GIIP	Good International Industry Practice
HS (or OHS)	(Occupational) Health and Safety
IFC	International Finance Corporation
ISO	International Organization for Standardization
KPI	Key Performance Indicators
OHSAS	Occupational Health and Safety Assessment Scheme
OPIC	Overseas Private Investment Corporation
PR	Performance Requirement (issued by EBRD)
PS	Performance Standard (issued by IFC)
QRA	Quantitative Risk Analysis
SEP	Stakeholder Engagement Plan
WHO	World Health Organization

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ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM MANUAL - CONSTRUCTION PHASE**1.0 PURPOSE AND SCOPE OF THE MANUAL**

This Manual describes and presents the framework and the strategy for implementing SPV Environmental and Social Management System (ESMS) in accordance with SPV policies, with the commitments undertaken by SPV in the ESA, with Turkish regulatory framework, with IFC Performance Standards and IFC General and Sector Specific EHS Guidelines, EBRD Performance Requirements and OPIC Environmental and Social Policy Statement and EDC.

The ESMS addresses more in detail the following environmental and social aspects:

- Environmental aspects (as defined by ISO 14001)
- Labor and working conditions including Occupational Health and Safety aspects (as defined by OHSAS 18001)
- Stakeholder management and social aspects
- Community health and safety aspects

Security Aspects are hereinafter these aspects are referred to, in broad sense, as ESHS aspects.

This manual has been structured in accordance with main requirements set out in the ISO 14001 and OHSAS 18001 standards for management systems and addresses as well requirements set out in IFC PS (in particular PS1), EBRD Performance Requirements (in particular PR1) and OPIC Environmental and Social Policy Statement. Main sections of this Manual are:

- Purpose and scope
- Project description
- Planning (including Occupational Health and Safety, Environmental and Social Management Plans - ESMPs)
- Implementation and Operation (in normal and emergency conditions)
- Checking (including Audit and Preventive/Corrective Actions)
- Management Review

The following paragraphs of the Manual provide a general description of the Project and on how SPV has addressed each of the aspect of the ESMS. The Manual includes as well references to the relevant policies, plans, procedures and records that are part of the SPV ESMS; this ESMS documentation is listed in Appendix 1.

Finally the Manual includes also minimum requirements for EPC Contractor for defining ESMSs appropriate to the nature and scale of the Project Construction phase.

ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM MANUAL - CONSTRUCTION PHASE**2.0 PROJECT DESCRIPTION**

KİP is located in the Kocaeli Province, İzmit District, and Gündoğdu Quarter.

IBP Campus will be constructed over a 353,381 m² land consisting of several hospitals with a total enclosed area of 353,382 m² and bed capacity of 1,180. The health campus is going to include 3 hospitals which are: the Main Hospital, the Physical Therapy and Rehabilitation Hospital and the High Security Forensic Rehabilitation Hospital. The Main Hospital includes a General Hospital, a Women & Paediatric Hospital, a Cardiovascular Hospital and an Oncology Hospital.

The Project, which will have 335,648 m² of closed area, will meet the future health requirements of the Kocaeli Province and its nearby provinces. When the new campus will start to operate at full capacity, it is predicted to provide healthcare services to approximately 2.5 million people and over 8,000 people (polyclinics and emergency) per day in modern conditions.

ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM MANUAL - CONSTRUCTION PHASE**3.0 SPV POLICIES**

SPV established overarching policies in relation to environmental, social, health and safety (including human resources) aspects, defining the objectives and principles guiding the Project to achieve sound environmental, social, health and safety performance. The policy documents established by SPV are the following and are included in Appendix 1 to this Manual:

- SPV Environmental Occupational Health and Safety Policy;
- SPV Social Policy (including Human Rights aspects);
- SPV Human Resources Policy (including employment and workers' rights aspects)

These policies reflect SPV Management commitment to the protection of the Environment, and the Health and Safety of its personnel and all people (in particular the Communities potentially affected by the Project), as further detailed in the following sections.

The policies provide a framework for the environmental, social, health and safety assessment and management process and specify that the Project has to comply with the applicable laws and regulations. In particular the policies states that SPV is committed to meet:

- Turkish legislation;
- IFC Performance Standards;
- IFC Environmental, Health, and Safety Guidelines and Industry Sector Guidelines for Health Care Facilities;
- EBRD Performance Requirements;
- OPIC Environmental and Social Policy Statement

The SPV policies indicate that SPV Management is responsible for its execution and for ensuring conformity with the policies, through the HSE Manager and the HSE Department.

The policies have to be communicated, under responsibility of the HSE Manager:

- to all levels of its organization by company internal communication tools;
- externally by public disclosure, on the SPV website;
- in particular to Affected Communities and to Contractors, with specific communication tools.

It may be communicated, where appropriate, to other Stakeholders in meetings and through other communication tools.

The policies are elaborated by the SPV HSE Manager, supported by ESMS Support Team, and are approved by SPV Management. No specific periodicity is fixed for reviewing the policies. SPV Management at each half yearly Management Review of the ESMS (refer to section 7 of this Manual) assesses whether the policies remain relevant and appropriate to the organization and eventually, based on the ESMS actual performance, whether they need to be reviewed.

ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM MANUAL - CONSTRUCTION PHASE**4.0 PLANNING****4.1 *Environmental, Social, Health and safety Aspects assessment***

The assessment process of Environmental, Social, Health and Safety Aspects is carried out in the context of the Project's area of influence (as defined in the ESA, by IFC PS 1) including:

- The area affected by the Project and the SPV's activities and facilities that are directly owned, operated or managed and that are a component of the Project;
- The area affected by the impacts from unplanned but predictable developments caused by the Project that may occur later or at a different location;
- The area affected by indirect Project impacts on biodiversity or on ecosystem services upon which Affected Communities' livelihoods are dependent.

The ESHS assessment and the identification of related risks and impacts have to be carried out to the whole Project life-cycle, including planning and design, construction, operations, and decommissioning or closure.

This Manual refers to the ESHS aspects generated until the commissioning phase; hereinafter this phase is referred to as "Construction phase". Aspects related to the Operation phase and Decommissioning phase will be addressed in separate documents to be issued prior to the Operation phase.

A. *Environmental and Social Aspects Assessment*

Significant Environmental and Social aspects are identified and related impacts are assessed in the ESA (January 2016), for both Construction, Operation and Decommissioning phases.

B. *Management of Change*

Changes to the Project (intended as modification of the context, design, controls and operation) may occur during its lifetime, during both the Construction and Operation phase. These changes may affect both Construction and Operation phases.

Examples of changes may be, but are not limited to:

- Extension of the Construction site area;
- Modification of the Project area of influence (as defined in the ESA);
- Modification of the ESHS regulatory context and permits (e.g. setting of more stringent regulatory limits);

Changes in the Project organizational structure (e.g. changes in the SPV, EPC Contractor structure/organization);

Changes to the planned project time schedule (e.g. extension of the Construction phase, Commissioning phase deadlines).

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SPV management has to identify those changes that may unintendedly result in negative Social and/or Environmental impacts (new or additional). These changes that may result will be managed through the following process:

- Obtain information regarding any changes that is being planned/considered by SPV or EPC Constructor or any unintended change to the project context;
- Identifying and characterize changes;
- Assess the risk for social and environmental components and related potential impacts; this assessment may need the support of a specialized contractor; this assessment may results in the need of updating the ESA or in the need of providing supplementary impact assessment studies;

Take appropriate measures and actions to avoid or, when not possible, minimize and mitigate potential impacts; this assessment may results in the need of updating/revising ESMS documentation such as policies, ESMPs and procedures.

The Management of Change process will be handled by the SPV HSE Manager that will report to SPV Management as soon as changes are identified, in the context of the management review. Additionally a review of the possible changes that may have been introduced in the project will be carried out on a systematic basis during the periodical management review meeting.

The EPC Contractor will have to implement a similar process in order to communicate planned changes to the Project to SPV and in order to address significant Project changes in agreement with SPV HSE Manager and SPV Management, in line with contractual arrangements.

Reporting on the supplementary assessments and related results have to be reviewed by SPV HSE Manager and approved by SPV Management.

C. Health and Safety Risks Assessment

Health and Safety hazards related to the Project workforce (including EPC and Subcontractors) are identified and related risks are assessed in accordance with, as a minimum:

- IFC General EHS Guidelines: - 2. Occupational Health and Safety
- IFC General EHS Guidelines: - 4. Construction and Decommissioning
- IFC PS 2: Labor and Working Conditions
- EBRD PR 4: Health and Safety
- Turkish legislation
- OPIC Environmental and Social Policy Statement

To allow a systematic approach to managing hazards, the following process has to be followed:

Identification – The first step in the hazards/risk management process is to identify the hazards in the workplace.

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Assessment – Once the hazards have been identified, it is necessary to assess what risks they pose to personnel in the workplace. In this way, a measure of the risk can be established and priorities for corrective actions can be determined.

The level of risk is dependent on the exposure to the hazard and the probability and consequences of an event occurring.

Control – Control process consists of determining and implementing appropriate measures to control risk. Legislation and codes of practice require that control of factors assessed as posing increased risk be implemented as low as reasonably practicable (ALARP).

Evaluation – Evaluation process consists of checking to see whether the changes introduced can reduce the risk previously assessed. It may involve repeating the process of hazard identification, risk assessment and risk control to confirm that OHS risks from a particular hazard have been controlled as far as is practicable. Where the evaluation of risk control measures reveals some remaining risk, the process continues.

Monitoring – Monitoring process consists of maintaining the control measures; the effectiveness of the control measures must be monitored on a regular basis.

The assessment process has to particularly address the following major OHS hazards typical for the construction activities (as detailed by IFC EHS Guidelines - Construction and Decommissioning):

Over-exertion, and ergonomic injuries and illnesses, such as repetitive motion, over-exertion, and manual handling;

Slips and Falls on the same elevation associated with poor housekeeping, such as excessive waste debris, loose construction materials, liquid spills, and uncontrolled use of electrical cords and ropes on the ground.

Work in Heights, falls from elevation associated with working with ladders, scaffolding, and partially built or demolished structures

Struck by Objects related to the potential fall of materials or tools, as well as ejection of solid particles from abrasive or other types of power tools which can result in injury to the head, eyes, and extremities

Exposure to dust generated by various sources (traffic, tools, machinery)

Confined Spaces and Excavations such as silos, vats, hoppers, utility vaults, tanks, sewers, pipes, and access shafts. Ditches and trenches

Moving Machinery - Vehicle traffic and use of lifting equipment in the movement of machinery and materials on a construction site may pose temporary hazards, such as physical contact, spills, dust, emissions, and noise;

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Exposure to chemicals, hazardous or flammable materials, and wastes in a combination of liquid, solid, or gaseous forms.

The EPC Contractor will develop its own risk assessment system, implement this system and perform the assessments for each position of its workforce, in compliance with Turkish Legislation, IFC Performance Standards and Guidelines, EBRD Performance Requirements and OPIC Environmental and Social Policy Statement. The Subcontractors will do the same as well.

SPV will carry out periodic Audits and inspection at the Construction site in order to verify the compliance of EPC Contractor and its Subcontractors with OHS requirements of the Turkish Legislation, IFC Performance Standards and Guidelines, EBRD Performance Requirements and OPIC Environmental and Social Policy Statement. The EPC Contractor will do the same with its Subcontractors.

4.2 Legal and Other Requirements

The requirements to be met by SPV and EPC Contractor can be summarized in the following list of documents or group of documents. These documents, when setting specific requirements for SPV policies, ESMPs, procedures and work instruction are referred to as “requirements source documents” or simply “source documents”:

- ESA (January 2016) – in particular Appendix N - ESAP;
- Turkish legislation;
- Authorities permits, licenses and authorizations deriving from the implementation of Turkish legislation;
- IFC Performance Standards (2006, as amended in 2012) and HSE Guidelines (2007);
- EBRD Performance Requirements;
- OPIC Environmental and Social Policy Statement.

In case Turkish regulations differ from the levels and measures presented in the International Standards, SPV and EPC Contractor are committed to meet the more stringent requirement.

This section identifies standards and regulatory requirements of the (section A) Turkish legislation applicable to the IBP as well as (section B) international standards to which SPV is voluntary committed in relation to the ESHS aspects identified.

It also identifies (section C) Company/Site specific policies and standards that have to be considered as reference for the ESMS and ESMPs development, such as project specific impact assessment studies and permits deriving from the application of Turkish legislation.

A. National standards and regulations

The following table identifies main Turkish ESHS regulation. SPV HSE Department, supported by the Support team, is responsible for:

- reviewing any new ESHS regulation (or regulation update) issued at national level
- evaluating applicability and identifying specific requirements applicable to the IBP/SPV;

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- updating the below list as necessary;
- evaluating whether the new/updated regulation entails a significant impact on SPV operations or on the IBP (i.e. impacts that go beyond HSE Department responsibilities and need to be managed at SPV management level).

In case the new/updated regulation has a significant impact, SPV HSE Department is responsible for:

- presenting to SPV Management the expected impacts on SPV operations and on the IBP of the new/updated applicable regulations;
- proposing accordingly updates, amendments or changes to ESMS and ESMPs, actions to be implemented, communications/actions towards EPC Contractor. The proposal/approval process is carried out as part of Management Review process as outlined in section 6.
- implementing updates, amendments and changes included in the ESMS and ESMPs, actions and communications, as approved by SPV Management.

In case the new/updated regulation has a minor impact, SPV HSE Department is responsible for implementing updates, amendments, changes to ESMS and ESMPs, actions and communications as necessary, informing SPV Management.

Issue	Relevant Guidelines and Regulations
Construction Phase	
<i>Environmental Issues</i>	
General	- Environmental Law (Law Number: 2872)
Permitting	- Regulation on Environmental Impact Assessment - Regulation on Environmental Auditing - Regulation on Environmental Permits and Licenses
Air Quality	- Regulation on Control of Industrial Air Pollution - Regulation on Assessment and Management of Air Quality - Regulation on Control of Exhaust Gas Emission - Regulation on Air Pollution Caused by Heating - Regulation on Odour Causing Emissions
Energy Conservation	- Regulation on the Improvement of the Energy Sources and the Efficiency in the Energy Usage
Water And Wastewater Quality	- Regulation on Control of Water Pollution - Urban Wastewater Treatment Regulation - Regulation on Protection of Wetlands - Regulation on Control of Pollution Caused by Hazardous Substances in Water and its Environment - Regulation on Management of Surface Water Quality
Hazardous Materials Management	- Regulation on Restrictions on the Production, Placing on the Market, and Use of Some Hazardous Materials - Regulation on Preparation and Distribution of Material Safety Data Sheets on Hazardous Materials and Aids - Regulation on Classification, Package, and Labelling of the Hazardous Materials and Aids - Regulation on Inventory and Control of the Chemicals

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Waste Management	<ul style="list-style-type: none"> - Regulation on Waste Management - Regulation on Control of Waste Oil - Regulation on Control of Medical Waste - Regulation on Control of Waste Batteries and Accumulators - Regulation on Control of Vegetative Oil - Regulation on Control of PCB and PCTs - Regulation on Control of Packaging Waste - Regulation on Control of End of Life Tires - Regulation on Control of End of Life Vehicles - Regulation on Landfills (Regular Storage of Wastes)
Noise	<ul style="list-style-type: none"> - Regulation on Assessment and Management of Environmental Noise
Soil Quality	<ul style="list-style-type: none"> - Regulation on Control of Soil Pollution and Contaminated Lands by Point Sources
Issues about Health Services	
Health Services	<ul style="list-style-type: none"> - Health Services Basic Law (Law Number: 1593) - General Healthcare Law (Law Number: 3359) - Regulation on Operation of Inpatient Treatment Institutions - Regulation on Patient Rights - Regulation on Providence of Patient and Personnel Security - Related legislation of the Ministry of Health
Issues about Forensic Hospital	
Forensic Hospital	<ul style="list-style-type: none"> - Criminal Law (Law Number: 5237) - Law on Execution of Penalties and Security Precautions (Law Number: 5275) - Related legislation of the Ministry of Justice

B. International standards

The following table identifies main International Standards to which SPV is committed. The eventual commitment to additional voluntary standards other than those indicated in the below table is responsibility of SPV Management.

SPV HSE Department is responsible for:

- updating the below table adding any new standard to which SPV is committed.
- presenting to SPV Management the expected impacts on SPV operations and on the IBP of the additional standard to which SPV is committed;
- proposing accordingly updates, amendments, changes to ESMS and ESMPs, actions to be implemented, communications/actions towards EPC Contractor. The proposal/approval process is carried out as part of Management Review process as outlined in section 7.
- implementing updates, amendments, changes to ESMS and ESMPs, actions and communications, as approved by SPV Management.

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Global Standards	
The Equator Principles Association	The Equator Principles, June 2013
IFC - International Finance Corp.	IFC Performance Standards (PS) and Guidance Notes GN)
IFC - International Finance Corp.	IFC PS1 and GN1: Assessment and Management of Environmental and Social Risks and Impacts
IFC - International Finance Corp.	IFC PS2 and GN2: Labor and Working Conditions
IFC - International Finance Corp.	IFC PS3 and GN3: Resource Efficiency and Pollution Prevention
IFC - International Finance Corp.	IFC PS4 and GN4: Community Health, Safety, and Security
IFC - International Finance Corp.	IFC PS5 and GN5: Land Acquisition and Involuntary Resettlement
IFC - International Finance Corp.	IFC PS6 and GN6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
IFC - International Finance Corp.	IFC PS7 and GN7: Indigenous Peoples
IFC - International Finance Corp.	IFC PS8 and GN8: Cultural Heritage
IFC - International Finance Corp.	IFC General EHS Guidelines: Environmental
IFC - International Finance Corp.	IFC General EHS Guidelines: Occupational Health and Safety
IFC - International Finance Corp.	IFC General EHS Guidelines: Community Health and Safety
IFC - International Finance Corp.	IFC General EHS Guidelines: Construction and Decommissioning
IFC – International Finance Corp.	IFC General EHS Guidelines: Health Care Facilities
IFC - International Finance Corp EBRD – European Bank for Reconstruction and Development	Workers' accommodation: processes and standards A guidance note by IFC and the EBRD
EBRD – European Bank for Reconstruction and Development	EBRD Performance Requirements and Guidance
EBRD – European Bank for Reconstruction and Development	EBRD PR1: Assessment and Management of Environmental and Social Impacts and Issues
EBRD – European Bank for Reconstruction and Development	EBRD PR2 Labor and Working Condition
EBRD – European Bank for Reconstruction and Development	EBRD PR 3: Resource Efficiency and Pollution Prevention and Control
EBRD – European Bank for Reconstruction and Development	EBRD PR 4: Health and Safety
EBRD – European Bank for Reconstruction and Development	EBRD PR 5: Land Acquisition, Involuntary Resettlement and Economic Displacement
EBRD – European Bank for Reconstruction and Development	EBRD PR 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
EBRD – European Bank for Reconstruction and Development	EBRD PR 7: Indigenous Peoples
EBRD – European Bank for Reconstruction and Development	EBRD PR 8: Cultural Heritage
EBRD – European Bank for Reconstruction and Development	EBRD PR 9: Financial Intermediaries
EBRD – European Bank for Reconstruction and Development	EBRD PR 10: Information Disclosure and Stakeholder Engagement

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Global Standards	
EBRD – European Bank for Reconstruction and Development	EBRD Sub-sectoral Environmental and Social Guidelines: Health Services and Clinical Waste Disposal
OPIC - Overseas Private Investment Corporation	OPIC - Environmental and Social Policy Statement
International Organization for Standardization	ISO 14001:2004 - Environmental management systems -- Requirements with guidance for use (Note 1)
OHSAS Project Group	OHSAS 18001 - Occupational health and safety management systems – Requirements (Note 1)

(Note 1) SPV is committed in developing an ESMS in line with the ISO 14001 and OHSAS 18001, however it is not committed to have the ESMS certified according to the mentioned standards by a third party.

C. Source documents

This section presents “source documents”, i.e. documents where SPV commitments are sourced from and that are the trigger for the development and implementation of the ESMPs and in general of the ESMS documentation. They are in turn based on Turkish regulatory framework, IFC Performance Standard and Guidelines, EBRD Performance Requirements and OPIC Environmental and Social Policy Statement.

SPV HSE Department is responsible for:

- Identifying, according to the current/upcoming regulatory framework, the need for new permits, for permits renewals or for permits updates for SPV and the Project;
- Implementing the relevant application procedure in order to obtain new permits, permit renewals and permit updates;
- presenting to SPV Management the expected impacts on SPV operations and on the Project of current/new/renewed/updated permits;
- proposing accordingly updates, amendments, changes to ESMS and ESMPs, actions to be implemented, communications/actions towards EPC Contractor. The proposal/approval process is carried out as part of Management Review procedure as outlined in section 7 “Management Review” of this Manual.
- implementing updates, amendments, changes to ESMS and ESMPs, actions and communications, as approved by SPV Management.

The permitting procedures and the obtainment of relevant permits, which Turkish regulatory framework poses on EPC Contractor, remain the responsibility of the EPC Contractor. HSE Department will collaborate as needed for the obtainment of relevant EPC Contractor’s permits.

Document ID	Document Title
ESA Report	Environmental and Social Assessment Study for IBP (January 2016, Golder Associates - Project No. 11451310053)
Licenses/Permits	Any other license and permit to be granted by the local authorities

ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM MANUAL - CONSTRUCTION PHASE**4.3 Objectives, Targets and Plans (4.3.3)****A. Environmental and Social Planning**

SPV has defined a set of Environmental and Social Management Plans (ESMPs), consistent with SPV policies and commitments, addressing the environmental and social aspects that have been identified in the ESA as potentially having the most significant risks and impacts.

The ESMPs have to be implemented broadly across SPV organization and the Project, including EPC Contractor (including its Subcontractors), other contractors and primary suppliers over which SPV has control or influence.

The level of detail and complexity of the plans is commensurate with the expected impacts and risks of the Project.

Each of the ESMPs clearly identifies general objectives (or purpose) and targets. The plans also identify KPIs that can be of qualitative or quantitative type, to be monitored for evaluating performance. For each KPI the plan identifies, if applicable/feasible, specific targets (for quantitative indicators) or acceptance criteria (for qualitative indicators) that can be tracked over defined time periods. Targets or acceptance criteria could be derived from specific regulatory requirements or threshold limits; the case where the identified targets represent also a regulatory requirement is specified in the plan.

ESMPs encompass, the full management process as conceived by ISO 14001 and OHSAS 18001: planning, operating, checking and reviewing. ESMPs are therefore structured according to the following scheme:

Purpose and scope of the Plan

This section provides a general and synthetic description of the requirements, commitments, actions, mitigations etc. the plan intends to implement.

Background Policies and Standards

This section includes policies, standards and requirements of reference for the plan. It may include lists or tables with key performance indicators and targets set by legislation or standards. The following subsections provide a list of the source documents for the requirements included in the plan (see section 4.2 "Legal and Other Requirements" of this Manual).

Roles and responsibilities

This section describes the roles and positions within the Project (SPV and EPC Contractor) that is responsible for the implementation of the plan or for ensuring that the plan is implemented by EPC Contractors. This section clearly states whether implementation plans have to be issued by EPC Contractor.

Management methods and mitigation measures

This section presents mitigation actions and measures (derived from source documents) that each plan intends to implement. It establishes a clear link between commitments (derived from source documents) and mitigation actions/measures needed to implement them through the plan. Clear responsibilities are assigned to ensure that each action has a responsible party (SPV, EPC Contractor, Subcontractors) for its implementation (see also section 5.5 "Operational Control" of this Manual)

ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM MANUAL - CONSTRUCTION PHASE**Monitoring (measurements)**

This section presents monitoring (intended as measurements) actions that each plan intends to implement. It clearly identifies measurement methodologies, KPI, targets/acceptance criteria and any mandatory limits (and the relative source document). Clear responsibilities are assigned to ensure that each monitoring action has a responsible party (SPV, EPC Contractor, Subcontractors) for its implementation (see also section 6.1 “Monitoring (measurements)” of this Manual).

Audit and review

This section includes the audit and review scheme for enduring the correct implementation of the plan.

Reporting

This section defines requirements for reporting the results of the monitoring (measurements) activities and the performance against Targets/Acceptance criteria set out in the plan, as well as reporting frequency and responsibilities.

The list of ESMPs that need to be implemented for fulfilling the commitments undertaken by SPV are listed in the table below. The column “EPC Contractor” identify the ESMP’s that need to be implemented with specific EPC Contractor’s procedures. The last two columns indicate whether the ESMPs contains management measures/action (Man.) and/or Monitoring (measurements) activities (Mon.).

The ESMPs are developed (and where necessary reviewed) by the SPV HSE Department and approved by SPV Management.

The EPC Contractor develops its own implementation procedures and the SPV HSE Department is responsible for checking through the internal audits whether Contractors procedures have been correctly developed and implemented.

B. Health and Safety Planning

SPV is committed to implement all reasonable precautions to protect the health and safety of workers. Preventive and protective measures have to be introduced according to the following order of priority:

- Eliminating the hazard by removing the activity from the work process
- Controlling the hazard at its source through use of engineering controls;
- Minimizing the hazard through design of safe work systems and administrative or institutional control measures;
- Providing appropriate personal protective equipment (PPE) in conjunction with training, use, and maintenance of the PPE.

The application of prevention and control measures to occupational hazards is based on comprehensive risk assessment. The results of these analyses are prioritized as part of an action plan based on the likelihood and severity of the consequence of exposure to the identified hazards.

The “OHS Plan” describes the main elements for the implementation of the system for the OHS aspects management. This plan applies to work activities and employees under the control of SPV, EPC Contractor/ Subcontractors and other contractors.

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In addition, the Job Hazard Analysis (JHA)'s carried out for each position of the workforce indicate OHS procedures and work instruction to be developed by all the companies that operate on the Construction Site.

The procedure and work instructions have to be appropriate to the nature and scale of the Project and have to contain provision of preventive and protective measures, including modification, substitution, or elimination of hazardous conditions or substances.

ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM MANUAL - CONSTRUCTION PHASE**5.0 IMPLEMENTATION AND OPERATION****5.1 Resources, roles, responsibility and authority**

The efficient establishment and implementation of an ESMS covering Construction phase of the Project requires that all the Project parties (SPV, EPC Contractor and Subcontractors) involved define a dedicated organization with clearly identified responsibilities for managing Environmental, Social, Health and Safety issues.

The organization charts given in Appendix 2 represent SPV organization adopted for the ESMS establishment and implementation during Construction phase.

For each Environmental, Social, Health and Safety key figure identified in the organization charts, a description of related responsibilities is provided in the following paragraphs.

For the Construction phase, the EPC Contractor has to develop and implement a dedicated organizational ESHS structure. This structure has to include clear interdependencies between SPV's and Contractor's key HSE management roles.

A. SPV Management

SPV Management:

- Approves and executes the SPV ESHS Policies, Principles, and Objectives;
- Provides overall direction, support and resources for the implementation of the ESMS covering Environmental, Social, Health and Safety Management issues and its integration with the Quality Management System;
- Appoints a Construction Director, acting as Site Manager, to coordinate Project activities during Construction phase;
- Requires a critical review of engineering specifications in terms of ESHS standards/requirements at the design stage;
- Verifies that an Emergency Preparedness and Response System is established and maintained during Construction phase;
- Requires the suitability of contractors to work according to SPV ESMS and inform them of the related duties;
- Encourages the proactive involvement of all Project personnel in executing the management program;
- Verifies that employees are aware of and understand their ESHS Management System responsibilities;
- Oversees ESHS performance on the Project;
- Acts as Directorate General for the approval of the Annual Training Scheme ensuring appropriate skills training is provided to all employees;
- Provides an environment that protects all personnel associated with the Project and the general public.

SPV Management is composed, but not limited to, by:

- Managing Director, leading the SPV Management;

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- HSE Manager, who acts as ESMS Director leading the HSE team integrating Quality Management System and ESMS;
- Construction Director, who chairs the Project HSE Committee that monitors the performance of the ESMS during Construction phase;
- Community Relation Officer (CRO), acting as Site Communications Representative, for the effective communication to a broad audience of the ESHS issues related to the Project.

B. SPV HSE Manager

SPV HSE Manager, reporting to SPV Management.

- Verifies that EPC Contractor project activities are in conformity with SPV ESMS and in compliance with national and international regulatory requirements requirements in coordination with EPC HSE Manager;
- Ensures that EPC Contractor promptly correct all possible observed deficiencies related to ESHS issues.
- Identifying, according to the current/upcoming regulatory framework, the need for new permits, for permits renewals or for permits updates for SPV and the KİP;
- Implementing the relevant application procedure in order to obtain new permits, permit renewals and permit updates;
- Proposing accordingly updates, amendments, changes to ESMS and ESMPs, actions to be implemented, communications/actions towards EPC Contractor. The proposal/approval process is carried out as part of Management Review procedure as outlined in ESMS Manual.
- Implementing updates, amendments, changes to ESMS and ESMPs, actions and communications, as approved by SPV Management.

C. EPC Contractor

The EPC Contractor:

- Reports to SPV HSE Manager all the environmental, social, health and safety issues and performances related to the Project;
- In the execution of works is in conformity with the relevant environmental, social, health and safety requirements detailed in SPV ESMS and in compliance with Turkish regulation, IFC Performance Standards and Guidelines, EBRD Performance Requirements and OPIC Environmental and Social Policy Statements;
- Implements and demonstrates conformity and compliance with the above mentioned requirements at all times;
- Submits plans and procedures under EPC Contractor responsibility, that meet as a minimum SPV ESHS standards for the Project;
- Appoints an ESHS Representative, participating to SPV ESHS Site audits and inspections and is responsible of additional internal audits/inspections, nominating also an Alternate ESHS Representative to delegate the responsibilities when the appointed representative is off-Site;
- Documents to HSE Manager all Non-Conformities, Non- Compliances and hazards identified during Site inspections and addresses them with appropriate Preventive/Corrective Actions;
- Provides to EPC Contractor Site personnel Project Induction training, including communication of SPV ESHS requirements, prior to the commencing of on-Site activities;

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- Provides specific ESHS training in addition to the Induction to its personnel who have jobs with significant ESHS risks.

D. Other Contractors

Other Contractors, appointed by SPV Management, support SPV in addressing Site ESHS issues associated with the Project. Such contractors include, but are not limited to:

- Third party Security service personnel;
- External Training Suppliers;
- Project Medical Services.

E. Construction HSE Manager – EPC

The Construction HSE Manager (or simply HSE Manager) is appointed by EPC Contractor for the day to day implementation of ESMS elements. He reports to the Construction Director¹ and lease with SPV HSE Manager.

The HSE Manager:

- Leads the Risk Assessment Team to complete risk assessment by examining the hazard / magnitude and damage / effects determined for activities and sub activities on-Site.
- Establishes, and take part to, the ESHS Committee² representing the various trades;
- Ensures that the ESHS training program is in place;
- Acts as auditing supervisor coordinating the ESHS audits on the SPV activities and ensuring that Project works have been audited at routine interval against the Project requirements;
- Documents and shares to Construction Director possible accident information happening in and out of company and/or external inspection results;
- Acts Emergency Case Officer duties related to the management of emergencies and unexpected cases.

F. Security Leader (EPC)

For the Construction of the Project SPV Management appoints a Security Leader, reporting to the HSE Manager. He:

- Oversees security of Project facilities, supervised by Contractor;
- Develops and maintains a working relationship with local law enforcement authorities, when required;
- Conducts periodical inspections;
- Implements SPV/EPC Security Plan.
- Provides Administrative support for the HSE Manager;

¹ EPC Construction Director will act as EPC HSE Manager in the absence of EPC HSE Manager

² ESHS Committee is established as per Turkish Law Numbered 6331

ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM MANUAL - CONSTRUCTION PHASE**G. Environmental Engineer (EPC)**

The Environmental Engineer, reporting to the HSE Manager-EPC:

- Supervises the implementation of overall environmental and social mitigation activities defined by the EPC and SPV ESMPs;
- Acts as the EPC technical coordinator for contractors concerning his competencies as well as for Project Stakeholders including the Governmental Authorities, Municipality, NGOs and the local community.
- Provides Environmental and Social Administrative support for the HSE Manager-EPC ;
- Coordinates and maintain the preparation of environmental and social plans, procedures, work instructions etc. , to be defined also for the management of emergency cases;
- Manages and audit the personnel under his control and ensure they have the required training;
- Establishes an inspection/audit scheme and review the results of inspections/audits and identify any issues and deficiencies, to be brought to the attention of the management;
- Contribute, as member, to the ESHS Committee (established as per Turkish Regulation) and to the Risk Assessment Team activities for what concerns Environmental and Social issues.

H. Company Doctor

Company Doctor, reporting to the HSE Manager-EPC:

- Reviews the results of inspections of the Site to identify health or medical issues/deficiencies and to advise the HSE Manager;
- Supervises all health related issues;
- Monitors and track all personnel Health and Medical issues, associated with the Project;
- Acts as ESHS Representative:
 - Coordinating Health orientations and training;
 - Participating in any investigation relating to Health issues;
 - Verifying that first-aid procedures and the Emergency Preparedness and Response System are in place within the Project;
 - Managing and maintaining the Health-related records and documentation;
 - Through regular fieldwork, verifying that all personnel are fully conversant with the corporate and/or Project Health Management System, its procedures and related Health instructions;
 - Distributing materials on Health education, promotion, and awareness;
- Contributes, as member, to the ESHS Committee, Risk Assessment Team for what concerns Health issues related to the Project.

I. Community Relation Officer (CRO) - EPC

Community Relation Officer (CRO), reporting to the Construction Director:

- Acts as an interface between SPV and the local community;
- Functions as a focal point for resolution of community complaints and grievance cases:
 - Disclosing the Grievance Mechanism to affected communities;
 - Calling, upon need, the Grievance Advisory Committee to provide strategic advice on a particular grievance case;
- Organizes meetings with the national/regional/local authorities and affected communities;

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- Records community related issues and report the activities of community liaison.
- Acts as ESHS Representative:
 - Monitoring and reporting on execution of Project Stakeholder Engagement Plan;
 - Coordinating Social orientations and training;
 - Participating in any investigation relating to Social issues;
 - Verifying that the Emergency Preparedness and Response System contents related to social issues are in place within the Project;
 - Managing and maintaining Social-related records and documentation;
 - Through regular fieldwork, verifying that all personnel are fully conversant with the corporate and/or Project Social Management System, its procedures, and related Social instructions;
 - Distributing materials on Social education, promotion, and awareness;

J. Inspectors

Safety Inspectors and Environmental Inspectors actively perform the Safety and Environmental scheduled Site inspections and report the related findings to the HSE Manager.

5.2 Training, Awareness and Competence

SPV provides adequate training to all his employees and managers, ensuring that:

- Personnel is aware of the importance of developing and implementing SPV Policies, ESMS and ESMP's and fulfilling requirements therein and that failure in fulfilling these requirements may lead to significant impacts to the Environmental, to population and to workers.
- Personnel within the organizational structure with direct responsibility for the Project's environmental, social, health and safety performances have the knowledge, skills, and experience necessary to perform their work, including current knowledge of the applicable laws, regulations and requirements of IFC Performance Standards and Guidelines, EBRD Performance Requirements and OPIC Environmental and Social Policy Statement.
- Personnel possess the knowledge, skills, and experience to implement the specific measures and actions required under the ESMS and the methods to perform such actions in a competent and efficient manner.

The process governing identification of training need, training planning and training execution is described in the "Training Plan". The "Training Plan" provides also specific instruction for developing and maintaining an updated an ESHS training program.

SPV HR Department is responsible for issuing/updating the Training Procedure; HR Department is supported by the SPV HSE Department.

The Training Plan and the Training program are approved by SPV Management.

The EPC Contractor has to issue a similar procedure and program for its personnel and for Subcontractors' personnel.

ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM MANUAL - CONSTRUCTION PHASE**5.3 Communication**

With regard to the Project the following communication flows can be distinguished:

- internal communication among the various levels and functions of the organization;
- internal Project communication among the various parties involved in the Project (i.e. SPV, EPC Contractor);
- relevant communication from external interested parties related to Environmental and Social issues.

The internal communication amongst the various functions and roles and among Project parties is addressed in this Manual and in the documentation of the ESMS such as ESMPs procedures and work instructions.

The communication with and the grievances from external interested parties are addressed in a dedicated section below. The workers' consultation and grievances are as well addressed in a dedicated section below.

A. Workers' consultation and grievances

SPV has developed a "Grievance Mechanism Procedure" providing in section 5 indications on the management of the workers grievances. The procedure provides a framework for receiving, recording, answering and facilitating resolution of workers' concerns and grievances with particular reference to labor and OHS issues.

In order to ensure the effectiveness of the process and minimization of grievances related to OHS issues, OHS procedures have to be developed in consultation with personnel who are directly involved in the hazard analysis processes for the relevant tasks.

As per the national legislation requirements, an ESHS Committee has to be established by the EPC Contractor. This committee provides:

- The platform for the workers to raise any OHS issue to the attention of the management;
- The opportunity for the workers and the management to review and to improve the effectiveness of any OHS mitigation measure;
- The opportunity for the workers to report any work related grievance through the employee representative.

EPC Contractor has to require that Subcontractors' workers grievances are managed in a similar way.

B. Stakeholders engagement and grievances

SPV established an effective Stakeholders engagement process, aimed at building strong, constructive and responsive relationships for the successful management of Project's environmental and social risks and impacts, since the ESA phase.

Stakeholders' analysis and planning have been provided in a "Stakeholder Engagement Plan" (SEP) describing the activities to be implemented by SPV to ensure that a full participatory process is put in

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place and that all relevant Stakeholders, including potentially Affected Communities and any possibly disadvantaged or vulnerable group, are involved in the engagement process throughout the entire Project life-cycle.

A first release of the SEP was already included in the Project ESA; the SEP will be regularly updated to ensure that:

- it remain fit for the purpose at each phase of the Project;
- it addresses the outcomes of Stakeholder consultation activities;
- it addresses the grievances received from Stakeholders.

In particular, the SEP updated for the Construction phase:

- Includes a Grievance Mechanism, a procedure providing a framework for receiving, recording, answering and facilitating resolution of Affected Communities' concerns and grievances about SPV environmental and social performance;
- Ensure the disclosure to the Affected Communities of relevant information on:
 - The purpose, nature and scale of the Project;
 - The duration of proposed Project activities;
 - Any risk to and potential impacts on such communities and relevant mitigation measures;
 - The envisaged Stakeholder engagement process;
 - The Grievance Mechanism;
- Ensure a Stakeholders' Consultation and Participation process is in place and culturally appropriate for the potentially Affected Communities, their decision-making process and the needs of disadvantaged or vulnerable groups.
- Document how feedback from Stakeholders' Consultation and Participation (including views of potentially Affected Communities on matters that may affect them directly) will be included into SPV Management decision-making process and used to improve impact mitigation measures;
- Ensure the provision of periodic reports to the potentially Affected Communities, that describe progress with the implementation of the ESMS on issues that may involve ongoing risk to or impacts on such Communities, and on issues that the Consultation process or grievance mechanism have identified as of their specific concern.

The updates of the SEP are issued by the HSE Manager and are approved by SPV Management.

The EPC Contractor is not required to develop its own SEP as this activities falls under the responsibility of SPV. The EPC Contractor is required to collaborate with SPV on an "as needed" basis for:

- providing the necessary information for answering to Stakeholder requests;
- providing the necessary support to address Stakeholders' grievances.

5.4 Documentation

With reference to the contents of the present document, the ESMS documentation consists of:

- Policies;
- ESMS Manual;

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- Environmental and Social Management Plans;
- Procedures/practices;
- Work instructions;
- Records/reports of ESMS application.

A complete list of the ESMS documentation is provided as Appendix 2.

All documents and procedures of the ESMS are issued, revised and controlled according to the SPV Project Management System. The expected activities related to the control of records are provided in the section 6.4 of this Manual.

5.5 Operational control

A. Environmental and Social aspects

Main Environmental and Social aspects to be addressed by the ESMS have been identified in the ESA and can be summarized as follows:

- Employment and labor issues
- Public health issues in relation to Workers and Local community interferences
- Security issues in relation to Workers and Local community interferences
- Air emission (in particular dust)
- Traffic related risks and impacts
- Noise emissions
- Wastewater emissions
- Waste production
- Hazardous materials management
- Soil management
- Water/Energy resources management
- Biodiversity

No significant adverse impacts to cultural heritage have been envisaged by the ESA. The occurrence of cultural heritage findings during construction has been assessed as low. In any case, as part of SPV ESMS, an "Archeological Chance Finds Procedure" has been developed for managing chance finds which have to be applied in the event that cultural heritage is subsequently discovered, consistently with the requirements of this IFC PS8 and EBRD PR8.

Furthermore, as requested by IFC Performance Standards and EBRD Performance Requirements, SPV has to implement operational control measures also in relation to the following cross-cutting issues:

- Project associated facilities;
- Primary supply chain.

Operational controls for the significant Environmental and Social aspects are addressed by SPV in the ESMPs (refer to the list of section 4.3.A "Environmental and Social Planning" of this Manual) and in particular in the plans section "Management methods and mitigation measures", consistently with its ESHS Policies and the commitments included in the ESA.

ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM MANUAL - CONSTRUCTION PHASE***B. Occupational Health and Safety aspects***

Main OHS aspects to be addressed by the ESMS have been identified in section 4.3.B “OHS planning” of this Manual in line with IFC EHS Guidelines for Construction:

- Over-exertion, and ergonomic injuries and illnesses;
- Slips and Falls on the same elevation
- Work in Heights, falls from elevation
- Struck by Objects related to the potential fall of materials or tools
- Exposure to dust generated by various sources
- Confined Spaces and Excavations
- Moving Machinery
- Exposure to chemicals, hazardous or flammable materials, and wastes.

The procedure and work instructions have to be appropriate to the nature and scale of the Project and have to contain provision of preventive and protective measures, including modification, substitution, or elimination of hazardous conditions or substances.

The process of identifying hazards, assessing risks and issuing HS procedures is a continuous process and have to be repeated/carried out every time significant changes to working conditions occurs or new working operations or new type of machineries are used for the Project purposes. The OHS procedures and work instruction are therefore subject to continuous revision based on the outcomes of the risk assessment process.

SPV employees are not directly involved in construction operation and/or in their organization. Construction operations are organized and carried out by the EPC Contractor and its Subcontractors. SPV employees carry out mainly office activities and some field activities consisting mainly on inspections and auditing.

A minimum list of OHS procedure and work instruction to be prepared by SPV for its workers is provided below (the need for additional OHS procedures and work instruction is likely to arise from the JHA):

- Training and Orientation
- Office Safety
- Contractor Selection
- Travel Safety
- Emergency Preparedness (Medical, Fire, Chemical, Weather)
- Incident/Accident Reporting and Investigation
- Substance Abuse Prevention Program
- Work Hour Control/Working Alone
- Security
- Pre-Project Medical Examination — International/National

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During the execution of the works under the Construction Contracts, the EPC Contractor will comply with the applicable national and international requirements detailed in section 4.2 “Legal and Other requirements” of this Manual. The EPC Contractor will implement and demonstrate compliance with these requirements at all times.

The EPC Contractor has to address the requirements of those applicable standards in the form of a Specific Construction OHS Procedures that meets SPV’s Minimum OHS Standards for Construction Contracts and specific Project requirements stated in the ESA and this document. Project Work Procedures/Instructions, detailing the operating criteria required to implement the standards developed through Job Hazard Analysis.

A minimum list of OHS procedure and work instruction to be prepared by EPC Contractor and Subcontractors for their workers is provided below (the need for additional OHS procedures and work instruction is likely to arise from the Risk Assessment):

- Training and Orientation
- Office Safety
- Contractor Selection
- Travel Safety
- Emergency Preparedness (Medical, Fire, Chemical, Weather)
- Permit to Work
- Substance Abuse Prevention Program
- Work Hour Control/Working Alone
- Security
- Industrial Hygiene
- Eating and Sanitation Facilities
- Working in Heat
- Abrasive Blasting
- Hazard Communications
- Control of Substances Hazardous to Health
- Pre-Project Medical Examination — International/National
- Prevention of diseases
- Ionizing Radiation Control
- Personal Protective Equipment
- Fall Protection/Working at height
- Hot Work (Welding, Cutting, Burning)
- Pressurized/Compressed Air Equipment and Compressed Gas Cylinders/Operations
- Cranes and Rigging — Introduction/Pre-use
- Loading and Unloading Material
- Powered Industrial Trucks (Forklifts)
- Aerial Lifts, Elevating Work Platforms, and Material/Personnel Hoists
- Working Near Overhead Power Lines
- Portable Ladders
- Scaffolds
- Manual Handling
- Hand and Portable Power Tools

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- Shop Equipment and Facilities
- Electrical Work Safety
- Excavation, Trenching, and Shoring
- Earthwork, Concrete, and Masonry
- Drill and Blast Operations
- Hot Tapping
- Steel Erection
- High-Pressure Water Cleaning
- Tank and Piping System Testing
- Confined Space Entry
- Accommodation H&S requirements

In addition, the EPC Contractor has to ensure that;

- The resources are in place to implement the requirements of this document;
- The EPC Contractor personnel receive the required training for the safe performance of the assigned tasks;
- Systems are in place for routine auditing and inspection to ensure the compliance with the applicable national and international requirements and conformity with SPV ESMS requirements;
- Systems are in place for reporting and investigations of environmental events, near-misses, accidents, incidents and potential hazards within an agreed and legally required timeframe.

The EPC Contractor has to provide progress updates to SPV on an agreed basis on the OHS performance.

The EPC Contractor has to keep all the records and other relevant documentation to demonstrate compliance/conformity to Project requirements for the duration of the Contract.

The issuing and periodical revision of SPV OHS procedures and work instructions is responsibility of the HSE Manager; procedure and work instruction are then approved by SPV Management.

5.6 *Emergency preparedness and response (4.4.7)*

The EPC Contractor has to establish and maintain a Site Emergency Response Procedure(s) – ERP(s) (developed in accordance with IFC EHS Guidelines - 3.7 Emergency Preparedness and Response) in order to be prepared to respond to accidental and emergency situations associated with the Project, in a manner appropriate to prevent and mitigate any harm to people and/or the environment.

The EPC Contractor in the ERP(s) will include detailed information for the following basic elements:

- Identification of emergency situations that may occur, and communities and individuals that may be impacted;
- applicable legislation requirements and reference and contact details of local government agencies (e.g. police, emergency rescue, harbor authority);
- Roles and responsibilities;

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- emergency response standard operating procedures (SOP);
- the provision of equipment and resources and designate responsibilities for emergency preparedness and response;
- Communication procedures, including that with potentially Affected Communities and local government agencies;
- periodic training in order to ensure effective response to possible emergency situations.
- periodic emergency drills, involving Affected Communities and in order to ensure preparedness to possible emergency situations
- Business continuity and contingency.

The ERPs, as minimum requirement, will address the following emergency conditions:

- Life and fire safety including natural disasters (according to IFC EHS Guidelines - 3.3 Life and Fire Safety)
- Leaks or spills of hazardous chemicals/hazardous waste in the Construction site both on-shore and off shore (according to IFC EHS Guidelines - 1.5 Hazardous Materials Management);
- Transportation of hazardous chemicals/ waste off-site (according to IFC EHS Guidelines - 3.5 Transportation of Hazardous Materials);
- First aid emergencies (according to IFC EHS Guidelines – 2.1 General Facility Design and Operation - First aid).

EPC Contractor, with the support of SPV, will involve the Affected Communities and the local government agencies in the preparation of the ERPs.

The EPC Contractor, with the support of SPV, will carry out periodical emergency drills that also involve Affected Communities and local government agencies on a quarterly basis. The emergency drills will have to be documented by EPC Contractor.

The ERPs have to be periodically reviewed and revised, as necessary, to reflect possibly changing conditions during the Construction phase.

EPC Contractor has to properly document emergency preparedness and response activities, resources, and responsibilities, and have to provide, on request, appropriate information to potentially Affected Community and relevant government agencies.

The ERP will be subject to periodic audit and inspections by SPV and by EPC Contractor.

6.0 CHECKING

6.1 *Monitoring and measurements (4.5.1)*

A. *Environmental and Social monitoring*

Monitoring and measurements activities and related reporting for the significant Environmental and Social aspects are addressed in the ESMPs (refer to the list of section 4.3.A “Environmental and Social planning” of this Manual) and in particular in the sections “Monitoring (measurements)” and “Reporting”, consistently with its ESHS Policies and the commitments included in the ESA.

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The ESMPs provides the relevant information to monitor/measure the Environmental and Social performance, to ensure ESMS compliance with national and international regulatory requirement and conformity with ESMS requirements.

The extent of monitoring and measurement has to be commensurate with the Project's ESHS risks and impacts and with relevant obligations/requirements.

The scope, frequency, methodologies and responsibilities (SPV or EPC Contractor) of such monitoring and measurement, as well as reporting needs, are indicated in the ESMPs and depend upon the nature and scope of the monitoring activities identified and are undertaken in accordance with applicable Project requirements (ESA commitments, IFC PS's, EBRD PR's, OPIC requirements and Turkish regulation).

If needed, monitoring and measurement have to be adjusted according to performance experience and possible actions requested by relevant regulatory authorities.

SPV HSE Department is responsible for collecting and aggregating the information related to monitoring activities carried out by EPC Contractor and for developing, updating and managing the tools for data collection and aggregation (Ref. data collection tool in MS Excel).

B. OHS monitoring

As stated by the IFC Occupational Health and Safety Guidelines, OHS monitoring programs should verify the effectiveness of prevention and control strategies. The selected indicators should be representative of the most significant occupational, health, and safety hazards, and the implementation of prevention and control strategies. Therefore, the OHS monitoring program have to be closely linked to the findings of JHA. The occupational health and safety monitoring program to be developed by EPC Contractor has to include, as a minimum:

Safety inspection, testing and calibration of:

- OHS critical equipment (i.e. forklifts, cranes, lifts)
- All safety features and hazard control measures focusing on engineering and personal protective features (i.e. PPE continues to provide adequate protection and is being worn as required);
- work procedures (i.e. permit to work),
- places of work, installations, equipment, and tools used (i.e. workshops, hand tools).

Monitoring of the working environment: Monitoring methodology, locations, frequencies, and parameters should be established individually for each task or activity following the Risk Assessment (i.e. dust monitoring, confined space air quality monitoring).

6.2 Evaluation of compliance (4.5.2)

The evaluation of compliance will be carried out through internal auditing (refer to section 6.5 "Audit and Non-Conformities" for further details); compliance evaluation addresses specifically:

- the regulatory requirements of the Turkish legislation

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- the relevant permits obtained under Turkish legislation
- commitments undertaken by SPV in the ESA
- IFC Performance Standards and EHS Guidelines
- EBRD Performance Requirements
- OPIC Environmental and Social Policy Statement.

Any requirement of the above documents that is not met or it is only partially met will generate a “Non-Compliance” that will be treated as indicated in the section 6.3 below “Non-Conformities, Non-Compliances, Preventive/Corrective Actions”.

The EPC Contractor is required to implement a similar system for the evaluation of compliance of its operation and of Subcontractors’ operations.

6.3 Non-Conformities, Non- Compliances, Preventive/Corrective Actions (4.5.3)**A. Non-Conformities, Non- Compliances, Preventive/Corrective Actions**

In general Audits can lead to the identification by SPV audit teams of issues of concern defined as follows:

- Non-Conformity (N-CF): non-fulfilling, lack or deviation to requirements of the ESMS or to
- Non-Compliance (N-CP): non-fulfilling, lack or deviation to requirements of external rules and regulations, such as IFC Performance Standards, EHS Guidelines, EBRD Performance Requirements and Turkish Regulations).
- Observation (OBS): issues for which no clear lack or deviation to requirements are identified but that may need specific actions aimed at improving performance.

N-CFs, N-CPs and OBS can be identified as well by any of the SPV personnel at any time during the Construction phase; in this case the person who believes to have observed a specific condition that may be of Environmental Social, Health or Safety concern has to inform immediately the HSE Team. The HSE Manager is responsible for evaluating whether the reported condition represent an actual N-CFs, N-CPs or OBS.

The N-CFs and N-CPs (as well as OBS, if deemed necessary) treatment process is described in detail in the “Audit and Non-Conformities Procedure”. N-CFs, N-CPs and OBS are treated by HSE Department through the implementation of Preventive/Corrective Actions aimed at eliminating their consequences and root causes in order to prevent recurrence Based on the assessment, the issues reported are categorized in terms of seriousness according to the following definitions:

- Level 1: complete deviation or non-fulfilment of the requirements, based on objective evidences. N-CFs/ N-CPs are classified as level 1 if their resolution has to be managed in coordination with external bodies (i.e. authorities), if they are expected to have impacts on SPV operations and activities and if they are expected to be reported by media. These N-CFs/N-CPs have to be immediately communicated to SPV Management by the HSE Manager as part of the Management Review process. The HSE Manager proposes PA/CAs; SPV Management approves PA/CAs and eventually decides further actions to be implemented. The N-CFs/ N-

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CPs and the PA/CAs implemented should be disclosed to stakeholders during one of the periodic engagement activities.

- Level 2: complete deviation or non-fulfilment of the requirements, based on objective evidences. N-CFs/N-CPs are classified as level 2 if their resolution has to be managed in coordination with internal departments and if they are expected to have impacts on SPV operations and activities. These N-CFs/N-CPs have to be immediately communicated to SPV Management by the HSE Manager as part of the Management Review process. The HSE Manager proposes PA/CAs; SPV Management approves PA/CAs and eventually decides further actions to be implemented.
- Level 3: partial deviation or non-fulfilment of the requirements, based on objective evidences. N-CFs/N-CPs are classified as level 3 if their resolution can be managed directly by the HSE department and if they are expected to have only limited impacts on SPV operations and activities. These N-CFs/N-CPs are addressed directly by HSE Department through PA/CAs. Progresses are communicated to SPV Management on a periodical basis as part of the Management Review process.
- Level 4 is assigned to all observations (see above for the OBS definition).

Level 1 and Level 2 N-CFs/N-CPs are also referred to as “major N-CFs/N-CPs”; while Level 3 N-CFs/N-CPs are referred to as “minor N-CFs/N-CPs”.

Corrective Actions are appropriate to the effects of the N-CFs/N-CPs encountered and Preventive Actions are appropriate to the effects of potential problems.

The EPC Contractor is required to implement a similar system for addressing N-CFs/N-CPs of its operation and of the Subcontractors’ operations.

B. Incident reporting and investigation

All incidents and hazards occurred within the Project will be reported and investigated; all incidents must be reported to the SPV and EPC Contractor HSE Managers.

All personnel are responsible for reporting incidents (including near misses) and hazards to their immediate supervisor as soon as practicable after the incident occurs or the hazard is identified. Whenever practicable, every individual is required to immediately rectify identified hazards provided they do not expose themselves to any danger.

Incidents may be subject to a detailed investigation and required reporting. The report has to meet national legislative and corporate reporting requirements.

Disagreements over action taken in response to a reported hazard will be resolved in consultation with the HSE Managers.

Each company operating at the Construction Site is responsible for providing any person under their responsibility and who is affected by any critical incident with:

- Appropriate counseling services;
- Employee assistance program;

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- Immediate notification and contact with their family or next of kin;
- Direct access to communications at all times (such as phones).

6.4 Control of records (4.5.4)

SPV has to maintain records demonstrating ESMS performance and conformity/compliance to the requirements set out in its ESMS and in the National and International regulations. Relevant records have to be maintained and archived under responsibility of the SPV HSE Department.

A list of main recording documents of SPV ESMS is provided below:

- Reports of internal audits;
- Reports of third parties audits;
- Non-Conformities, Corrective/Preventive Actions forms;
- Minutes of the Management Review meetings;
- Reports of the monitoring (measurement) activities, including analytical certificates;
- Records of grievances submitted to SPV;
- Records of incidents reporting and investigations;
- Communication with the authorities;
- Communication material addressed to Stakeholders;
- Records of Stakeholder engagement activities;
- Any other relevant document providing evidence of the ESMS performance.

The process for records management is described in the relevant sections of this Manual and in the relevant ESMPs (Reporting section) and procedures.

The EPC Contractor is required to implement a similar system for managing records related to its operation and to Subcontractors' operations.

6.5 Audit (4.5.5)**A. Internal Audit**

SPV has implemented an internal inspection and audit system to periodically and effectively verify:

- Correct implementation of SPV ESHS Policies, of the ESMS, of the ESMPs and conformity to the requirements set therein;
- Correct implementation of EPC Contractor Procedure (descending from SPV ESMPs requirements);
- Project operation compliance to the national regulatory requirements (Turkish legislation and relevant permits), to the ESA commitments, to the IFC Performance Standards and EBRD Performance Requirements;
- EPC Contractor meets its contractual obligations.

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An internal inspection and audit program is established, implemented and maintained by SPV HSE Department on a periodical basis, taking into consideration the ESHS aspects importance of the operation(s) concerned and the results of previous audits/inspections. The audit program indicates audit schedule, frequency and the objectives as well as responsible internal auditors; the program can be amended based on the outcomes of the audits and of the Management Reviews.

The EPC Contractor is required to implement a similar inspection and audit system in relation to its operation and to Subcontractors' operations.

B. External Audit

External Audits can be performed by third parties if allowed by SPV Management.

SPV Management has allowed the conduction of external independent audit and review according to contractual obligations between SPV and IFI financing the Project. These external Audits are expected to be carried out on a six-monthly basis and are aimed at verifying:

- Project compliance to the Turkish regulatory requirements (legislation and relevant permits), to the ESA commitments and to the IFI Requirements,
- Correct implementation of SPV ESMS, including Policies, ESMPs, procedures and conformity to the requirements set therein.

SPV Management and HSE department will provide full availability of their resources, as well as full access to site and documentation for the allowed external audits.

7.0 MANAGEMENT REVIEW (4.6)

SPV Management reviews on a periodical basis (at least half-annually) the performance of the ESMS, in order to ensure its continuing suitability, adequacy and effectiveness.

HSE Manager is responsible for convening a Management Review meeting in case of:

- Major Non-Conformities and Non Compliances (i.e. those of Level 1 and Level 2);
- Serious injuries/fatalities to workers of SPV, EPC Contractor or Subcontractors;
- Significant changes to the context or to the Project entailing the adoption of the management of change procedure;
- Grievances having the potential to impact media or to result in a claim;
- Significant changes to the regulatory framework.

SPV HSE Manager is responsible for preparing the agenda of the Management Review meeting and for preparing input documentation/information. Input documentation/ information to the Management Review includes but is not limited to:

- Internal audit reports and records of Non-Conformities and Non-Compliances;
- Injuries statistics;
- Corrective/Preventive Actions progress;

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- Audit reports from other third parties;
- Monitoring reports;
- Grievances records.

SPV HSE Manager is responsible for providing a summary of the ESMS performance since the last Management Review meeting, to summarize the progress of the action decided during the last meeting, to address specific issues on an “as needed basis” and to propose, if deemed necessary, further actions to be approved by SPV Management.

SPV HSE Manager is responsible for issuing the minutes of the Management Review meeting including a detailed description of the actions decided, measures adopted and related responsibilities. This may include changes to the ESMS management system documentation, including the policies, the Manual, ESMPs, Procedures and work instructions.

SPV Management is responsible for deciding actions and measures appropriate to the nature and scale of the Project Construction phase and related responsible parties.

The EPC Contractor is required to implement a similar Management Review system in relation to its operation and to Subcontractors' operations.

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APPENDIX 1

LIST OF DOCUMENTS OF THE ESMS

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Document ID	Document Title
KİP-ESMS-ESMS-001	Kocaeli ESMS Manual
KİP-ESMS-POL-001	Kocaeli Environmental, Health, Safety, Social and Human Resources Policy
KİP-ESMS-TRN-001	Kocaeli Training Management Plan
KİP-ESMS-SEP-001	Kocaeli Stakeholder Engagement Plan
KİP-ESMS-HAZ-001	Kocaeli Hazardous Material Management (Monitoring) Plan
KİP-ESMS-WAM-001	Kocaeli Waste Management Plan
KİP-ESMS-WWM-001	Kocaeli Waste Water Management Plan
KİP-ESMS-AIR-001	Kocaeli Air Quality Management Plan
KİP-ESMS-NOM-001	Kocaeli Noise and Vibration Management Plan
KİP-ESMS-TRA-001	Kocaeli Traffic Management Plan (including measures for residents)
KİP-ESMS-ARC-001	Kocaeli Archaeological Chance Find Procedure
KİP-ESMS-CCM-001	Kocaeli Construction Camp Management and Monitoring Plan (including workers accommodation)
KİP-ESMS-EMP-001	Kocaeli Employment and Procurement Management Plan
KİP-ESMS-EPR-001	Kocaeli Emergency Preparedness and Response Plan
KİP-ESMS-SPL-001	Kocaeli Spill Response Plan
KİP-ESMS-GRM-001	Kocaeli Grievance Mechanism Procedure
KİP-ESMS-LST-001	Kocaeli Labour's Safety and Training Record Keeping Procedure
KİP-ESMS-LAI-001	Kocaeli Labour's Accident and Incident Record Keeping Procedure
KİP-ESMS-EIR-001	Kocaeli Employee Information Record Keeping Procedure
KİP-ESMS-PRK-001	Kocaeli Performance Record Keeping Procedure
KİP-ESMS-CHS-001	Kocaeli Community Health and Safety Plan

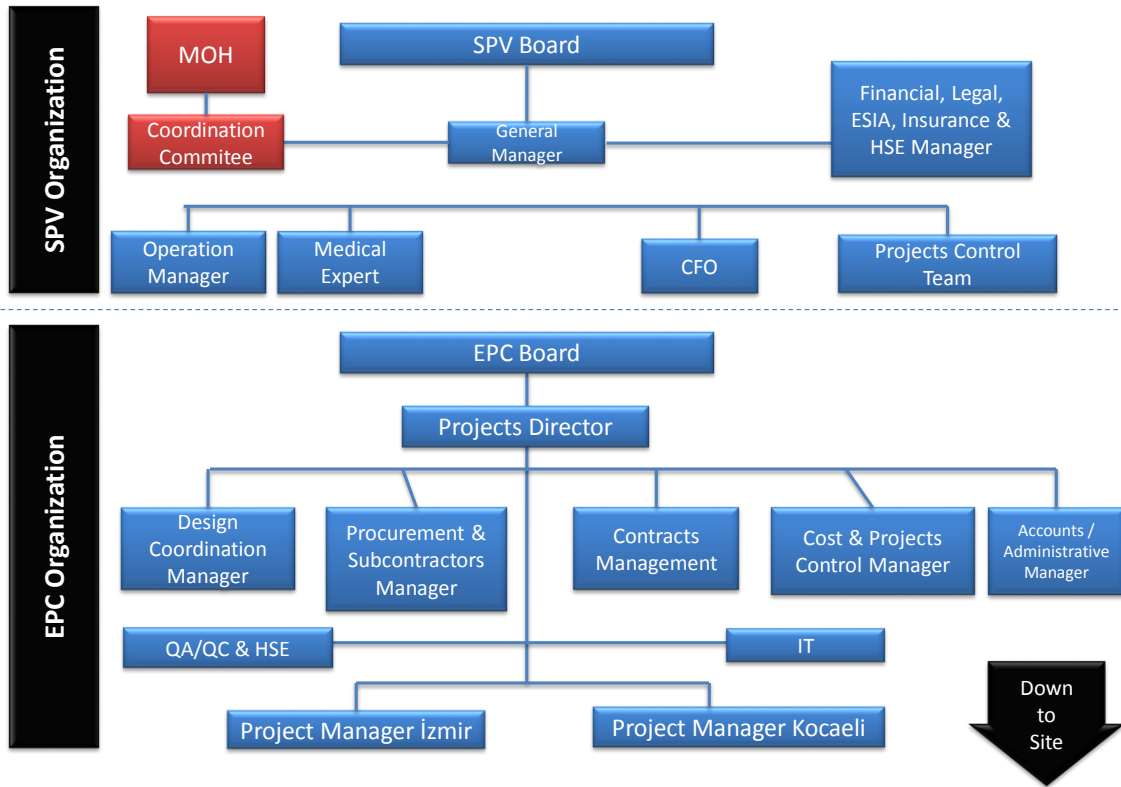
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APPENDIX 2

SPV&EPC ORGANIZATIONAL CHART and EPC (SITE) ORGANIZATIONAL CHART

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Organization Chart – construction period (SPV + EPC)



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ORGANIZATIONAL CHART – CONSTRUCTION (EPC SITE)

