



**Rovuma**  
**LNG**

**ENVIRONMENTAL AND SOCIAL  
REQUIREMENTS FOR CONTRACTORS**

**ROVUMA LNG PROJECT**

**MZLN-EL-RBENV-00-0001**

## REVISION MODIFICATION LOG

Revision	Section	Description
1	All	The E&S Requirements which refer to the EMP commitments have been updated in line with the updated 2019 EMPs.
1	All	The Stage 1 Alternatives Analysis has been transferred to Company scope.

## HOLD LIST

Revision	Section	Description

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## 1. ACRONYMS AND TERMS

Term	Definition
Affected Communities	Local communities directly affected by the Project.
Alternatives Analysis	Process for evaluating alternative options or choices which involves multi-disciplined input. Synonymous with option analysis. Alternatives analysis is the terminology used in IFC Performance Standard 1.
Aol	Area of Influence
Area of Influence	The Aol defines the boundaries of the Project and therefore those activities and components to which environmental and social management applies.
Associated Facilities	Third party facilities or activities not funded by the project, that would not have been constructed or expanded if the project did not exist and without which the project would not be viable.
BAT	Best Available Technology, which is the principle by which environmental impacts are minimized to as low as reasonably practicable, the demonstration of which is to be proportional to the nature and scale of the activity/impact,
CH	Critical Habitat
CHA	Critical Habitat Assessment
CIP	Contractor Implementation Plan
Company	ExxonMobil Mozambique Limitada
Contractor Implementation Plan	The document which will describe in detail how the Contractor proposes to implement the control measures in order to mitigate and manage identified E&S risks and impacts.
Control Measures	A subset of overall requirements comprising mitigation measures directed at controlling planned and unplanned events identified through environmental and social risk and impact evaluation processes.
EEA	eni East Africa
EDB	Environmental Design Basis
EIA	Environmental Impact Assessment
EMML	ExxonMobil Mozambique Limitada
EMP	Environmental Management Plan
EPC	Engineering, Procurement and Construction
EPCI	Engineering, Procurement, Construction and Installation
ERB	eni Rovuma Basin B.V.
ESMS	Environmental and Social Management System
E&S	Environmental and Social
FEED	Front End Engineering Design
GEF	Global Environment Facility
GIIP	Good International Industry Practice (GIIP), which is defined as the exercise of professional skill, diligence, prudence, and foresight that would reasonably be expected from skilled and experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally or regionally. The outcome of such exercise should be that the project employs the most appropriate technologies in the project-specific circumstances.



<b>Term</b>	<b>Definition</b>
GPM	Good Practice Measures
HAZID	Hazard Identification Workshop
HAZOP	Hazard and Operability Study
IAS	Invasive Alien Species
IFC	International Finance Corporation
IMO	International Maritime Organization
ITT	Invitation to Tender
IUCN	International Union for Conservation of Nature
KPI	Key Performance Indicator
LNG	Liquefied Natural Gas
MoC	Management of Change
MOF	Materials Offloading Facility
NEBS	Nearshore Environmental Baseline Survey
Project Base Case	Project base case represents the selected design or execution method that the project will follow. This is normally the result of analysis of alternative options and earlier Project stage.
Project Components	Constituent parts of the Project that are owned, operated, managed, shared or contracted by the Project.
PS6	IFC Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
Reasonably Practicable	Reasonably practicable is defined in accordance with the UK legal definition (Edwards v. National Coal Board [1949]).
Requirements	Company expectations of Contractor, including control measures and requirements to carry out a process
TCF	Trillion Cubic Feet
TSS	Total Suspended Solids
UNDP	United Nations Development Programme
ZoHI	Zone of High Impact
ZoMI	Zone of Moderate Impact

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## 2. PURPOSE AND SCOPE

This document describes the required management system processes and practices that will enable both Company and Contractor to manage and control both their own activities and those of their subcontractors and suppliers in a way that identifies, avoids where possible and practicable, minimises and controls risks and potential impacts on the environment, workers and “Affected Communities” (see Definitions). It is a subset of the Company’s overall Environmental and Social Management System (ESMS) and is supported by a number of topic specific annexes (Figure 1).

### 2.1. Objectives

The overall objective of this document and the accompanying topic-specific requirements contained in the Annexes is to set out the Environmental and Social (E&S) requirements that the Company and Contractor needs to develop and implement as part of the EPC works to complement the Company’s overall Environmental and Social Management System (ESMS) which, when implemented, will enable the Contractor’s activities to be in conformance with the IFC Performance Standards.

### 2.2. Scope

This document and the underpinning topic-specific requirements documents, cover the management of E&S issues associated with the design, procurement, construction and commissioning activities (as appropriate) carried out by the Company, the EPC Contractor or its sub-contractors in the onshore or nearshore environment within the projects defined “Area of Influence” (AoI) (see Definitions) The aspects and activities primarily falling within scope of this document are further illustrated in Figure 1 by the areas shaded in grey.


Whilst offshore / upstream is not considered in scope, there may be important interfaces which have the potential to impact onshore (e.g. transfer of offshore/upstream wastes onshore for disposal at onshore facilities). In this case, the offshore activity may result in an impact that is covered by these documents. Activities which fall primarily within the scope of the Company are not covered by this document but are described in the Company’s overall Environmental and Social Management Plan.

### 2.3. Linkage to Other Contractor Requirements

This document is an overarching document which is supported by a number of topic-specific annexes. It also needs to be read in conjunction with Section D (Scope of Work) and Section F (Coordination Procedure) to provide a holistic view of E&S requirements.

### 2.4. Background Context

The original Anadarko / Eni Environmental Impact Assessment (EIA), henceforth referred to as the EIA, was written to encompass Area 1 and Area 4 onshore and offshore and envisioned the coordinated development, construction and operation of the initial liquefaction facilities. Since then, the Area 1 and Area 4 Concessionaires have been authorized to each develop their own standalone non-straddling resources and initially up to 12 trillion cubic feet each of natural gas from the straddling natural gas reservoirs on an independent but coordinated basis. Under this arrangement EMLL is the project developer for onshore/nearshore for Area 4. Development and operation of some onshore facilities will be shared between the Anadarko and EMLL.

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Subsequently, a suite of Government Environmental Management Plans (EMPs) have been prepared (initially in 2017, and updated for significant design changes in 2019), and approved by the Regulator, which separate the areas as follows:

- Area 1 Exclusive Facilities
- Area 4 Exclusive Facilities
- LNG Marine Terminal
- Materials Offloading Facility (MOF)
- Area 1 and Area 4 Shared Facilities.

This overarching document and its supporting annexes include all EIA and Government EMP requirements, with the exception of the Area 1 Exclusive Facilities EMP which is outside the scope.

Because of the timing delay between EIA completion and the change in Project development concept, and the decision to pursue financing, a number of data and controls gaps have been identified which will need to be filled to enable the Contractor to develop and implement Contractor implementation Plans (CIPs).

These gaps vary by topic but generally consist of the gathering of more detailed baseline data and updating / completing a topic-based E&S risks and impacts evaluation. There are 3 process stages that topic-specific requirements documents need to cater for (Figure 2).

They are:

- Stage 1: Where the final design basis or execution strategy has not been determined (for that topic) and alternatives exist, a detailed analysis of alternatives (taking E&S factors into account) must be undertaken. This analysis must be based on an accurate characterisation of the local setting using up-to-date baseline data and an evaluation of the E&S risks and impacts related to each alternative. This stage will result in the definition of a Project base case for that topic.
- Stage 2: Where the Project base case for that topic has already been determined, additional baseline information<sup>1</sup> may be required to inform an up-to-date / site specific E&S risks and impacts evaluation, which may result in the addition or refinement of control measures.
- Stage 3: Where the Project base case has been determined and the EIA and baseline data sets are sufficient, the CIP can be developed and other implementation planning activities can occur based on the proposed control measures. This stage may involve a refinement of the control measures in order to improve implementation effectiveness.

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<sup>1</sup> In general, Company is responsible for obtaining baseline data, which will be passed to the Contractor as relevant and appropriate. However, this does not preclude the Contractor from obtaining additional, more detailed baseline data as deemed to be required by the Contractor to successfully complete the E&S requirements.



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In defining the requirements for work yet to be completed (either by Company or Contractor) the following general principles will be followed:

- A decision-making process informed by up-to-date and relevant field data
- A design and execution strategy developed in recognition of the need to avoid E&S risks and impacts, and where avoidance is not possible, reduce and remedy to the extent practicable, followed by offset and compensate
- The use of an alternatives analysis process in the development of preferred options which incorporates E&S considerations
- A sufficient understanding of design / execution measures to enable control measures to be defined and implemented
- Evaluation of E&S risks and impacts and the development of new / revised control measures, as appropriate, informed by up-to-date and relevant field data
- Data integration into a Project GIS
- Use of an approach that demonstrates compliance with national legislation, licensing conditions, EM corporate requirements and the IFC Performance Standards on Environmental and Social Sustainability (2012) and associated Guidance Notes.

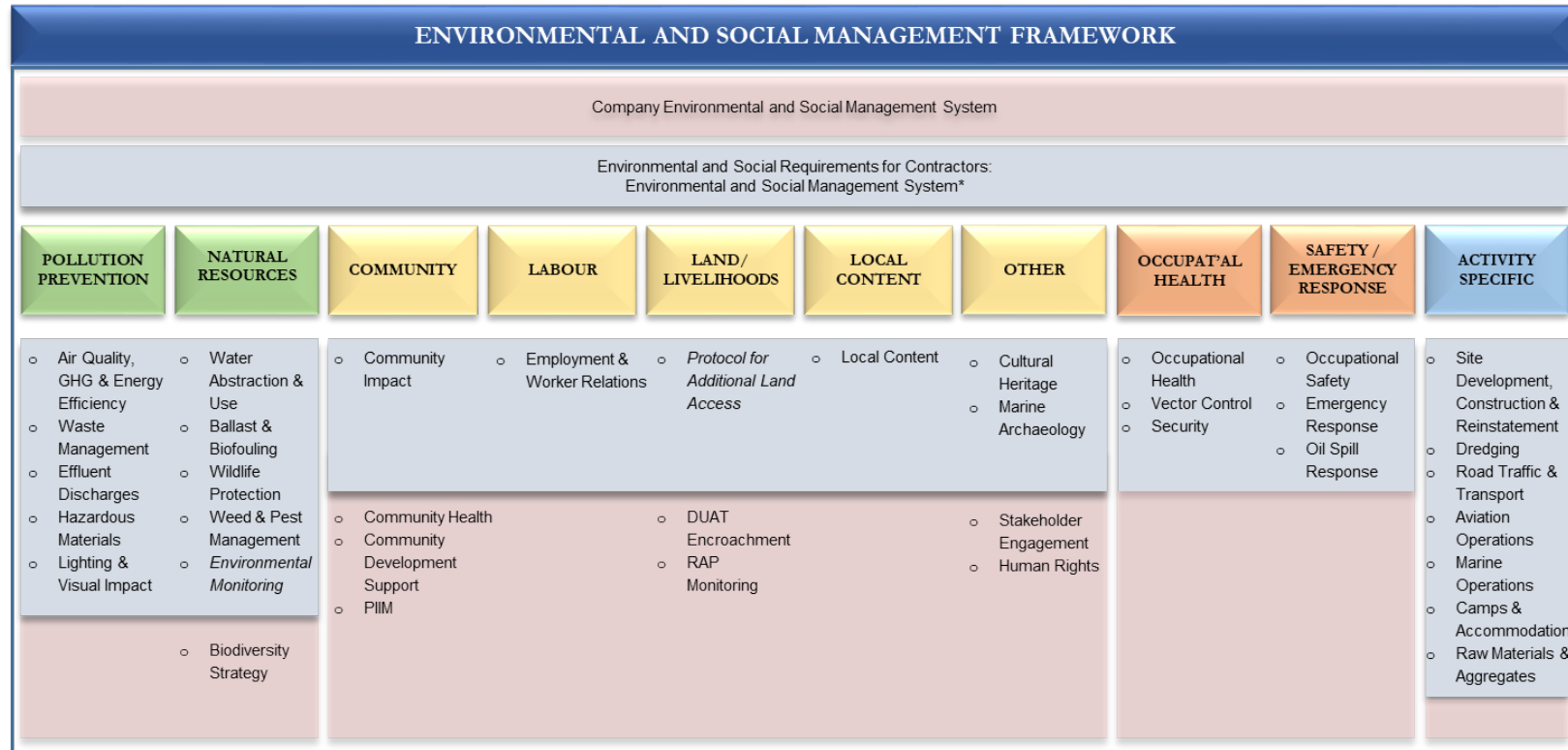
The three stages are discussed further in each topic-specific annex, as appropriate to each topic. Company is generally responsible for the Stage 1 Alternatives Analysis based on the design and execution basis resulting from Optimization phase. Contractor may need to provide Company with additional input during EPC phase to further refine or update the Alternatives Analysis or assist Company with replying to queries from the Lender's Independent Environmental and Social Consultants. Contractor is generally responsible for the Stage 2 Base Case Definition and the Stage 3 CIPs.

## **2.5. Implications of Financing**

The Company will be applying for funding from Lenders. As a result, this project is being developed in accordance with IFC Performance Standards on Environmental and Social Sustainability (2012).

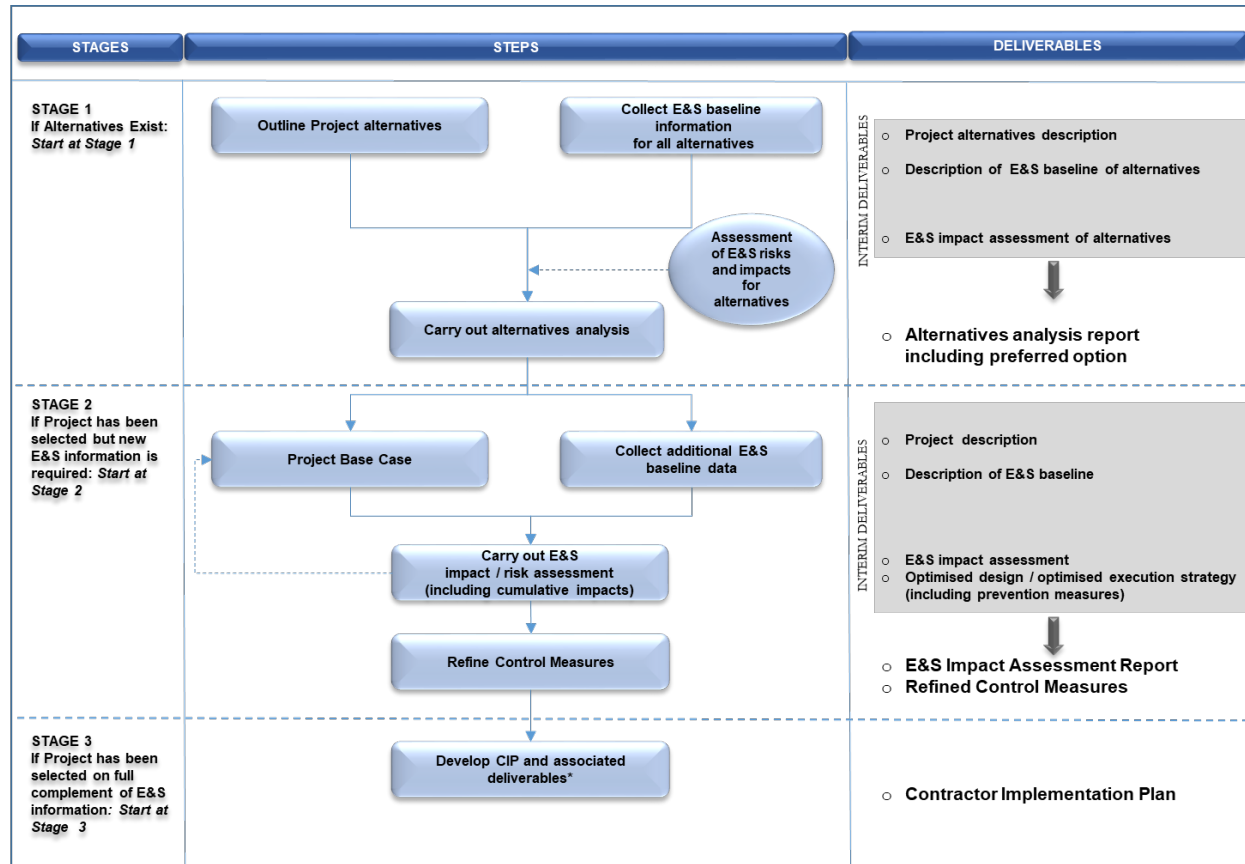
The Lenders will engage resources to carry out due diligence reviews of Project E&S assessments and documents that stipulate Contractor requirements prior to financing and will monitor the implementation of these requirements (anticipated to be on a quarterly basis) post financing. The Project is also required to report progress, environmental and social incidents and as well as significant changes.

**Figure 1: Environmental and Social Management Framework**



\* this document

**Figure 2: Process Stages and Deliverables for Topic Specific Requirements**



\* INCLUDING REFINEMENT OF CONTROL MEASURES AS REQUIRED

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### **3. CONTRACTOR ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM REQUIREMENTS**

#### **3.1. Contractor Implementation Plans**

The Contractor shall produce CIPs which outline how the requirements of this document and the topic-specific annexes will be implemented.

#### **3.2. Regulatory Requirements**

The Contractor shall comply with all regulatory requirements, including applicable regulations and conditions within Company and Contractor permits and approvals, and demonstrate this by producing a Regulatory Compliance Plan. The Company may assist the Contractor by providing information on regulations, however, the Contractor shall be responsible for ensuring that all their activities are carried out in compliance with local legislation.

#### **3.3. Roles and Responsibilities**

The Contractor shall provide the Company with an organisation chart with role descriptions. This documentation shall make clear who is responsible for the implementation of the Contractor's E&S requirements as defined in this document and its associated annexes.

The Contractor shall employ qualified technical experts with sufficient expertise and previous project experience in order to develop and support the implementation of plans and procedures which demonstrate conformance to the E&S requirements outlined in this and the underpinning topic-specific requirements document.

The Company shall provide the Contractor with information which explains the Company's roles and responsibilities with respect to E&S management.

It should be noted that the Company will be undertaking any cumulative impact assessments.

#### **3.4. Project Components and Associated Facilities**

The Contractor shall describe associated facilities according to the criteria specified in the Company Environmental and Social Requirements for Contractors: Associated Facilities and manage them accordingly.

#### **3.5. Baseline Data**

Existing baseline data will be provided to the Contractor by the Company, where relevant to the Contractor's scope of work. Any additional baseline data collected will be provided, as available. This does not preclude the Contractor from obtaining additional, more detailed baseline data as deemed necessary by the Contractor to successfully complete the E&S requirements.

#### **3.6. Environmental and Social Risks and Impacts Evaluation**

The topic-specific requirements documents which underpin this document require E&S risks and impacts evaluations to be carried out in those areas where they do not exist, or need updating. In the case where the Contractor is responsible for the E&S risks and impacts

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evaluation the Contractor shall provide the methodology being employed to the Company prior to carrying out the evaluations.

### **3.7. Controls**

Topic-specific requirements documents contain control measures tables. The controls within these tables shall be implemented throughout the duration of the works. The control measures within these tables are divided into three different categories: overarching requirements, design controls and execution controls.

#### **3.7.1. Overarching Requirements**

Overarching requirements are high level requirements which contribute to strategic decision making, which need to be considered. These are, in general, EIA and Government EMP requirements, that have been supplemented by good practice design and control measures where practicable and appropriate.

#### **3.7.2. Design Controls**

The topic-specific requirements which underpin this document define the engineering design measures required in order to avoid or minimise E&S risks and impacts (in the execution and operations stage).

Design control measures shall be identified and incorporated into the appropriate design document for implementation.

#### **3.7.3. Execution Controls**

The topic-specific requirements which underpin this document define the execution control measures required in order to avoid or minimise E&S risks and impacts.

Execution control measures shall be identified and incorporated into the appropriate procedures document for implementation.

### **3.8. Data Management**


Contractor shall propose GIS data management procedures for Company approval. GIS data management procedures shall describe how E&S aspects are integrated with the Project GIS database.

### **3.9. Training**

The Contractor shall produce an overall training plan which defines the Project E&S training requirements, including who needs training, what training is required, when the training will be provided and by whom and how the training will be recorded. All training and training records shall be documented and auditable. The Contractor shall state how recipients of training will be assessed to ensure that the information has been understood and assimilated.

The Contractor shall not use on-the-job / limited formal training of inexperienced personnel as a substitute for situations where qualified experts are required (See Section 3.3).

The Contractor shall include E&S awareness training in the Project Induction, Worker Induction, and Camp Induction (including Code of Conduct), as well as ensure E&S awareness is conveyed through additional measures including, but not limited to, pre-Job Tool Box Talks,

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informational posters / noticeboards and project updates / newsletters. This list is not expected to be exhaustive and the Contractor may choose to add or refine the list as appropriate in consultation with the Company.

### **3.10. Subcontractors and Vendors**

Contractor is to ensure all subcontractors and vendors are aware of the E&S requirements applicable to them, and to ensure these requirements are included in their scopes of work, design or execution procedures, and/or implementation plans. This includes incorporating relevant E&S requirements into procurement activities and reviews.

### **3.11. Incident Management**

The Contractor shall report incidents in line with the Company specifications detailed in the Coordination Procedure, and the SSH&E Incident Reporting Matrix.

### **3.12. Monitoring and Reporting**

The topic-specific requirements which underpin this document define where topic-specific monitoring and reporting is required. This is to be read in conjunction with the Company Minimum Environmental and Regulatory Monitoring and Reporting Requirements, and the requirements specified in the Coordination Procedure, to enable a holistic view of the Project's monitoring requirements.

#### **3.12.1. Monitoring and Adaptive Management**

The topic-specific requirements which underpin this document, as well as the the Minimum Environmental and Regulatory Monitoring and Reporting Requirements, define where topic-specific monitoring is required.

The Contractor shall prepare a monitoring plan for Company approval which clearly describes the type of monitoring to be carried out, the monitoring method, analytical method, the frequency, responsibility for monitoring, acceptance criteria; Contractor may issue this as a stand-alone plan, or embed the monitoring requirements into each topic-specific CIP.

The Contractor will be required to implement field-based environmental monitoring (sampling and analysis) to monitor the implementation and, as applicable, the effectiveness of the control measures, assess results and demonstrate compliance with legal and other requirements.

Where monitoring indicates that the control measure is not working effectively, the Contractor will notify the Company and propose corrective measures to be taken. Where monitoring indicates that controls are working effectively, the Contractor may propose to decrease monitoring frequency subject to approval by the Company.

The Company reserves the right to review monitoring techniques, methodologies and both raw and processed monitoring data for monitoring parameters which are fall under the Contractor's responsibility, as well as carry out check review monitoring.

#### **3.12.2. Reporting**

The Contractor shall set up reporting systems to the Company in line with the Project's Minimum Environmental and Regulatory Monitoring and Reporting Requirements and the requirements of the Coordination Procedure. Reporting covers routine (progress,

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environmental metric data and Key Performance Indicators (KPIs) and non-routine (incident and near-miss) reporting, key changes, and ensures efficient dovetailing into the Company's reporting systems which are set up for corporate reporting purposes and for reporting to Lenders. A set of topic-specific KPI's will be proposed by the Company as part of the Minimum Environmental and Regulatory Monitoring and Reporting Requirements. The Company and Contractor shall jointly refine the KPI list after contract award.

### **3.13. Assessment, Verification, Non-conformance and Corrective Actions**

The Contractor shall carry out internal assessments to assess the implementation of the E&S requirements set out in this ESMS and the associated annexes. The methodology of the assessments shall be provided to Company for approval, including provision of underpinning procedures. The Contractor may include the assessment topics and the frequency of assessments proposed either as part of the Contractor's overarching ESMS plan, the topic-specific CIPs, or as a separate assessment programme. This should include requirements on the qualification of assessors, corrective actions and a commitment to expediting closure of actions in reasonable timeframes.

In addition to the Contractor's assessment programme, the Company reserves the right to carry out assessments and investigations either in concert with or independent of the Contractor's assessments. These assessments may vary in level between project level assessments and corporate level assessments.

The Company will carry out a formal assessment of the design against design documents at least once prior to the commissioning of the project.

Due to financing, the Lender's Independent Environmental and Social Consultants will be monitoring the Project's performance on a regular basis (anticipated to be quarterly). The Contractor shall assist the Company in the Company's or Lender's monitoring process by being available to answer questions, respond to queries, providing supporting information, and assist the Company in reviewing and clarifying Lender monitoring reports and closing all actions, as required.

### **3.14. Stakeholder Engagement**

Whilst there is recognition that the Contractor will need to engage with stakeholders, stakeholder engagement is the responsibility of the Company and the Company owns the stakeholder relationships and the overall Stakeholder Engagement (implementation) Plan. The Company will hold a master list of stakeholders and maintain the records of stakeholder engagement.

The Company will steward all community assisted grievances drawing on Contractor and/or other specialists as required to achieve closure of grievances. Grievances will be managed according to the Company's grievance procedure which the company shall provide the Contractor as part of an ITT update.

The Contractor shall identify all stakeholders that need to be engaged with in order to execute its work scope and activities. The Contractor shall keep the Company informed of all planned engagements prior to the engagement taking place and give the Company the option to participate. The Contractor will record the minutes of any stakeholder engagements using Company-provided templates and provide this record to the Company.

The Contractor may be called on to assist the Company in stakeholder identification, engagement and the provision of technical / analytical information in support of engagements.

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### **3.15. Management of Change**

The Contractor shall follow the requirements specified in Section 15 of the Coordination Procedure for Management of Change (MoC).

Changes during EPC phase from the Stage 1 base case definition (which are based on the design and execution basis resulting from Optimization phase) that impact the findings of the Alternatives Analysis will trigger the MoC process.

### **3.16. Management Review**

The Company shall carry out Management Review jointly with Contractor at strategic points between contract award and contract end and will integrate these with overall execution control points where it makes sense to do so. The Management Review programme shall be documented.



#### 4. DELIVERABLES

Table 4-1 outlines the deliverables associated with this overarching document which are related to coordination between the Company and Contractor. This list does not contain deliverables which are in the domain of the Company only, and which may be required by the Lenders. Deliverables which are the Contractor's responsibility must be approved by the Company prior to their implementation.

##### 4.1. Company Deliverables

**Table 4-1: Company Deliverables**

Section Reference	Deliverable	Reference
2.4	Environmental and Social Requirements for Contractors: Associated Facilities	MZLN-EL-RPPLN-00-0010
2.13	Minimum Environmental and Regulatory Monitoring and Reporting Requirements	MZLN-EL-RPENV-00-0001
2.4	Alternatives Analysis Report	MZLN-EL-RRRPT-00-0029

##### 4.2. Contractor Deliverables

The Contractor will be required to provide an overarching CIP which demonstrates the ESMS requirements detailed in this report are understood and processes are in place to ensure compliance with these E&S requirements.

Furthermore, each of the topic-specific Annexes require specific deliverables, detailed in each Annex, which will need to be prepared in line with the milestones specified in each Annex.

**Table 4-2: Contractor Deliverables**

Section Reference	Deliverable	Issuance Stage
2.1	CIP E&S Management System Overarching Plan	At Tender Submission
2.2	Topic-based CIPs	60 days prior to start of construction in the field or start of construction at a new work site (see separate deliverables list in Section 3 of each Annex for additional information)
2.2	Regulatory Compliance Plan	At Tender Submission