



**Rovuma**  
**LNG**

**ENVIRONMENTAL AND SOCIAL  
MANAGEMENT PLAN**

**ROVUMA LNG PROJECT**

**MZLN-EL-RPPLN-00-0016**





## **TABLE OF CONTENTS**

<b>1. INTRODUCTION</b>	<b>6</b>
1.1. Context	7
1.2. Joint Venture Structure	9
1.3. MRV Dual Operating Model	9
1.4. Project Overview	9
1.5. Objectives	13
1.6. Scope	13
<b>2. ACRONYMS AND TERMS</b>	<b>19</b>
<b>3. LEGAL AND OTHER REQUIREMENTS</b>	<b>23</b>
3.1. National Requirements	23
3.2. International Requirements	23
3.3. Company Policy and Management	24
3.4. Operations Integrity Management System (OIMS)	26
3.5. Lender Group Requirements	27
<b>4. HARMONIZATION</b>	<b>29</b>
<b>5. ENVIRONMENTAL AND SOCIAL RISK AND IMPACT ASSESSMENT, EVALUATION AND MANAGEMENT</b>	<b>30</b>
5.1. Environmental Impact Assessment	30
5.2. Environmental Management Plans	30
5.3. Biodiversity Strategy and Action Plan	31
5.4. Resettlement Plan	31
5.5. Project Gap Closure Strategy	32
5.6. Environmental and Social Requirements for Contractors	32
5.7. Pre-Construction Survey	33
5.8. Verification, Monitoring, Assessment and Evaluation	33
<b>6. ORGANISATIONAL ROLES AND RESPONSIBILITIES</b>	<b>35</b>
6.1. Company	35
6.2. Contractors	37
<b>7. COMPETENCY, TRAINING, AND AWARENESS RAISING</b>	<b>38</b>
7.1. Competency Levels	38
7.2. Training and Awareness	38
<b>8. INCIDENT MANAGEMENT</b>	<b>39</b>
8.1. Incident Classification	39
8.2. Incident Notification	41
<b>9. EMERGENCY PREPAREDNESS AND RESPONSE</b>	<b>42</b>
<b>10. MANAGEMENT OF CHANGE</b>	<b>44</b>
10.1. Classification of E&S Related Changes	44

10.2.	Environmental and Social Management Plan Management of Change Interface .....	45
10.3.	Management of Change: External Reporting .....	46
<b>11.</b>	<b>REPORTING AND NOTIFICATION .....</b>	<b>48</b>
11.1.	Internal Reporting .....	48
11.2.	External Reporting .....	48
<b>12.</b>	<b>ASSESSMENT AND REVIEW .....</b>	<b>50</b>
12.1.	Non-Conformances.....	50
12.2.	Non-Conformance Action Tracking .....	51
12.3.	Performance Indicators.....	52
<b>Appendices .....</b>		<b>53</b>
Appendix A	Project E&S Organisations – Generic Job Descriptions.....	54
Appendix B	Indicative Performance Indicators .....	57
Appendix C	Minimum Environmental and Social Training Requirements.....	60

### LIST OF FIGURES

<b>Figure 1-1:</b>	<b>Environmental and Social Management System Document Framework .....</b>	<b>8</b>
<b>Figure 1-2:</b>	<b>Offshore Project Layout .....</b>	<b>11</b>
<b>Figure 1-3:</b>	<b>Onshore and Nearshore Site Layout .....</b>	<b>12</b>
<b>Figure 3-1:</b>	<b>Operation Integrity Management System Components .....</b>	<b>27</b>
<b>Figure 6-1:</b>	<b>Midstream Execution Organogram (Indicative) .....</b>	<b>36</b>
<b>Figure 9-1:</b>	<b>Emergency Response Model .....</b>	<b>42</b>
<b>Figure 10-1:</b>	<b>Lender Group Management of Change Process.....</b>	<b>47</b>

### LIST OF TABLES

<b>Table 4-1:</b>	<b>Key Areas Where Harmonization Has Occurred or Is Planned .....</b>	<b>29</b>
<b>Table 7-1:</b>	<b>Indicative Training and Awareness Activities .....</b>	<b>38</b>
<b>Table 10-1:</b>	<b>Management of Change Classification of E&amp;S-Related Changes .....</b>	<b>44</b>
<b>Table 10-2:</b>	<b>Management of Change Lender Reporting.....</b>	<b>46</b>
<b>Table 12-1:</b>	<b>Levels of Non-Conformance .....</b>	<b>50</b>

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		Page 5 of 60

### LIST OF REFERENCES

Environmental Management Plan (EMP) for the Liquefied Natural Gas Project in Cabo Delgado: Area 4 Exclusive Facilities
Environmental Management Plan (EMP) for the Liquefied Natural Gas Project in Cabo Delgado: Marine Terminals
Environmental Management Plan (EMP) for the Liquefied Natural Gas Project in Cabo Delgado: Materials Offloading Facility
Environmental Management Plan (EMP) for the Liquefied Natural Gas Project in Cabo Delgado: Area 1 and Area 4 Shared Facilities
Environmental Resources Management and Impacto, 2014. <i>Environmental Assessment (EIA) Report for the Liquefied Natural Gas Project in Cabo Delgado</i> prepared for AMA1 and EEA
IDP (2018a) Upstream Gap Assessment Report (MRV_T10_0004, Rev 3)
IDP (2018b) Midstream Stream Gap Assessment and Gap Closure Plan (MRV_T08_0004 Rev 1.2)
IDP (2018c) Upstream Gap Closure Report (MRV_T10_0006, Rev 3)
International Finance Corporation. Environmental, Health and Safety General Guidelines
International Finance Corporation. Environmental, Health and Safety Guidelines for Liquefied Natural Gas (LNG) Facilities
International Finance Corporation Performance Standard (PS) 1. Assessment and Management of Social and Environmental Risks and Impacts
International Finance Corporation Performance Standard (PS) 2: Labor and Working Conditions
International Finance Corporation Performance Standard (PS) 3. Resource Efficiency and Pollution Prevention
International Finance Corporation Performance Standard (PS) 4: Community Health, Safety and Security
International Finance Corporation Performance Standard (PS) 6. Biodiversity Conservation and Sustainable Management of Living Natural Resources
International Finance Corporation Performance Standard (PS) 8: Cultural Heritage Oil & Gas Producers (OGP) Environment Committee
International Association of Oil & Gas Producers (OGP) Environment Committee
IPIECA; global oil and gas industry association for environmental and social issues
International Finance Corporation (IFC) Environmental and Social Performance Standards (PS) and Guidance Notes, 2012. Particularly Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
Mozambique Gas Development Project, Final Resettlement Plan, 2016, Anadarko Moçambique Área 1 Limitada, Volumes 1-5

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		Page 6 of 60

## 1. INTRODUCTION

This Environmental and Social Management Plan (ESMP) has been developed for the construction phase of the ExxonMobil Moçambique Limitada (EMML) component of the Rovuma LNG project. The EMML component is also referred to as the Midstream component (and henceforth referred to as the 'Project') and comprises an onshore and nearshore portion of the Afungi Peninsula, Cabo Delgado Province, designated by the Mozambican National Land Authority for the development of the Afungi LNG Park.

The ESMP sits within a broader Environmental and Social Management Framework, as illustrated in Figure 1-1. This Framework comprises two overarching, system-level documents (Company Environmental and Social Management Plan and Environmental and Social Requirements for Contractors) and a set of theme and activity-specific documents that collectively describe how the Project will manage its environmental and social (E&S) risks.

The theme and activity-specific documents fall into four categories, based on the allocation of responsibility for implementing defined actions between Company and Contractor, recognizing that many theme and activity-specific actions require a mixture of both. The four categories are as follows:

- Type 1: Company Management Plans, developed and implemented by EMML
- Type 2: Documents developed by EMML and containing both EMML and Contractor requirements
- Type 3: Documents developed by EMML and containing requirements to be implemented solely by the Contractor
- Type 4: Contractor Implementation Plans, developed and implemented by the Contractor.

Implementation of this ESMP and associated plans and requirements documents (hereinafter referred to as the 'ESMP') will be phased, commencing with Company activities (Type 1 documents) and expanding to include Contractor activities as they are engaged and mobilized.

The structure of the ESMP has been designed to incorporate design refinements, new baseline information, the results of updated assessments of risks and impacts, as well as the outcome of monitoring and evaluation programs.

Individual, topic specific documents which are encompassed by this ESMP are:

- MZLN-EL-RPPLN-00-0016 Rev 0– Environmental and Social Management Plan (ESMP)
- MZLN-EL-RAZZZ-00-0001 Rev 0 – Requirements for Camps and Accommodation
- MZLN-EL-RBENV-00-0001 Rev 1 – Environmental and Social Requirements for Contractor (with Annexes)
  - MZLN-EL-RBENV-00-0001 Rev 1 Annex 1 Air Quality, Greenhouse Gases and Energy Efficiency
  - MZLN-EL-RBENV-00-0001 Rev 1 Annex 2 Effluent Discharges
  - MZLN-EL-RBENV-00-0001 Rev 1 Annex 3 Waste Management
  - MZLN-EL-RBENV-00-0001 Rev 1 Annex 4 Hazardous Materials
  - MZLN-EL-RBENV-00-0001 Rev 1 Annex 5 Site Development, Construction and Reinstatement
  - MZLN-EL-RBENV-00-0001 Rev 1 Annex 6 Road Traffic and Transport

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		Page 7 of 60

- MZLN-EL-RBENV-00-0001 Rev 1 Annex 7 Marine Operations
- MZLN-EL-RBENV-00-0001 Rev 1 Annex 8 Water Use and Abstraction
- MZLN-EL-RBENV-00-0001 Rev 1 Annex 9 Raw Materials and Aggregates
- MZLN-EL-RBENV-00-0001 Rev 1 Annex 10 Dredging
- MZLN-EL-RBENV-00-0001 Rev 1 Annex 11 Lighting and Visual Impact
- MZLN-EL-RBENV-00-0001 Rev 1 Annex 12 Ballast Water and Biofouling
- MZLN-EL-RBENV-00-0001 Rev 1 Annex 13 Weed and Pest Management
- MZLN-EL-RBENV-00-0001 Rev 1 Annex 14 Wildlife Protection
- MZLN-EL-RPLCP-00-0001 Rev 0 – Local Content Management Plan
- MZLN-EL-RPPLN-00-0005 Rev 0 – Community Development Support Plan
- MZLN-EL-RPPLN-00-0007 Rev 0 – Cultural Heritage Management Plan
- MZLN-EL-RPPLN-00-0008 Rev 0 – Supplemental Land Access Management Plan
- MZLN-EL-RPPLN-00-0009 Rev 0 – Project Induced In-Migration Management Plan
- MZLN-EL-RPPLN-00-0013 Rev 0 – DUAT Encroachment Management Plan
- MZLN-EL-RPPLN-00-0014 Rev 0 – Employment and Worker Relations Plan
- MZLN-EL-RPSEP-00-0001 Rev 0 – Stakeholder Engagement Management Plan
- MZLN-EL-RPPLN-00-0006 Rev 0 – Community Health Safety and Security Management Plan
- MZLN-EL-RPPLN-00-0004 – Biodiversity Strategy
- MZLN-EL-RPPLN-00-0011 – Biodiversity Action Plan

A separate ESMP will be developed for the Operations phase.

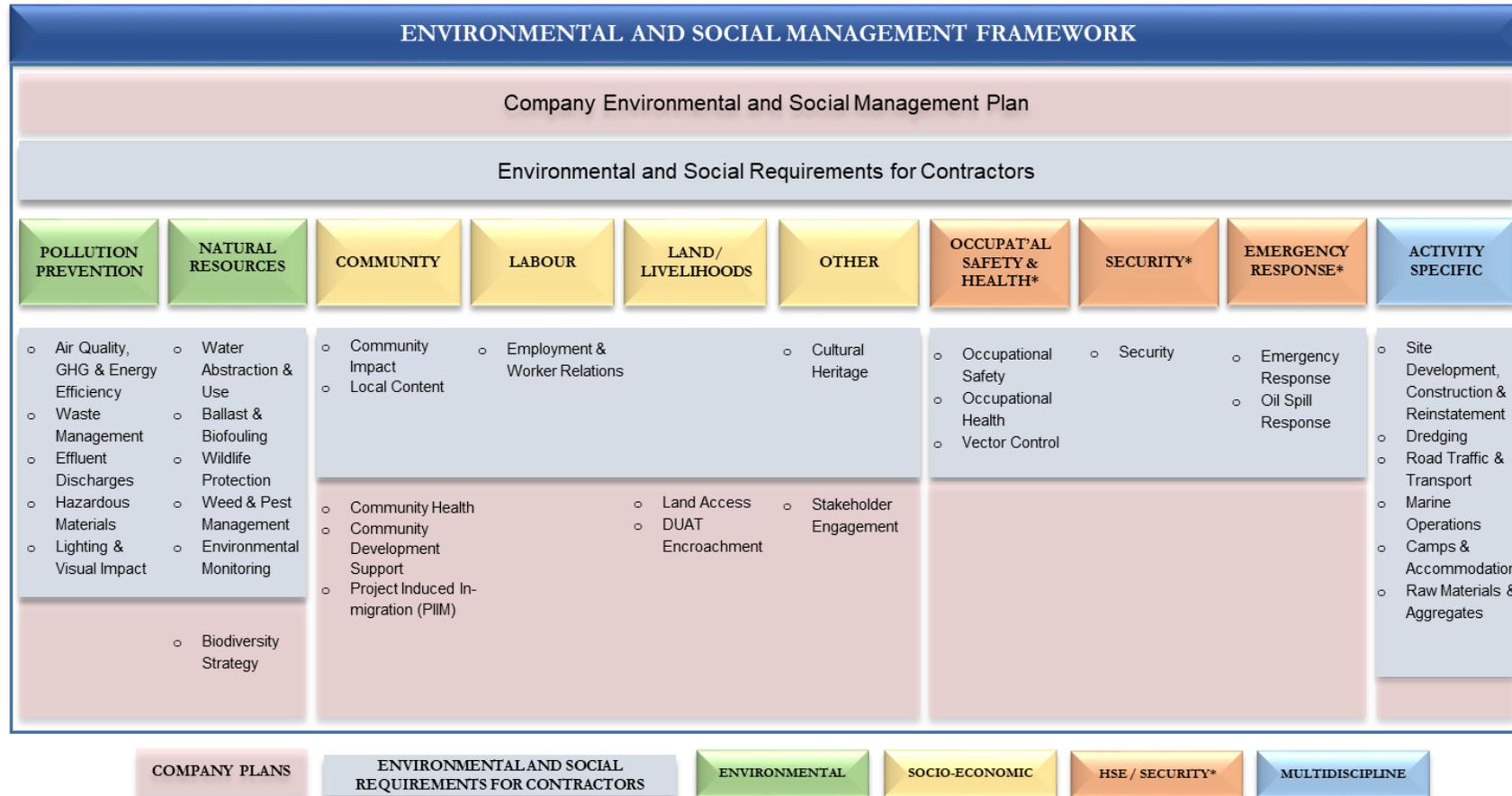
### 1.1. Context

The Area 4 Exploration and Production Concession, operated by Mozambique Rovuma Venture S.p.A. ("MRV" or the "Operator"), and the Area 1 Exploration and Production Concession, operated by Anadarko Moçambique Área 1 Limitada (AMA1) are located in the Rovuma Basin of Northern Mozambique and comprise multiple hydrocarbon reservoirs, some of which straddle the boundary between the two Areas (the "Straddling Reservoirs").

The Area 4 Block, having an initial acreage of 17,646 km<sup>2</sup>, is located in the deep waters of the Rovuma Basin (from 1500 to 2600 m) and was awarded in December 2006 to Eni East Africa S.p.A. (EEA) as Operator, and Empresa Nacional de Hidrocarbonetos, E.P. ("ENH"). In December 2017, ExxonMobil became a shareholder in EEA and, with the Government's approval, the operatorship of Area 4 was delegated to Eni and ExxonMobil as dual operators. Eni, through a dedicated affiliate (Eni Rovuma Basin B.V. or "ERB"), remains responsible for conducting the upstream Petroleum Operations related to Area 4 and ExxonMobil, through a dedicated affiliate (ExxonMobil Moçambique Limitada S.A. or "EMML") is responsible for conducting the midstream Petroleum Operations related to Area 4.



**Figure 1-1: Environmental and Social Management System Document Framework**



• Specifications for H&S, Security and Emergency Response are covered in the main body of the EPC Contract Form Update rather than as separate documents

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		Page 9 of 60

## 1.2. Joint Venture Structure

MRV, ENH, Galp, and Kogas (together the "Area 4 Concessionaire") and the Government of the Republic of Mozambique ("GoM") are parties to the Area 4 EPCC (as supplemented by the Coral South Supplemental Agreement dated 1 June 2017 and the Designated Operator Supplemental Agreement dated 7 November 2017, the "Area 4 EPCC"). Each of MRV, ENH, Galp and Kogas are parties to the Area 4 Joint Operating Agreement (as supplemented and novated, the "Area 4 JOA"). MRV is the Area 4 Operator under the Area 4 EPCC and the Area 4 JOA.

MRV holds a 70% participating interest under the Area 4 EPCC, with each of ENH, Galp and Kogas holding a 10% participation interest.

MRV is a joint company incorporated in Italy and is a Società per Azioni (stock company). MRV shareholders are: Eni S.p.A., a company existing under the laws of Italy, with a shareholding of ~35.7% ("Eni"); ExxonMobil Development Africa B.V., a company existing under the laws of The Netherlands, having a shareholding of ~35.7% ("EMDA"); and CNODC Dutch Cooperatief U.A., a company existing under the laws of The Netherlands, holding the remaining ~28.6% ("CNODC"). Each of Eni and EMDA holds a 25% indirect participating interest in the Area 4 EPCC and CNODC holds a 20% indirect participating interest in the Area 4 EPCC. Pursuant to their direct and indirect participating interests, Eni, EMDA, CNODC, Galp, Kogas and ENH are, together, the "Area 4 Parties".

## 1.3. MRV Dual Operating Model

The development of the Area 4 concession will be conducted under a dual operating model with the Midstream elements of the Project (Liquefaction and related facilities) being developed by EMMML whilst the Upstream elements of the Project will be developed by ERB.

The Operations Management Systems (the "OMS") for the Midstream Operator and Offshore Operator are the general framework for managing and controlling LNG Operations. They are comprehensive systems that integrate and complement other management systems. It provides the framework to achieve safe, sustainable, reliable and environmentally friendly operations. The Operation Management Systems help to manage every element of operations from basic compliance to excellence in performance.

The OMS will comply with the Mozambican Law, all statutory requirements and will set the minimum mandatory requirements for performance. Additionally, it will incorporate lessons learned from the oil & gas industry, Area 4 Parties and similar projects.

## 1.4. Project Overview

Area 4 is initially proposing the construction of two onshore LNG liquefaction trains with a nameplate capacity of 7.6 MTPA each.

The Area 4 LNG facility will receive raw natural gas and associated liquids via three 22" production pipelines. This raw gas will undergo separation and then pre-treatment to remove carbon dioxide, heavy hydrocarbons, water, and mercury traces, if any. The treated gas will then be routed to the liquefaction unit where it will undergo multiple stages of cooling, with each sequential stage resulting in the gas stream being cooled and partially liquefied at the lower temperatures provided by the refrigeration cycle. The product from the final cooling stage will be higher pressure LNG, which will then be transferred, after pressure reduction, to LNG storage tanks prior to export.

Two LNG storage tanks of approximately 200,000 m<sup>3</sup> capacity each are envisaged for the initial two LNG trains. Stabilized condensate will be stored in dedicated condensate storage tanks. Preliminary planning is for two 45,000 m<sup>3</sup> condensate storage tanks to support

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		Page 10 of 60

production from the two trains. The loading jetty and berths will allow the safe transfer of LNG and condensate from the tanks to the LNG and condensate carriers.

In addition, within the Inlet facilities, a service line system will connect two 10" service lines from subsea to support pre-commissioning, commissioning and start-up phases of the LNG plant. The system is capable also of supporting several subsea operations (pigging, hydrates remediation, gas recirculation, depressurization, etc.).

In parallel to the development of the dedicated Area 4 facilities described above, the Area 1 and Area 4 Concessionaires will jointly design, construct and use a number of onshore facilities in the Afungi LNG Park (e.g. airport, roads, fences, etc.) and nearshore facilities, the most significant of which are the LNG Marine Terminal and Materials Offloading Facility (MOF).

The LNG Marine Terminal facilities and associated infrastructure will consist of a common jetty extending from the Afungi LNG Park to the loading berths offshore and will include associated mooring structures, loading facilities, navigation channel, and navigation aids. The design basis for the LNG jetty currently includes 5 berths (2 for Area 1, 2 for Area 4, and 1 multi-product LNG/condensate) for the current (2 trains each for Area 1 and Area 4) and subsequent phases. The design basis calls for independent components to allow for fully independent operations of Area 1 and Area 4 LNG berths, at least initially, with provisions to consider a sharing model in future phases. The LNG berths will be designed to accommodate LNG carriers with storage capacities ranging from 125,000 m<sup>3</sup> up to 266,000 m<sup>3</sup>. The condensate berth will be designed to accommodate tankers from 35,000 to 80,000 Dead Weight Tonnage.

A safety maritime exclusion zone will be established around the nearshore facilities during construction. Once operational, the exclusion zone will be established around the Support Harbour and Products Export Jetty. No transport vessels or fishing will be allowed within the safety zones.

The MOF will include a Preliminary Pioneer Dock and Service Harbour and together with the Export Jetty, will serve as the central hub for the development of all aspects of the Project, from the construction of the facilities to support the export of LNG and condensates to the global market.

During the construction phase of the Project, the MOF including Service Harbour will be developed to accommodate the import of construction materials for Area 4 and Area 1. The MOF will also support the import of construction materials during future developments.

The MOF including Service Harbour will be located adjacent to the proposed LNG facility and will be designed to accommodate vessel mooring, materials, and fuel offloading, fueling of service fleet, as well as routine vessel maintenance.

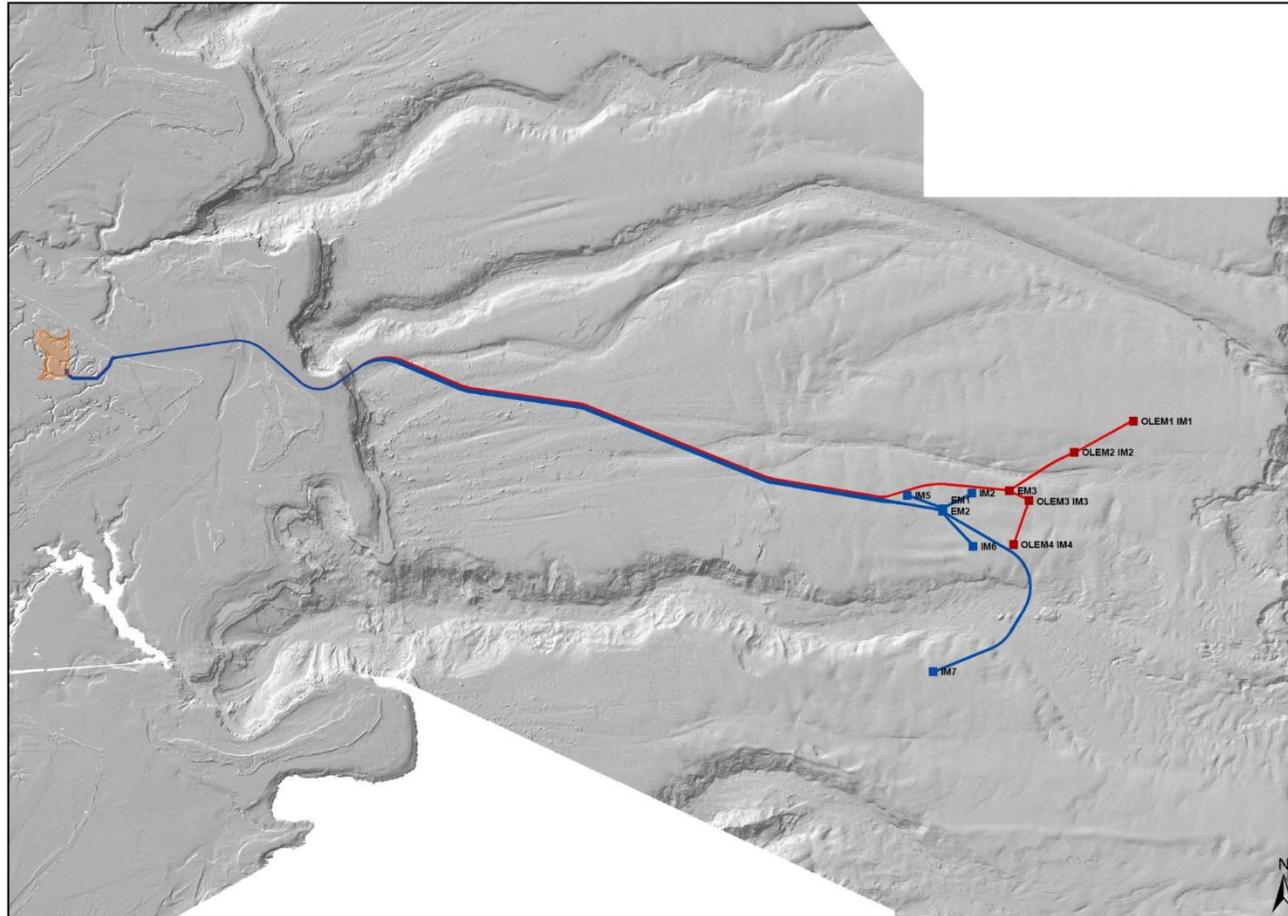
The indicative project footprint and location is shown in Figure 1-2 and Figure 1-3.

EMML plans to develop both temporary and permanent accommodation facilities. The facilities will be located within the Afungi Project Site, and house approximately 18,000 to 23,000 workers.

Area 4 construction is due to commence in late 2019 with first gas anticipated in 2Q 2025.



**Figure 1-2: Offshore Project Layout**





**Rovuma  
LNG**

**ENVIRONMENTAL AND SOCIAL  
MANAGEMENT PLAN**

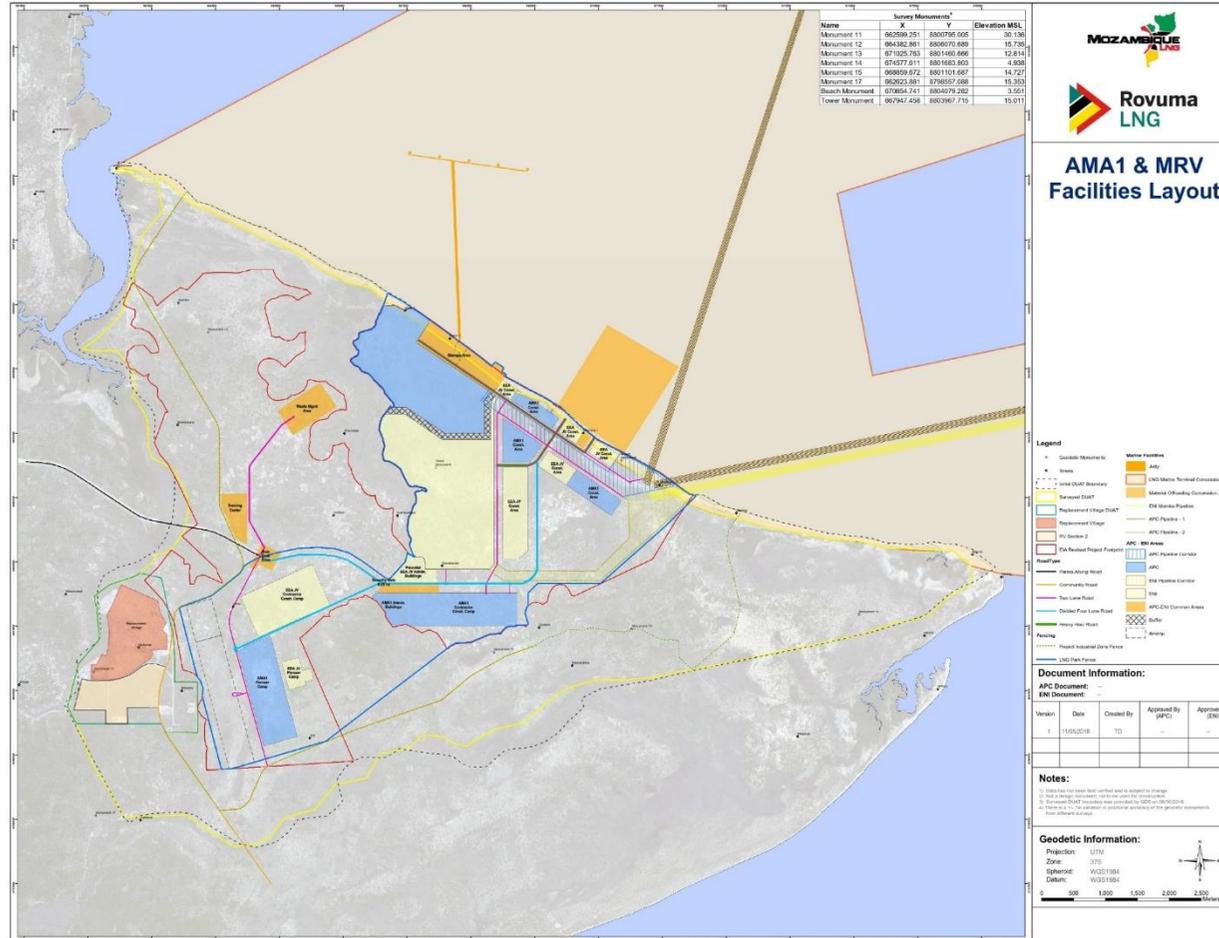
**MZLN-EL-RPPLN-00-0016**

**Revision: 0**

**Date: 9/05/2019**

**Page 12 of 60**

**Figure 1-3: Onshore and Nearshore Site Layout**



 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		Page 13 of 60

### 1.5. Objectives

The principal objective of the ESMP is to facilitate the avoidance, reduction, and mitigation of environmental, social and community health, safety and security risks and impacts associated with the construction phase of the Midstream Project.

Specific objectives of this ESMP are to:

- Describe actions required to implement the construction-related management and mitigation measures outlined in the Environmental Impact Assessment (EIA) for the Liquefied Natural Gas Project in Cabo Delgado
- Describe the processes and actions required to meet Environment License conditions imposed by the Government of the Republic of Mozambique (GoM), and Lender E&S requirements, including International Finance Corporation (IFC) Performance Standards (PS) on Environmental and Social Sustainability (IFC, 2012)
- Describe additional measures required to implement Good International Industry Practice (GIIP)
- Facilitate the addition and /or modification of control measures as new data and the results of updated risk and impact assessments become available
- Outline the roles and responsibilities of the environmental and social management organization
- Describe the processes for incident management, management of change, recording and reporting non-conformances, as well as measurement and reporting of E&S performance indicators
- Outline the minimum requirements for assessment and auditing.

### 1.6. Scope

The spatial scope of the ESMP can be generally described as comprising the footprint of the Area 4 Project components and the surrounding Area of Influence<sup>1</sup>. While most of these components are defined, some are not, and won't be defined until well into the construction phase. This is especially the case for the category of facilities known as Associated Facilities (refer Section 1.6.2).

The ESMP has anticipated this situation by characterizing the range of components and facilities that are expected to be developed over the course of the construction phase, and making provision for them to be accommodated within the management plan as details relating to construction responsibility become known (e.g., in the case of shared facilities, i.e., 'first group'; refer Section 1.2), and, in the case of third-party providers, when details of their identity, location and activities become available.

As noted in Section 1.4, Area 1 and Area 4 Concessionaires are proposing to develop their projects independently although in a coordinated manner. While this will require each party to develop separate, independent ESMPs (or equivalent), there will be common functionalities, interfaces, and areas of overlap, necessitating coordination, harmonization, cooperation and

---

<sup>1</sup> Defined as the area likely to be affected by: (i) project activities and facilities that are directly owned, operated or managed (including by contractors) and that are a component of the project or an Associated Facility); (ii) impacts from unplanned but predictable developments caused by the project that may occur later or at a different location; or (iii) indirect project impacts on biodiversity or on ecosystem services upon which Affected Communities' livelihoods are dependent; (iv) cumulative impacts that result from the incremental impact, on areas or resources used or directly impacted by the project, from other existing, planned or reasonably defined developments at the time the risks and impacts identification process is conducted

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		Page 14 of 60

alignment of approaches with regard to many issues. Formal and informal agreements, structures and arrangements are being developed to meet this need (refer to Section 3).

The temporal scope of the ESMP is the construction phase of the Project, nominally late 2019 to 2Q 2025).

A separate ESMP will be developed for the production phase of the Project.

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

#### **1.6.1.1. Project Components**

RLNG comprises a unique set of facilities and ownership arrangements. Each presents different E&S risks and potential impacts. Management of these risks and potential impacts will be commensurate with both the specific risks associated with the component or activity and the degree of management control available to the contracting parties (e.g., EMML). This, in turn, defines the scope of the ESMP.

To assist this process, EMML has developed the following classification:

- Core Facilities: EMML facilities owned, operated, or managed by, or on behalf of RLNG.
- Integrated Facilities: ERB facilities or activities that would not have been constructed / implemented without the development of RLNG, and without which the project would not be viable.
- Common Facilities: Onshore facilities / activities that are constructed and shared by Area1 and Area 4 that are essential to successful RLNG execution / operation.
- Shared Facilities: Nearshore facilities / activities that are constructed and shared by Area1 and Area 4 that are essential to successful project execution / operation (MOF, LNGMT).
- Co-located Facilities: Third party facilities that are within the Direito de Uso e Aproveitamento da Terra (DUAT) but that are legally, commercially and operationally distinct from MRV.

### **1.6.2. Associated Facilities Categorization**

In addition to the set of dedicated facilities described above, RLNG will likely require the support of Associated Facilities, a term used to describe 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. Associated Facilities, by definition, are owned and operated by third parties. They therefore potentially present a set of risks and impacts over which the Project has diminished control or influence compared with the components outlined above.

To manage Associated Facilities in a manner that is commensurate with E&S risk and potential impact, as well as control and influence, EMML has developed a method of classification whereby Associated Facilities are classified as being one of the following:

- Contractors of Primary Interest (CPIs): contractor facilities/activities that have the potential to generate significant E&S impacts, and where RLNG (via their EPC Contractor) can reasonably exercise control or influence
- Suppliers of Primary Interest (SPIs): supplier facilities/activities that have the potential to generate significant E&S impacts and where RLNG (via their EPC Contractor) can reasonably exercise control or influence
- 'Other' Associated Contractors / Suppliers: facilities or suppliers that present little or no E&S risk or potential impact.

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		Page 15 of 60

In instances where RLNG (via their EPC Contractor) forms the view that it cannot exercise appropriate levels of control or influence over CPIs and SPIs in order to reduce risk or potential E&S impacts to acceptable levels, the CPIs and SPIs will not be engaged.

The above classification is achieved via a two-step screening process, described in detail in the Environmental and Social Requirements for Contractors: Associated Facilities document.

#### **1.6.2.1. Step 1 – Pre-Screening**

A list of Facilities and Activities with the Potential to Generate significant E&S impacts will be prepared, based on the definitions and specifications of the Environmental and Social Requirements for Contractors: Associated Facilities document. Those facilities and activities not on this list will be categorised as an 'Other' Associated Facility and assigned the stewardship level of "Observe".

If the facility or activity is on the above list, and the Project utilises more than 50% of the contractor / supplier capacity, the facility / activity is required to proceed to Step 2. Otherwise, the facility / activity will be categorised as an 'Other' Associated Facility and assigned the stewardship level of "Observe".

#### **1.6.2.2. Step 2 – Impact Questions**

Step 2 is a standardized questionnaire to identify potentially significant E&S risks and impacts. An answer of "Yes" to any of these questions results in the facility / activity being further characterized as a Contractor (or Supplier) of Primary Interest (CPI / SPI) with the resulting E&S stewardship level of 'Control' / 'Influence'.

In the event that CPI / SPI has a pre-existing business or facility operating in accordance with Mozambican law, and already subject to its own environmental licenses and permits; and being responsibly operated in general accordance with Project expectations, the project will Observe for continued responsible operation. In the event that Project determines that operatorship fails to meet Project expectations, a subsequent determination of whether to 'Control' or 'Influence' the facility / activity will then be agreed by the RLNG and EPC Contractor and its Sub Contractors based on the percentage of the CPIs / SPI's capacity being utilised by the Project, and the significance of the potential E&S risks and impacts associated with the Contractor's or Supplier's facility and operations, as well as the evolution of the Contractor's or Supplier's work scope. The E&S questions are as follows:

- Does the facility or activity consume, or, with the additional demand likely to be generated by the project, have the potential to consume, large quantities of natural resources (e.g., water, aggregate, sand/soil, timber) or otherwise adversely impact ecosystem services not already effectively controlled by an Environmental License and EMP?
- Does the facility or activity generate, or, with the additional demand likely to be generated by the project, have the potential to generate, noise, air emissions, dust, liquid discharges or odours, resulting in adverse environmental or social impacts not already effectively controlled by an Environmental License and EMP?
- Does the facility or activity generate, or, with the additional demand likely to be generated of the project, have the potential to generate, wastes that exceed the capacity of local disposal options or detrimental to adjacent environmental or social receptors services not already effectively controlled by an Environmental License and EMP?
- Does the facility or activity involve the handling of hazardous materials?
- Does the facility or activity employ, or, with the additional demand likely to be generated by the project, have the potential to employ, under-age workers (<18 years old) and/or unskilled workers?

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		Page 16 of 60

- Does the facility or activity currently use local infrastructure, materials or commodities, and, if so, would the additional demand likely to be generated by the project have the potential to exceed existing capacity or affect use, purchase or consumption by locals?
- Is the facility located in a protected area or could the facilities or activities result in an impact to a protected area as a result of airborne or waterborne pollutants?

### **1.6.3. Cooperation with Area 1 and Governance of the Shared and Common Facilities**

Pursuant to the Decree Law and in accordance with the Government's desire for effective coordination among the Area 1 Operator (Anadarko Moçambique Área 1 Limitada) and the Area 4 Operator (EMML), and for a single materials offloading facility and a single LNG marine terminal to be developed, the Area 1 Operator and Area 4 Operator will develop such shared facilities to support their respective onshore LNG projects, in the Afungi LNG Park.

On December 12<sup>th</sup>, 2012, the Government has granted to Rovuma Basin LNG Land, Lda. ("RBLL") a temporary (5 years) "right of use and enjoyment of land" (referred to as the "Afungi DUAT"), over an area of seven thousand hectares (7,000ha), located at Afungi Cape, Palma District, Province of Cabo Delgado. On 18 September 2017, the definitive DUAT was issued to RBLL for a period of 50 years on an area of 6,475 ha.

RBLL is a quota holder company incorporated under the Law of Mozambique, registered in Maputo, with MRV and AMA1 being the quota holders in equal proportions. The following Assignments of Exploitation were executed in November 2014:

- An Amended Assignment of Exploitation Agreement – Common Area, executed between the Area 1 Operator, the Area 4 Operator and Rovuma Basin LNG Land, Lda, for the exploitation of a 'Common Area
- An Amended Assignment of Exploitation Agreement – Area 4 Site, executed between the Area 4 Operator and Rovuma Basin LNG Land, Lda for the exploitation of the Area 4 Site
- An Amended Assignment of Exploitation Agreement – Area 1 Site, executed between the Area 1 Operator and Rovuma Basin LNG Land, Lda for the exploitation of the Area 1 Site.

On June 20, 2017 the Council of Ministers of Mozambique approved the Concession Agreement for the Materials Offloading Facility ("MOF Concession") between the Government of the Republic of Mozambique and Mozambique MOF Company S.A. ("MOFCo"). MOFCo is a Mozambican company with shares to be owned by the Area 1 Concessionaires (or their affiliates) and the Area 4 Parties (or their affiliates) with the purpose of holding the MOF Concession and building, owning, operating and maintaining the Materials Offloading Facility, including the Service Harbour. The MOF Concession provides the Area 4 Concessionaires and the Area 1 Concessionaires with use of the MOF facility on equal terms.

On June 20, 2017 the Council of Ministers of Mozambique approved the Concession Agreement for the LNG Marine Terminal ("LMT Concession") between the Government of the Republic of Mozambique and Mozambique LNG Marine Terminal Company S.A. ("LMTCo"). LMTCo is a Mozambican company with shares to be owned by the Area 1 Concessionaires (or their affiliates) and Area 4 Parties (or their affiliates) with the purpose of holding the LMT Concession and building, owning, operating, and maintaining the LNG Marine Terminal. The LMT Concession provides the Area 4 Concessionaires and the Area 1 Concessionaires with use of the LMT facility on equal terms.

In furtherance of the above, a number of agreements have been or will need to be executed in order to establish onshore coordination between the Area 1 Operator, Area 4 Operator, MOFCo, LMTCo, and RLNG.

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		Page 17 of 60

These agreements will set the coordination of the activities in Afungi at different stages (design, construction, services), as well as the governance of MOFCo and LMTCo.

The coordinated efforts aim to ensure timely construction and appropriate and efficient operation of MOFCo, LMTCo and the Common Facilities for the benefit of the Government of Mozambique, the Area 1 Concessionaires and the Area 4 Concessionaires.

In particular, the agreements, permits, and other shared documents that govern such coordination include:

- The Environmental Impact Assessment, approved in June 2014
- The Resettlement Action Plan for Afungi, approved in December 2016
- The Resettlement Joint Operating Agreement (RJOA), executed on 5 July 2018
- The Shared Facilities' Ancillary Agreements:
  - Shared Facilities Implementation Agreement (the "SFIA"), was entered into between the Area 1 Operator, the Area 4 Operator, MOFCo. and LMTCo.
  - Construction Management Agreements (between the LMTCo and the Constructing Entity and MOFCo and the Constructing Entity, the "Constructing Entity" (as agreed pursuant to the terms of the SFIA, or associated Shareholders Agreement (as applicable).
  - Shared Facilities Usage Agreements –governing the right for Area 1 and Area 4 to use and receive certain services from the LMTCo and MOFCo.
  - Operations Services Agreements (between LMTCo and either the Area 1 Operator or an Affiliate of the Area 4 Operator, and MOFCo and either the Area 1 Operator or an Affiliate of the Area 4 Operator) as agreed pursuant to the terms of associated Shareholders Agreement
  - The DUAT Common Area Joint Operating Agreement to be executed by the Area 1 Operator and the Area 4 Operator, for the funding, design, construction and use of certain common infrastructures agreed to between Area 4 and Area 1 such as, but not limited to, the common roads, security fences, shared airstrip, waste management facility, and the onshore portion of an offshore fiber optic cabling system ("Common Facilities").

Management of common and shared facilities will include not only operational concerns, but also include safety, security, environmental and socioeconomic stewardship in accordance with respective commitments.

In addition, the alignment and management of shared operational, SSHE, and social stewardship issues for shared and common facilities, the Area 1 and Area 4 Operators are also working together to jointly harmonize and manage potential issues of regional concerns not necessarily limited to a physical facility. To the extent practical, taking into account differences in scope, it is the intent of the Operators through such coordination committees to harmonize processes and desired outcomes to minimize the potential of perceived inequities among impacted communities. These potential issues include, but are not limited to:

- Grievance management
- Stakeholder engagement
- Security
- Community health and safety
- Community development initiatives

 <b>Rovuma</b> <b>LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019 <hr/> <b>Page 18 of 60</b>
---	---	--

- Recruitment procedures
- Worker welfare and industrial relations
- Emergency response
- Harmonization of baseline data
- Biodiversity management

## 2. ACRONYMS AND TERMS

Acronym	Meaning
AMA1	Anadarko Moçambique Área 1, Lda
AoI	Area of Influence
DUAT	<i>Direito de Uso e Aproveitamento da Terra</i>
EEA	ENI East Africa
EIA	Environmental Impact Assessment
EMML	ExxonMobil Moçambique, Limitada
ECA	Export Credit Agency
ELs	Environmental Licenses
EMP	Environmental Management Plan
EPC	Engineering, Procurement, and Construction
ERB	Eni Rovuma Basin B.V.
E&S	Environmental and Social
ESMP	Environmental and Social Management Plan
EPCC	Exploration and Production Concession Contracts
E&R	Environmental and Regulatory
E&S	Environmental and Social
GCP	Gap Closure Plan
GIIP	Good International Industry Practice
GoM	Government of the Republic of Mozambique
IESC	Independent Environmental and Social Consultants
IFC	International Finance Corporation
IFI	International Financial Institution
ITT	Invitation to Tender
JOA	Joint Operating Agreement
KPI	Key Performance Indicator
LNG	Liquefied Natural Gas
LNG MT	LNG Marine Terminal
M&E	Monitoring and Evaluation
MICOA	Ministry for the Coordination of Environmental Affairs
MoC	Management of Change
MOF	Materials Offloading Facility
MRV	Mozambique Rovuma Venture (the EPCC designated operator)
OECD	Organization for Economic Cooperation and Development
OIMS	Operations Integrity Management System
PEAR	People, Environment, Assets, and Reputation
PCS	Pre-Construction Survey
PS	Performance Standards
RAP	Resettlement Action Plan
RP	Resettlement Plan



<b>Acronym</b>	<b>Meaning</b>
RV	Resettlement Village
RLNG	Rovuma LNG
SF	Shared Facilities
SHE	Safety, Health, and Environment
TCF	Trillion Cubic Feet

<b>Term</b>	<b>Meaning</b>
Affected Communities	Local communities directly affected by the Project.
AMA1	Anadarko Moçambique Área 1, Lda (AMA1) is the Area 1 Operator
Area 4 Concessionaire	Mozambique Rovuma Venture S.p.A (MRV) 70% participating interest, Empresa Nacional de Hidrocarbonetos, E.P. (ENH) 10 % participating interest, Galp Energia Rovuma B.V. (Galp) 10 % participating interest and Kogas Mozambique Ltd (Kogas) 10 % participating interest.
Area of Influence	The area likely to be affected by (i) project activities and facilities that are directly owned, operated or managed (including by contractors) and that are a component of the project or an Associated Facility); (ii) impacts from unplanned but predictable developments caused by the project that may occur later or at a different location; or (iii) indirect project impacts on biodiversity or on ecosystem services upon which Affected Communities' livelihoods are dependent; (iv) cumulative impacts that result from the incremental impact, on areas or resources used or directly impacted by the project, from other existing, planned or reasonably defined developments at the time the risks and impacts identification process is conducted.
Associated Facilities	Associated Facilities are defined as 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, (third parties primarily comprise operators, contractors and suppliers, but can also include government agencies and NGOs).
Common Components	Onshore facilities / activities that are essential to successful project execution / operation (airstrip, roads, security fences, etc.) that are common to Area 4 and Area 1.
Company	ExxonMobil Moçambique Limitada (EMML) is the ExxonMobil Affiliate conducting Midstream Operations for MRV.
Contractor Implementation Plan	The documents which describe how the Engineering and Procurement Contractor proposes to implement the control measures in order to mitigate and manage identified E&S risks and impacts.
Contractors of Primary Interest (CPIs)	Contractor facilities/activities that have the potential to generate significant E&S impacts, and where RLNG (via their EPC) can reasonably exercise control or influence.
Control	Implement mechanisms to achieve pre-determined E&S / H&S performance outcomes.
Control Measures	A subset of overall requirements comprising mitigation measures directed at controlling planned and unplanned events identified through E&S risk and impact evaluation processes.



<b>Term</b>	<b>Meaning</b>
Core Components	EMML facilities / activities, managed by contractors acting on behalf of EMML.
Direct Components	Dedicated project facilities and activities that define the project and are critical to its future operations. Direct Components, in turn, comprise of: <ul style="list-style-type: none"> <li>• Core components</li> <li>• Integrated components</li> <li>• Shared components</li> <li>• Common components.</li> </ul>
E&S	Environmental and Social
EMML Midstream Operator	ExxonMobil Moçambique Limitada (EMML) is the ExxonMobil Affiliate conducting Midstream Operations for MRV.
Equator Principles	A risk management framework, adopted by financial institutions, for determining, assessing and managing environmental and social risk in projects.
ERB	Eni Rovuma Basin B.V "Offshore Operator" is the Eni Affiliate conducting Upstream Operations for MRV.
Good International Industry Practice	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.
Indirect Components	Project facilities and activities that are critical to the construction and potentially the operation of the project. They are operated by third parties, and are typically not dedicated to the project (i.e., they support other clients). Associated Facilities are considered Indirect Components.
Influence	Provide advice, guidance and training as appropriate to improve E&S performance.
Integrated Components	ERB facilities / activities not funded as part of the project, and would not have been constructed / expanded if the project did not exist, and without which the project would not be viable. (Technically meets the criteria for Associated Facility but described as Integrated Facility given the relationship between EMML and ERB)
LNGMT	LNG Marine Terminal
MOF	Material Offloading Facility
MRV	Mozambique Rovuma Venture (MRV) is the Exploration and Production Concession Contracts (EPCC) designated Operator and an Italian incorporated joint venture. MRV Shareholders are: Eni S.p.A ~35.7% (Eni), ExxonMobil Development Africa B.V. ~35.7% (EMDA), and Dutch Cooperatief U.A. ~28.6% (CNODC), which collectively holds a 70% interest in the Area 4 concession.
Observe	Passively monitor contracted facilities and activities to see if their E&S risk profile changes to the extent that intervention should be considered.
Other Associated Contractors or Suppliers	Suppliers / facilities or activities that do not have the potential to generate significant E&S impacts, and where RLNG will not seek to exercise control or influence.



<b>Term</b>	<b>Meaning</b>
Project	The development of the onshore and nearshore facilities for Area 4 by EMLL, in conjunction with its nominated contractors.
Rovuma LNG Project, RLNG Project or Project	The overall development of the Area 4 Offshore Rovuma Basin Straddling and Non-Straddling Reservoirs will be pursued in multiple phases, of which the Rovuma LNG Project is the first onshore phase. The Rovuma LNG Project will be targeting the production of 12 TCF of gas from the Mamba Straddling Resources (to be undertaken independently of Area 1) together with condensate and domestic gas as described below, as well as the parallel development of the Oligocene Lower 385 East Non-Straddling Resources (5.7 TCF)
Shared Facility / Shared Facilities	As applicable, the Material Offloading Facility (MOF) or the LNG Marine Terminal (LNGMT); Shared Facilities means both of them
Suppliers of Primary Interest (SPIs)	Supplier facilities / activities that have the potential to generate significant E&S impacts, and where RLNG (via their EPC) can reasonably exercise control or influence.

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		Page 23 of 60

### 3. LEGAL AND OTHER REQUIREMENTS

It is Company policy to comply with applicable laws and regulations and apply responsible standards where laws and regulations do not exist. This section provides an overview of key requirements.

#### 3.1. National Requirements

An Environmental Impact Assessment (EIA) Report for the proposed Liquefied Natural Gas (LNG) Project associated with the gas fields within Area 1 Offshore of the Rovuma Basin (Area 1) and Area 4 Offshore of the Rovuma Basin (Area 4) was undertaken for the proposed LNG facilities and associated infrastructure, onshore and offshore by Environmental Resources Management (ERM) Southern Africa (Pty) Ltd in association with Projectos e Estudos de Impacto Ambiental, Lda. (Impacto). The EIA was approved by the Ministry for the Coordination of Environmental Affairs (MICOA), on June 16, 2014. MICOA has since been replaced by the Ministry of Land, the Environment, and Rural Development (MITADER).

Multiple environmental licenses were issued by MITADER to the co-proponents in February 2018, some of which have been issued individually to each co-proponent, while others are shared and have been issued in joint names. The licenses issued are as follows:

- Area 1 Exclusive Facilities Environmental License
- Area 4 Exclusive Facilities Environmental License
- Materials Offloading Facilities Environmental License
- LNG Marine Terminal Environmental License
- Area 1 and Area 4 Shared Facilities Environmental License.

MITADER also issued an Environmental License for the Replacement Village to both co-proponents<sup>2</sup>.

#### 3.2. International Requirements

In addition to the meeting national legislative requirements, the Project will also be subject to relevant international conventions and agreements ratified by the GoM. The key pieces of international legislation that affect the Project are listed below:

- Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention, 1992)
- International Convention on Oil Spill Preparedness, Response, and Co-operation (1990)
- International Convention for the Prevention of Pollution from Ships, 1973 as amended by the Protocol of 1978 relating thereto (MARPOL 73/78)
- Convention on the Conservation of Migratory Species of Wild Animals (the Bonn Convention, 1979), and incorporating the African-Eurasian Migratory Water Bird Agreement, 1995
- Convention on Wetlands of International Importance Especially on Wildfowl Habitat (The Ramsar Convention, 1971)
- Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), 1973

<sup>2</sup> The Replacement Village Resettlement Plan was submitted as an addendum to the LNG EIA Report, as this was not included in the scope of the LNG EIA Report

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019 <hr/> Page 24 of 60
---	---	---

- UN Framework Convention on Climate Change (1992), and the Kyoto Protocol to the UNFCCC (1997)
- Vienna Convention on the Protection of the Ozone Layer, Vienna (1985) including the Montreal Protocol on Substances that Deplete the Ozone Layer (1987)
- UN Convention on Biological Diversity (1992)
- Convention for the Protection of the World Cultural and Natural Heritage, Paris (1972)
- International Plant Protection Convention, Rome (1951), including revised text (1991)
- Stockholm Convention on Persistent Organic Pollutants (2001)
- UN Declaration on the Right and Responsibility of Individuals, Groups, and Organs of Society to Promote and Protect Universally Recognized Human Rights and Fundamental Freedoms
- African Charter on Human and Peoples' Rights
- Extractive Industry Transparency Initiative (EITI) and its Civil Society Protocol.

### **3.3. Company Policy and Management**

Company's Standards of Business Conduct forms the framework by which Company operates. The Standards of Business Conduct include guiding principles and foundation policies. Company policies relevant to the scope of this ESMP are presented below.

#### **3.3.1. Environmental Policy**

It is Company policy to conduct its business in a manner that is compatible with the balanced environmental and economic needs of the communities in it operates.

Company is committed to continuous efforts to improve environmental performance throughout its operations worldwide.

Accordingly, it is Company policy to:

- Comply with all applicable environmental laws and regulations and apply responsible standards where laws and regulations do not exist
- Encourage concern and respect for the environment, emphasize every employee's responsibility in environmental performance, and foster appropriate operating practices and training
- Work with government and industry groups to foster timely development of effective environmental laws and regulations based on sound science and considering risks, costs, and benefits, including effects on energy and product supply
- Manage its business with the goal of preventing incidents and of controlling emissions and wastes to below harmful levels; design, operate, and maintain facilities to this end
- Respond quickly and effectively to incidents resulting from its operations, in cooperation with industry organizations and authorized government agencies
- Conduct and support research to improve understanding of the impact of its business on the environment, to improve methods of environmental protection, and to enhance its capability to make operations and products compatible with the environment
- Communicate with the public on environmental matters and share its experience with others to facilitate improvements in industry performance

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		Page 25 of 60

- Undertake appropriate reviews and evaluations of its operations to measure progress and to foster compliance with this policy.

Company will plan and execute an environmentally responsible development consistent with Company's vision of Protect Tomorrow. Today.

Company environmental expectations are based on the following principles:

- Deliver superior environmental performance, which will also lead to competitive advantage
- Drive environmental incidents with real impact to zero, through a process of continuous improvement
- Achieve industry leadership in focus areas that are valuable to the business (focus areas are functionally-defined, locally implemented, and of high environmental significance).

### 3.3.2. Labor Practices

Company's Standards of Business Conduct provides a framework for responsible operations with regard to employment practices. Company supports these standards by developing policies, procedures, and practices in light of applicable laws and specific circumstances.

With regard to employment practices, Company supports the following principles:

- Freedom of Association and Right to Collective Bargaining: Company recognizes and respects its employees' right to join associations and choose representative organizations for the purpose of engaging in collective bargaining
- Elimination of Forced or Compulsory Labor: Company does not use forced or compulsory labor. It recruits its employees and provides working conditions, including payment of wages and benefits, in compliance with applicable laws and regulations.
- Abolition of Child Labor: Company forbids the use of children in its workforce throughout its worldwide operations. All employees are above the legal employment age in the country of their employment
- Equal Employment Opportunity: Company provides equal employment opportunity in conformance with all applicable laws/regulations to individuals who are qualified to perform job requirements.

### 3.3.3. Health

Company's Health Policy states:

- Identify and evaluate health risk related to its operations that potentially affect its employees, contractors or the public
- Communicate in a reasonable manner to potentially affected individuals or organizations and the scientific community knowledge about health risks gained from its health programs and related studies.

Company's Statement on Strategic Health Management states that Company maintains an active commitment to the communities in which it works. Company's believes that self-sustaining improvements in public health are a key enabler for broader economic and social gains. By incorporating workforce and community health consideration in project planning, Company plays a role in addressing the broader economic and social development of the communities in which it operates

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019 <hr/> Page 26 of 60
---	---	---

### 3.3.4. Human Rights

The Company is committed to conducting business in a way that protects the security of its personnel, facilities and operations and respects human rights. Company's Standards of Business Conduct establish the Company's approach and its practices and operations reflect the spirit and intent of the Universal Declaration of Human Rights as it applies to private companies and the spirit and intent of the Fundamental Principles and Rights at Work of the 1998 ILO Declaration. The Company policies support its commitment to human rights and include freedom of association, elimination of forced or compulsory labor, abolition of child labor, and equal employment opportunity. The Company condemns human rights violations in any form. While recognizing that host governments have the responsibility of maintaining law and order, security and respect for human rights, the private sector also has a responsibility to respect human rights within the legitimate role of business.

The Company believes that:

- It has an important role to play in promoting respect for human rights
- Its business presence can and should have a positive influence on the treatment of people in the communities in which it operates
- Security and respect for human rights can and should be compatible
- Human rights violations are not acceptable and should be condemned.

The Company formally documented its support of the Voluntary Principles on Security and Human Rights in 2005 through its Statement of Principles on Security and Human Rights.

### 3.4. Operations Integrity Management System (OIMS)

Under ExxonMobil's OIMS the Project defines a management system as an organized means of ensuring that stated objectives are achieved and maintained. The Project management system will exhibit five characteristics:

- Scope and Objectives
- Processes and Procedures
- Responsible and Accountable Resources
- Verification and Measurement Processes
- Feedback and Improvement Mechanism.

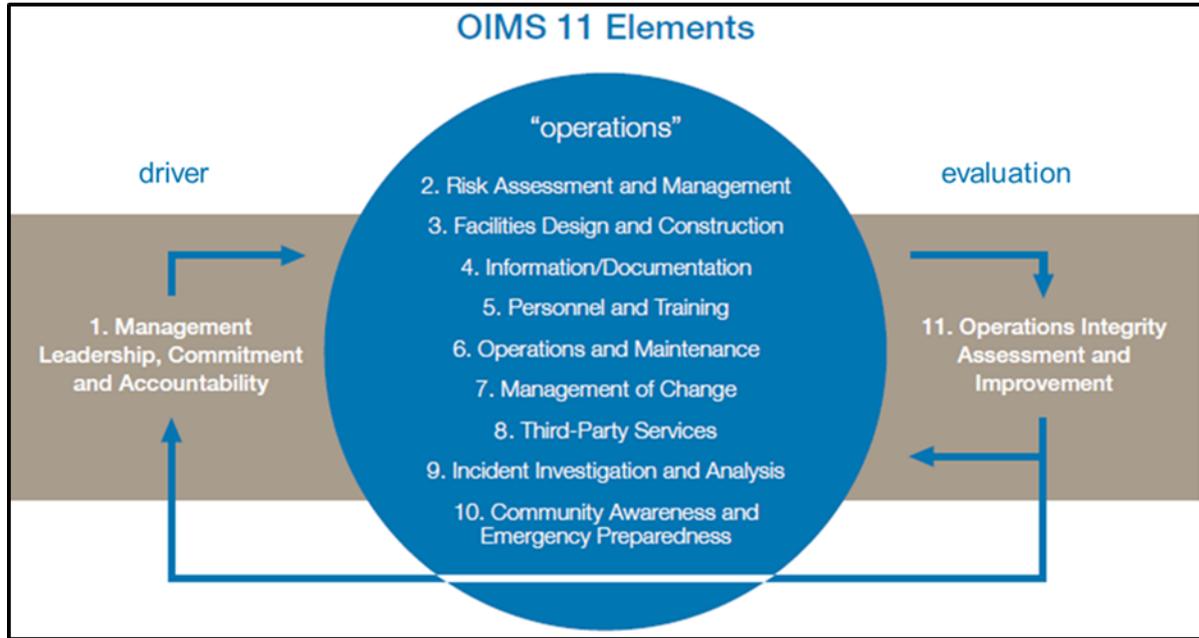
It is important that all characteristics of a system are documented to ensure the system can adapt to organizational, personnel and operational changes. It is essential to provide the workforce with; a common understanding of the management system requirements workforce and a basis for performance evaluation, assessment, and improvement.

The ExxonMobil OIMS Framework establishes common worldwide expectations for addressing inherent risks. The term Operations Integrity (OI) is used by ExxonMobil to address all aspects of its business that can impact business performance.

The Project's Managers are responsible for ensuring that management systems satisfying the Framework are in place and used as a normal part of business activities. The scope, priority, and pace of management system implementation should be consistent with the risks associated with the business.

OIMS is certified as equivalent to ISO 14001:2004 Environmental Management Systems - Requirements with guidance for use (International Organization for Standardization, 2004) by Lloyd's Register. Certification is periodically reviewed by Lloyds Register and maintained current.

**Figure 3-1: Operation Integrity Management System Components**



### 3.5. Lender Group Requirements

The Project has further refined its management processes to comply the requirements of the IFC's Performance Standards (PS), given the need for debt financing through various Export Credit Agencies (ECAs), commercial banks and potentially other International Financial Institutions (IFIs). The IFIs are collectively referred to in this document as the Lender Group. The Project will adhere to the requirements of the IFC PSs throughout the Project's lifecycle.

ECAs are private or quasi-governmental institutions that act as intermediaries between national governments and exporters to issue export financing. Many ECAs have E&S policies that, by virtue of their connection with national governments, and specifically those that are members of the Organization for Economic Cooperation and Development (OECD), revert to the Recommendation on Common Approaches on Environment and Officially Supported Export Credits (Common Approaches). As is the case for private lenders, the Common Approaches apply the guidelines and Performance Standards of the IFC.

In contrast, Commercial banks typically subscribe to the Equator Principles (refer Section 3.5.2).

#### 3.5.1. IFC Performance Standards

The IFC PSs on Environmental and Social Sustainability, 2012 include the following eight PSs:

- PS 1: Assessment and Management of the Environmental and Social Risks and Impacts
- PS 2: Labor and Working Conditions
- PS 3: Resource Efficiency and Pollution Prevention

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019 <hr/> Page 28 of 60
---	---	---

- PS 4: Community Health, Safety, and Security
- PS 5: Land Acquisition and Involuntary Resettlement
- PS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
- PS 7: Indigenous Peoples
- PS 8: Cultural Heritage

### **3.5.2. Equator Principles**

The Equator Principles represent a voluntary initiative developed by banks working in the project finance sector to establish a standard and coherent set of E&S policies and guidelines that can be applied globally and across all industry sectors. The Equator Principles are based on the guidelines and performance standards of the IFC and accordingly represent a common benchmark for the Project.

#### 4. HARMONIZATION

The harmonization of the Project's data collection methodologies, plans, procedures, monitoring and reporting between Area 1 Operator, EMML, and ERB has been identified as a critical Project activity. To achieve this EMML is working with ERB and the Area 1 Operator to ensure alignment across multiple disciplines. Key areas where harmonization has occurred or is planned are summarized in Table 4-1.

**Table 4-1: Key Areas Where Harmonization Has Occurred or Is Planned**

Discipline	Activity
Impact / Habitat Assessment	<ul style="list-style-type: none"> <li>• Cumulative Impact Assessment</li> <li>• Community Health Impact Assessment</li> <li>• Critical Habitat Assessment</li> </ul>
Permitting and Planning	<ul style="list-style-type: none"> <li>• Shared Facilities Permit Planning</li> <li>• DUAT Master Planning</li> </ul>
Environmental Surveying and Monitoring	<ul style="list-style-type: none"> <li>• Environmental Baseline Data integration</li> </ul>
Environmental Management Systems	<ul style="list-style-type: none"> <li>• Waste Management</li> <li>• Vector Control Management</li> </ul>
Social Management Systems	<ul style="list-style-type: none"> <li>• Workforce Relations Management</li> <li>• Resettlement Planning and Implementation</li> <li>• Cultural Heritage Management</li> </ul>

The harmonization process is underpinned by several contractually binding agreements such as the Resettlement Joint Operating Agreement (JOA). The Resettlement JOA, for example, sets out the scope of resettlement operations, participation, ownership, obligation, and liability. Other areas where a harmonized approach has been developed includes critical habitat classification and assessment; integration of existing environmental baseline data; community health and safety; waste management; stakeholder engagement; cultural heritage; and industrial relations.

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		Page 30 of 60

## 5. ENVIRONMENTAL AND SOCIAL RISK AND IMPACT ASSESSMENT, EVALUATION AND MANAGEMENT

### 5.1. Environmental Impact Assessment

E&S aspects and impacts associated with the Project were identified and evaluated as part of an EIA, jointly prepared by Area 1 and Area 4 Operators (Section 1.2) and completed in 2014 (Section 5.1).

The EIA comprises three volumes:

- Volume I: Introduction Project Description and Baseline
- Volume II: Impact Assessment, Management, Implementation, and Conclusions
- Volume III: Annexes<sup>3</sup>.

The EIA resulted in the identification of a range of risks and potential impacts for which corresponding control measures were developed to mitigate residual impacts. These control measures are contained in an E&S Commitments Register<sup>4</sup>, and, together with a set of additional GIIP measures, form the basis of this ESMP.

The Commitments Register highlights those commitments which are Company responsibility, and those which are Contractor responsibility (with Company oversight) and will be updated as necessary to incorporate new mitigation measures that are developed prior to and during construction. Mitigation measures may also be removed from the Register when the corresponding risk or impact is considered to be no longer applicable or relevant.

### 5.2. Environmental Management Plans

Under an agreement with GoM Area 1 and Area 4 will separately construct and operate their own respective offshore and onshore facilities under their respective Environmental Management Plans (EMPs) and exclusive Environmental Licenses (ELs). A multiple license framework was necessary for the following reasons:

- To enable a clear assignment of responsibility for implementing the requirements of the EMPs and allow for separation of liability of each license holder
- To align with Government Agreements entered into after the LNG Project EIA submittal and approval.
- To facilitate the implementation of different Area 1 and Area 4 development schedules.
- To allow for resettlement required prior to the commencement of LNG construction activities.

Five EMPs<sup>5</sup>, each with a corresponding license, were prepared in 2017 for the following project components:

- Materials Offloading Facility
- LNG Marine Terminal
- Area 1 Exclusive Facilities
- Area 4 Exclusive Facilities

<sup>3</sup> The full EIA has been disclosed online at ([www.exxonmobil.co.mz](http://www.exxonmobil.co.mz))

<sup>4</sup> Refer to MZLN-EL-RPPLN-00-0016 ESMP - App 5 - EMP Commitments Register - Rev 1

<sup>5</sup> A Resettlement Plan, together with a corresponding EL, was also developed (refer Section 5.4)

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		Page 31 of 60

- Area 1 and Area 4 jointly utilized facilities.

The EMPs broadly cover the following:

- Applicable environmental and social mitigation and management measures identified in the LNG Project EIA and in the associated Tabulated Environmental and Social Management Plan (ESMP) (Annex D of the LNG Project EIA)
- Applicable recommendations provided in the LNG Project EIA Approval letter and in the relevant Addendum of the Letter.

The National Directorate of the Environment approved updates on 11 April 2019 to the following EMPs:

- Environmental management plan for the Liquefied Natural Gas Project in Cabo Delgado;
- LNG Maritime Terminal Environmental Management Plan for the Liquefied Natural Gas Project in Cabo Delgado; and
- Material Discharge Facility Environmental Management plan for the Liquefied Natural Gas Project in Cabo Delgado: Infrastructures Common to Area 1 and Area 4, to take account of design refinements, updated environmental and social assessments and evaluations, and new and modified control measures.

The new EMP Commitments will be added and tracked using the Commitments Register (refer above).

### 5.3. Biodiversity Strategy and Action Plan

The Biodiversity Strategy and Action Plan is a Company Plan under the ESMP framework, and serves as a framework to guide the implementation of the Project's biodiversity commitments to align with IFC PS, and details the Company policy towards biodiversity and ecosystem services, as well as the relevant Project standards. This document sets the Project's biodiversity objectives and includes a series of commitments that will be applied to meet the objectives, and confirms the Critical Habitat features, Natural Habitat, and Ecosystem Services, which are the focus of the Biodiversity Strategy.

### 5.4. Resettlement Plan

A Resettlement Plan (RP) developed on behalf of Area 1 and Area 4 was approved by the GoM in 2017<sup>6</sup>. The RP describes the policies, principles, procedures, roles, and responsibilities for managing physical displacement impacts (loss of dwellings) and economic displacement impacts (full or partial loss of income sources or other means of livelihood) caused by the construction and operation of the LNG facility and the export terminal. The RP also includes a Resettlement Action Plan (RAP).

The resettlement goal is to undertake resettlement in a manner that gives physically and economically displaced households the opportunity to improve or at least restore their livelihoods and standards of living. The Project worked closely with affected communities and GoM whilst developing the RP. Civil society organizations also played an active role in the development of the RP. Consultation and engagement with affected and host communities, all levels of Government and civil society will continue throughout the resettlement implementation period. The Area 1 Operator is leading all activities associated with the RP and RAP.

<sup>6</sup> The Resettlement Plan has been disclosed online at <http://www.mzlng.com/Responsibility/Resettlement/Resettlement-Plan/>

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		Page 32 of 60

### 5.5. Project Gap Closure Strategy

Given the time that has elapsed since the completion of the Project EIA in 2014, the project commissioned Upstream and Midstream E&S Gap Assessments for the purposes of comparing the EIA and available post-EIA reports undertaken by ERB and EMML, on behalf of MRV, and Area 1 Operator against IFC PSs (IDP, 2018 a, b). Subsequently, Upstream and Midstream Gap Closure Plans (GCP) were prepared in order to detail work scopes and deliverables deemed necessary in order to achieve project financing (IDP, 2018 b, c). This led to the inclusion of 'additional' environmental and social requirements for the project above and beyond the commitments within the EIA/EMPs.

### 5.6. Environmental and Social Requirements for Contractors

Design, site development and construction / execution of the project components will be undertaken by an Engineering, Procurement, and Construction (EPC) Contractor, with support from subcontractors. The environmental and social expectations of EMML, for and on behalf of MRV were detailed in a document entitled Environmental and Social Requirements for Contractors. This document and associated theme and activity-specific annexes (Figure 1-1) formed an important component of the ITT process.

This documentation includes the EMP commitments in addition to the 'additional' environmental and social requirements identified in the gap assessment, and consists of the following set of plans and related annexes:

- MZLN-EL-RBENV-00-0001 – Environmental and Social Requirements for Contractors
  - Annex 1 – Air Quality, Greenhouse Gases and Energy Efficiency
  - Annex 2 – Effluent Discharges
  - Annex 3 – Waste Management
  - Annex 4 – Hazardous Materials
  - Annex 5 – Site Development, Construction and Reinstatement
  - Annex 6 – Road Traffic and Transport
  - Annex 7 – Marine Operations
  - Annex 8 – Water Use and Abstraction
  - Annex 9 – Raw Materials and Aggregates
  - Annex 10 – Dredging
  - Annex 11 – Lighting and Visual Impact
  - Annex 12 – Ballast Water and Biofouling
  - Annex 13 – Weed and Pest Management
  - Annex 14 – Wildlife Protection

The Environmental and Social Requirements for Contractors document requires that the Contractors carry out a 3-stage approach to environmental and social management for their activities (depending on the topic and the current level of development of the project), namely:

- Alternatives Analysis: Company or Contractor will perform a review of the alternatives including details of the environmental and social baseline, the environmental and social risk and impact evaluation, and other relevant drivers for decision making, leading to confirmation of the project's base case.

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		Page 33 of 60

- Base Case Definition: the further definition of the project's base case, including updated/refined baseline details as relevant, updated environmental and social risks and impacts assessment, and a refined list of environmental and social control measures.
- Topic-Specific Contractor Implementation Plans (CIPs): the annexes require Contractors to prepare topic-specific CIPs which include the approved environmental and social control measures, details of how these controls will be implemented, and details of the monitoring, reporting and assessment process.

The overall objective of the topic-specific requirements contained in the Annexes is to set out the environmental and social requirements to be refined and implemented by the Contractor (and approved by Company) as part of the EPC works to complement the Company's overall ESMS which, when implemented, will enable the Contractor's activities to be in conformance with the IFC Performance Standards.

### 5.7. Pre-Construction Survey

Pre-Construction Surveys (PCSs) will be conducted prior to accessing a site for the purposes of conducting construction activities that have the potential to result in the disturbance or alteration of land cover and land surface conditions. The objective of a PCS is to identify any significant E&S issues which could be avoided, reduced, or mitigated by refining proposed construction methods or approaches (e.g., micro re-routes of linear infrastructure) or adjusting proposed control measures to account for site-specific conditions. The PCS will also inform revegetation / reinstatement efforts.

It is anticipated that PCSs will only need to be completed once per work area. Should additional work (such as clearing additional areas) be required within an approved work area, an additional survey may be required.

PCSs will be initiated in advance of planned clearing / construction activities to allow adequate time to identify potential E&S issues and, where necessary, determine the extent of necessary management and mitigation measures, or, potentially, any changes to the work areas and assessment of alternate locations, should this be required. In order to ensure the findings of the PCS are relevant and up-to-date, surveys will not be completed more than 6 months prior to the scheduled commencement date for the first clearing / construction activities in any given area.

### 5.8. Verification, Monitoring, Assessment and Evaluation

Verification, monitoring, assessment, and evaluation will be conducted to assess the effectiveness of this ESMP. Specifically, it will serve to confirm (or otherwise):

- That the mitigation measures designed to manage risks and impacts are being implemented
- That the mitigation measures are achieving intended outcomes, or on-track to achieve intended outcomes
- Actual versus predicted impacts (as described in the EIA or subsequent assessments)
- Compliance with applicable laws, regulations, and other requirements

The type, extent, and frequency of monitoring will be commensurate with the risk and potential impact. Monitoring will incorporate a range of approaches and methods depending on the object or activity of interest and is likely to include field observations; site inspections; surveys; sampling and measurement; and verification methods.

Monitoring results will be evaluated to measure EMLL's performance, on behalf of MRV, against pre-determined performance indicators. Where observed impacts vary from

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		<b>Page 34 of 60</b>

predictions, information gathered in the field will be used to determine if remedial actions are required. Follow-up surveys may be undertaken to assess impacts and demonstrate compliance with applicable legal and other requirements. Where improvement opportunities are identified, the implementation of such measures will be monitored to ensure effectiveness. Periodic reviews of evaluation results will be conducted to determine whether mitigation or control measures, programs, and policies can or should be adjusted to achieve better or more effective outcomes. The frequency of the reviews will be determined on a case-by-case basis and will consider risk and potential impact.

Monitoring and evaluation schedules will also be periodically reviewed, and the methods, frequency, and scope of the inspections adapted in response to inspection results, changing circumstances and lessons learned. Monitoring and evaluation activities will be undertaken by suitably qualified personnel, with specific monitoring and evaluation training provided to these personnel as required. Reviews and assessment findings will be prioritized and promptly stewarded to closure.

The activities of the Contractors and applicable third parties will be included in the monitoring and evaluation programs. The Contractor shall carry out internal assessments to assess the implementation of the Environmental and Social Requirements for Contractors and its topic-specific annexes. The Contractor will be required to implement field-based environmental monitoring (sampling and analysis) and social monitoring to monitor the implementation and, as applicable, the effectiveness of the CIPs and control measures, assess results and demonstrate compliance with legal and other requirements. In addition to the Contractor's assessment program, Company will carry out assessments and investigations either in concert with or independent of the Contractor's assessments as appropriate. These assessments may vary in level between project level assessments and corporate level assessments.

The EPC Contractor will undertake to monitor in accordance with the EMM-approv ed CIPs. Company monitoring will also be conducted, and this will be carried out in accordance with Element 11 of the ExxonMobil OIMS, Operations Integrity Assessment, and Improvement.

Audits will be carried out internally by the Project to ensure compliance with EMP requirements, regulatory requirements, and compliance with management systems, standards, policies, and procedures. Audits will be performed by qualified staff, and results will be described in a report that will determine the severity of non-compliances, as well as the recommended remedial action.

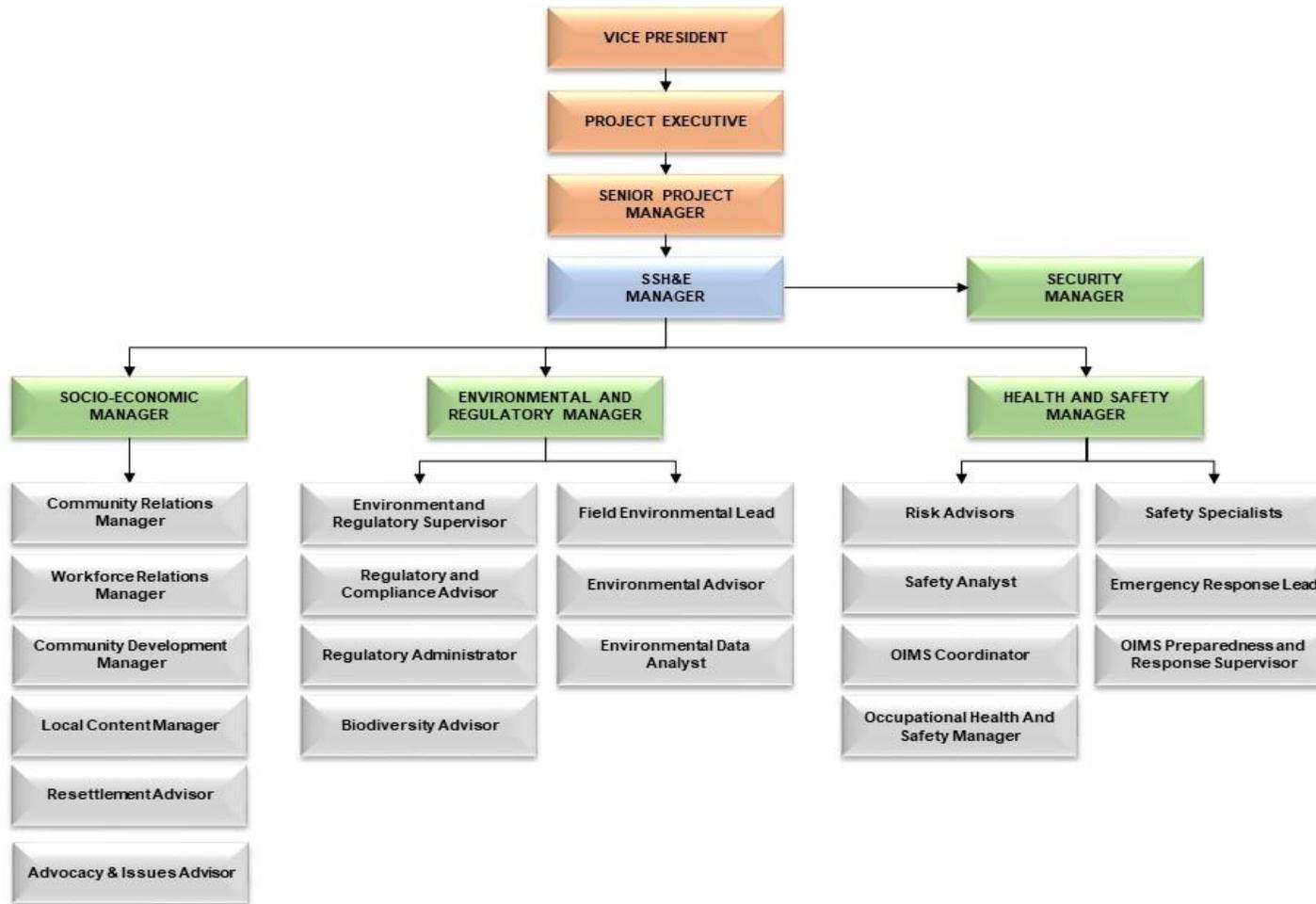
 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> <b>Revision: 0</b> <b>Date: 9/05/2019</b> <b>Page 35 of 60</b>
---	---	--

## **6. ORGANISATIONAL ROLES AND RESPONSIBILITIES**

### **6.1. Company**

The ExxonMobil OIMS System 1.1 Management Leadership and Accountability requires the allocation of sufficient resources for the implementation and continuous improvement of operations integrity, along with the establishment of OIMS-related roles and responsibilities, for ExxonMobil and all Affiliates. EMML's Environmental and Regulatory (E&R) organization is allocated primary responsibility for the implementation and ongoing oversight of this ESMP. The E&S organization forms part of the Safety, Security, Health, and Environment (SSHE) organization (An outline of EMML's SSHE organization is presented in Figure 6-1), recognizing that the organization will be adapted as required to meet conditions and operational needs throughout the Project's lifecycle. In addition to the SSHE organization, other EMML production and maintenance personnel have defined roles and responsibilities in respect of this ESMP. Roles and responsibilities of key personnel are described in Appendix A. EMML will retain third-party consultants and other specialist organizations and individuals to support the implementation of this ESMP.

**Figure 6-1: Midstream Execution Organogram (Indicative)**



 <b>Rovuma</b> <b>LNG</b>	<b>ENVIRONMENTAL AND  SOCIAL MANAGEMENT  PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019 <hr/> Page 37 of 60
---	---	---

## 6.2. Contractors

Contractors will be required to have sufficient resources on an ongoing basis to achieve effective implementation of the requirements established in this ESMP. Similarly, Contractors will be required to ensure that its subcontractors allocate sufficient resources to achieve effective implementation of the requirements established in this ESMP.

The Environmental and Social Requirements for Contractors require Contractors to prepare topic-specific CIPs that describe the resources allocated to and responsible for the execution of each task and requirements contained therein.

Contractors will work closely with the Company to define the appropriate level of E&S staffing and associated organizational structure.

The Company recognizes that staffing levels and organizational structures will vary as a function of each Contract scope of work, execution activity levels, and E&S risk.

Key positions within Contractors' and subcontractors' E&S organizations are subject to Company review and approval.

Prior to the commencement of work, Contractors will provide evidence to the satisfaction of the Company that it has the capacity to fulfill the E&S requirements established in this ESMP and Contractors' CIPs and provide dedicated, competent and appropriately qualified E&S resources.

## 7. COMPETENCY, TRAINING, AND AWARENESS RAISING

This section provides a summary of training, awareness, and competency requirements associated with the ESMP.

### 7.1. Competency Levels

EMML will ensure that personnel responsible for the execution of the tasks and requirements contained within this ESMP are competent by education, training, and experience as described in OIMS System 5.1 Personnel Selection, Placement, and Competency Verification, and OIMS System 5.2 Personnel Training. The Company will ensure contractors and subcontractors assure their personnel's competence to the Company.

Key positions will be identified through assessment criteria to ensure personnel have the relevant knowledge and skills for their positions. For example, personnel performing tasks that may involve environmental impacts will have the knowledge and skills necessary to perform their work in a manner consistent with the Corporate Environmental Policy.

Ongoing training and skills assessment will be integrated into management plans to ensure staff remains competent in their roles and aware of Project E&S commitments.

### 7.2. Training and Awareness

Company, Contractors, and Subcontractors will undertake an initial evaluation of training needs associated with this ESMP and associated contractor/subcontractor documents<sup>7</sup>.

On the basis of the training needs assessment, Company, Contractors, and subcontractors will develop and maintain a training matrix (Environmental and Social Training Matrix, Appendix C) detailing the training needs of each member of the organization based on job description and level of E&S responsibility and involvement.

Company, Contractor, and subcontractor E&S training programs will include several levels of competency and training as a function of individual personnel E&S responsibility and involvement, as outlined in Table 7-1.

**Table 7-1: Indicative Training and Awareness Activities**

Type of Training	Description
Induction	Induction directed at visitors, providing a summary of key social and environmental aspects, controls and relevant instructions. This training is specific to each location and worksite.
General awareness	Awareness and overview, directed at personnel who do not have direct duties in respect of this ESMP, providing a summary of key E&S aspects, controls, and relevant instructions. This training is specific to each location and facility.
Management awareness	Awareness, directed at management and supervisory personnel, covering the key aspects of the relevant ESMP
Job-specific training	Job-specific training, given to personnel having direct duties in respect of this ESMP, providing a detailed review of specific components of this ESMP and a detailed description of individual duties.

<sup>7</sup> For Company and Contractor minimum applicable environmental and training requirements see Appendix C.

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		Page 39 of 60

## 8. INCIDENT MANAGEMENT

EMML has an established incident management system that defines the requirements for managing incidents, including near misses. This system also supports the emergency preparedness and response system and is guided by OIMS System 9-1 Incident Management.

An incident is defined as a specific event, sequence of events, or extended condition that has an unwanted or unintended impact on safety, security, health, the livelihood of people and an impact on property, on the environment, or on legal/regulatory compliance.

EMML employees and contractors are required to immediately report all incidents to EMML management, including lower severity incidents and near miss incidents. All incidents will be investigated under EMML guidelines. Investigations are performed to gather information, identify causes, and develop corrective action plans to prevent a reoccurrence.

The incident management process is comprised of the following elements, some of which occur concurrently during implementation:

- Incident classification
- Incident notification (internal and external)
- Injury/illness case management (e.g. diagnosis/treatment/surveillance)
- Incident investigation, including causal analysis and identification of corrective actions
- Incident reporting (internal and external)
- Tracking of corrective actions to closure
- Sharing lessons learned (internal and external).

### 8.1. Incident Classification

Classification is an important element of the incident management process, as the level of effort and pace of subsequent incident management activities is directly related to the severity level of the incident.

Accordingly, the probable classification of an incident is defined early in the incident management lifecycle (when all information may not be known). To be effective, the classification process requires current, factual knowledge about the incident. Where facts are scarce and/or evolving, EMML will define the most likely severity level based upon known circumstances at the time (i.e., a credible worst-case scenario) when performing notifications. In such cases, adjustments to the initial classification are made as the incident evolves and more information becomes available.

EMML uses a standardized process to determine the classification and the associated severity level of an incident. Once the classification and severity level is determined, the incident is communicated to the appropriate organizational levels to ensure management is aware of the incident, at a pace commensurate with the defined Severity Level.

EMML considers six primary exposure factors when classifying an incident. These are health/injury, security, environment, public disruption, reputation, and financial.

EMML assigns a Severity Level of <0, 0, 1, 2, or 3 to each of these primary exposure factors, where <0 is the least severe and 3 is the most severe exposure. The overall incident Severity Level is then determined by the highest Severity Level assigned to any one of the six primary exposure factors. The overall incident Severity Level then determines the extent and pace of upward notification.

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		Page 40 of 60

The financing agreements require EMML to perform notification/reporting to the Independent Environmental Social Consultants (IESC)/Lender Group for serious incidents that have a material adverse impact on the environment, worker health and safety, or an EMML-affected community, which occurs as a result of EMML development, construction or operations. Written notification is typically required for events or circumstances that:

- Could reasonably be expected to give rise to material environmental claims
- Constitutes a material breach of the ESMP, or
- Results or could result in failure to comply with E&S laws and applicable Lender E&S Standards

Serious incidents are consistent with the EMML-defined Severity of Level 2 and 3 incidents. Examples of what would be considered serious incidents for each of the six primary exposure factors are:

- Health/injury:
  - Fatality or serious debilitating injury to EMML personnel, contractors or the public
  - Fatality or serious debilitation to EMML personnel from a serious illness event
  - Infectious disease outbreak which significantly impacts operations or the public
- Security:
  - Homicides/kidnapping of EMML personnel and contractors
  - Forcible breach of facility perimeters by the public
  - Substantial disruption of worksite activities which significantly impacts production
- Environmental:
  - Spills/releases of significant volume, or into environmentally sensitive areas
  - Significant impacts to public water supplies
  - Spills/releases requiring public evacuation
  - Significant/irreversible impact to legally designated protected areas, International Union for Conservation of Nature listed species or cultural heritage sites
- Public disruption:
  - Evacuation of the public due to an operational incident
  - Unplanned significant disruption of public infrastructure/resources
  - Public disturbance providing a credible, substantial threat to local peace/order, EMML personnel, or nearby communities
- Reputation:
  - Longer-term industrial actions which significantly impact operations
  - Enforcement actions by regulators
- Financial:
  - Extended periods of non-routine operational shutdown due to an operational incident
  - Significant loss due to damage/fire
  - Extended periods of operational shutdown due to a natural disaster.

EMML recognizes social considerations may be an underlying cause or contributing factor to several of the defined exposure factors, or, in some cases, a defined incident may stimulate a social response from the public, which may increase exposure or otherwise create sensitivities related to incident response.

EMML is also aware that unresolved social issues can frequently and quickly escalate to a defined incident which, depending on the Severity Level, would trigger incident notification/reporting based on the defined exposure factors. Given the importance of effective management of social considerations, EMML will actively monitor social issues through a structured grievance process, with the objective of avoiding/mitigating social issues that could escalate if not addressed in a timely manner.

It is EMML's intention to perform the required notifications/reporting in alignment with the financing agreements, in both a timely and transparent manner. The size, complexity, and nature of operations do periodically create challenging scenarios which require in-depth analysis to determine if IESC/Lender Group notification/reporting is required.

## **8.2. Incident Notification**

EMML will use a structured, management-led process to determine notification/reporting requirements in situations where the characteristics of an incident make notification/reporting requirements unclear.

Notification/reporting will be conducted in accordance with the following criteria. All of the criteria below must apply to trigger IESC/Lender Group notification/reporting:

- Serious incidents that have a material adverse impact on the environment, worker health and safety, or an EMML-affected community
- An incident occurs as a result of EMML activities (including EMML-dedicated aviation/marine/ground transportation) whether occurring inside or outside of established permanent facilities but at EMML-associated facilities/areas
- Incidents considered as work-related; meaning there was an identifiable 'industrial' event/exposure which occurred in, or was triggered by, the work environment and caused/contributed to the incident.

The incident management system includes detailed guidance for performing notifications to internal stakeholders (e.g., field, asset, business unit, and corporate levels) and external stakeholders and designated GoM authorities and Mozambique statutory obligations.

The IESC/Lender Group will be notified within 3 business days of any serious incident, as defined in Section 8.2. A written incident report will be provided to the IESC/Lender Group promptly upon completion.

EMML will consider courtesy notification for serious incidents that do not address all of the (applicable) criteria, particularly where information relating to the incident is difficult to acquire or corroborate, and where the incident may generate media reports that may come to the attention of the IESC/Lender Group.



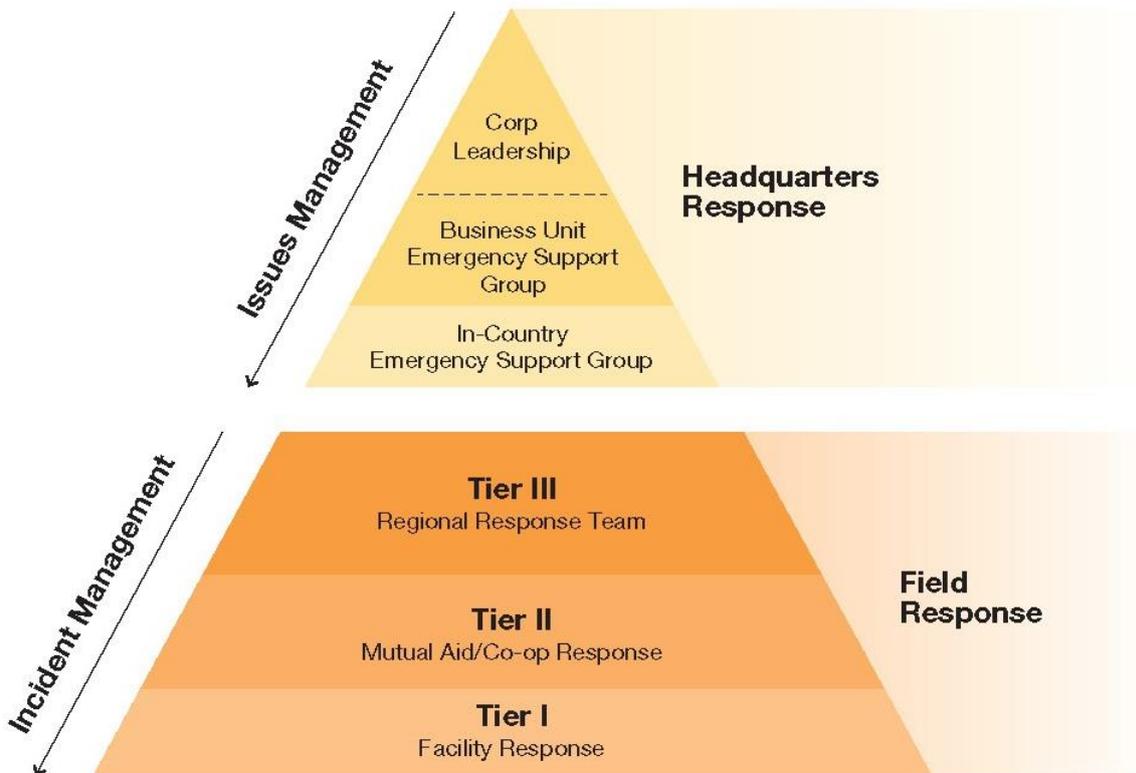
## 9. EMERGENCY PREPAREDNESS AND RESPONSE

EMML has a well-established and practiced emergency response system. This system includes a full initiation and response structure that covers the Emergency Support Group, Incident Management Team, and specific incident response arrangements. The system uses the People, Environment, Assets, and Reputation (PEAR) process to ensure that the safeguarding of all personnel (including the public) is always the top incident management priority, regardless of the situation. OIMS System 10-2 Emergency Preparedness and Response provides the overall framework for establishing requirements for:

- Plan development at a site level
- Plan review and distribution
- Training of appropriate personnel
- Simulated exercises and feedback as part of a continuous improvement process.

The EMML emergency response plan focuses on strategic actions and issues. Site level plans are tactical and include response procedures for defined emergency scenarios. In some instances, emergency scenarios will reference specific response plans. An example is the Oil Spill Contingency Plan. The Plan provides detailed response procedures to mitigate a potential spill on land or in water. All of these plans follow a tiered approach in responding to emergencies as outlined in Figure 9-1.

**Figure 9-1: Emergency Response Model**



 <b>Rovuma</b> <b>LNG</b>	<b>ENVIRONMENTAL AND  SOCIAL MANAGEMENT  PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019 <hr/> <b>Page 43 of 60</b>
---	---	--

The tiered approach provides for the escalation of field (tactical) response efforts and is defined as:

- Tier I: Incident is small, is deemed under control, and may involve a response from a local company-managed resource.
- Tier II: Incident is large or complex, is deemed under control, and involves mutual aid cooperative response and/or coordinated support from other company-managed worksites in-country.
- Tier III: Incident is large or complex, is deemed to not be under control, and requires a response by the appropriate company-managed regional response team and specialized resources, some of which may be managed by third parties.



## 10. MANAGEMENT OF CHANGE

EMML has developed tools and procedures to meet the requirements outlined in the OIMS System 7-1 Management of Change (MoC). The tools and procedures are described in the ExxonMobil OIMS 7-1 Management of Change Manual.

The principles of the MoC process are to:

- Manage permanent, temporary and urgent/emergency changes to procedures or process equipment
- Provide for a thorough evaluation of the proposed change
- Consider factors for the identification and control of potential Operations Integrity (OI) risks associated with the proposed change
- Communicate the proposed change to personnel whose job tasks may be affected by the change and who may require training prior to implementing the change; and
- Ensure critical documentation remains up-to-date with changes as they are implemented.

The Project will implement a formal procedure to manage changes that will apply to all Project activities.

### 10.1. Classification of E&S Related Changes

The process for dealing with Project changes and uncertainty recognizes three levels of change/uncertainty. Applicable classification levels and associated criteria for determining these are summarised in Table 10-1.

**Table 10-1: Management of Change Classification of E&S-Related Changes**

Classification Level	Criteria
Class III: Higher Significance	<ul style="list-style-type: none"> <li>• Change includes Project activities or development with potential impacts on the environment, freehold or customary land, neighbouring communities, occupied dwellings, utilized social infrastructure, or cultural resources that are not detailed in the EIA or that are physically located outside the scope/study area of the EIA, Pre-construction Surveys, that are reasonably likely to have significant adverse impacts which are not mitigated by the ESMP and mitigation measures arising from Pre-construction surveys.</li> <li>• One or more of the following conditions are encountered or otherwise might be irreversibly impacted because of the proposed change:               <ul style="list-style-type: none"> <li>• Significant cultural heritage</li> <li>• Tier I or II critical habitats (as defined in PS6)</li> <li>• IUCN Endangered or Critically Endangered species</li> <li>• Permanent exceedances of emissions/effluent standards</li> <li>• Physical relocation or economic displacement of households or other enterprises not covered by the principles and types of compensation measures addressed in the Resettlement Plan or RAP.</li> </ul> </li> <li>• Changes fall outside the EIA and Pre-construction Survey study area and will require substantial additional environmental and social assessment and mitigation measures to ensure that it does not irreversibly impact important resources.</li> <li>• Change of Project Standards.</li> </ul>

Classification Level	Criteria
Class II: Moderate Significance	<ul style="list-style-type: none"> <li>Change including activities or development with potential impacts on the environment, freehold or customary land, neighbouring communities, occupied dwellings, utilized social infrastructure, or cultural resources that are not detailed in the EIA or that are physically located outside of the scope/study area of the EIA, Pre-construction Surveys and that does not: <ul style="list-style-type: none"> <li>Impact significant cultural/archaeological finds or social infrastructure, either because none exist in the impacted area or they can be avoided or approved mitigation measures implemented.</li> <li>Impact Tier I or II critical habitats (as defined in PS6) but might impact natural habitat</li> <li>Impact IUCN Endangered or Critically Endangered species</li> <li>Result in significant impacts to communities, possessors of land, or landowners that are not covered by mitigation, compensation or other measures previously adopted by the project.</li> <li>Involve physical or economic displacement of people not covered by the principles and types of compensation measures addressed in the Resettlement Policy Framework</li> <li>Require significant changes to the ESMP</li> </ul> </li> </ul> <p>Change requires additional but limited cultural heritage surveys or environmental and social assessments.</p>
Class I: Minor Significance	<ul style="list-style-type: none"> <li>Change including activities or development within the scope/study area of the EIA or Pre-construction Surveys</li> <li>Change does not impact EML's ability to meet the requirements of the ESMP.</li> </ul> <p>Change may require additional but limited environmental or social study or survey.</p>

## 10.2. Environmental and Social Management Plan Management of Change Interface

The ExxonMobil OIMS 7.1 Management of Change contains provisions to ensure ESMP requirements are considered as part of the evaluation process. It includes specific questions for the Change Coordinator to ensure that the change complies with SSHE requirements which include, but are not limited to:

- Assessment and Management of the Environmental and Social Risks and Impacts
- Labor and Working Conditions
- Resource Efficiency and Pollution Prevention
- Community Health, Safety and Security
- Land Acquisition and Involuntary Resettlement
- Biodiversity Conservation and Sustainable Management of Living Resources
- Indigenous Peoples
- Cultural Heritage

### 10.3. Management of Change: External Reporting

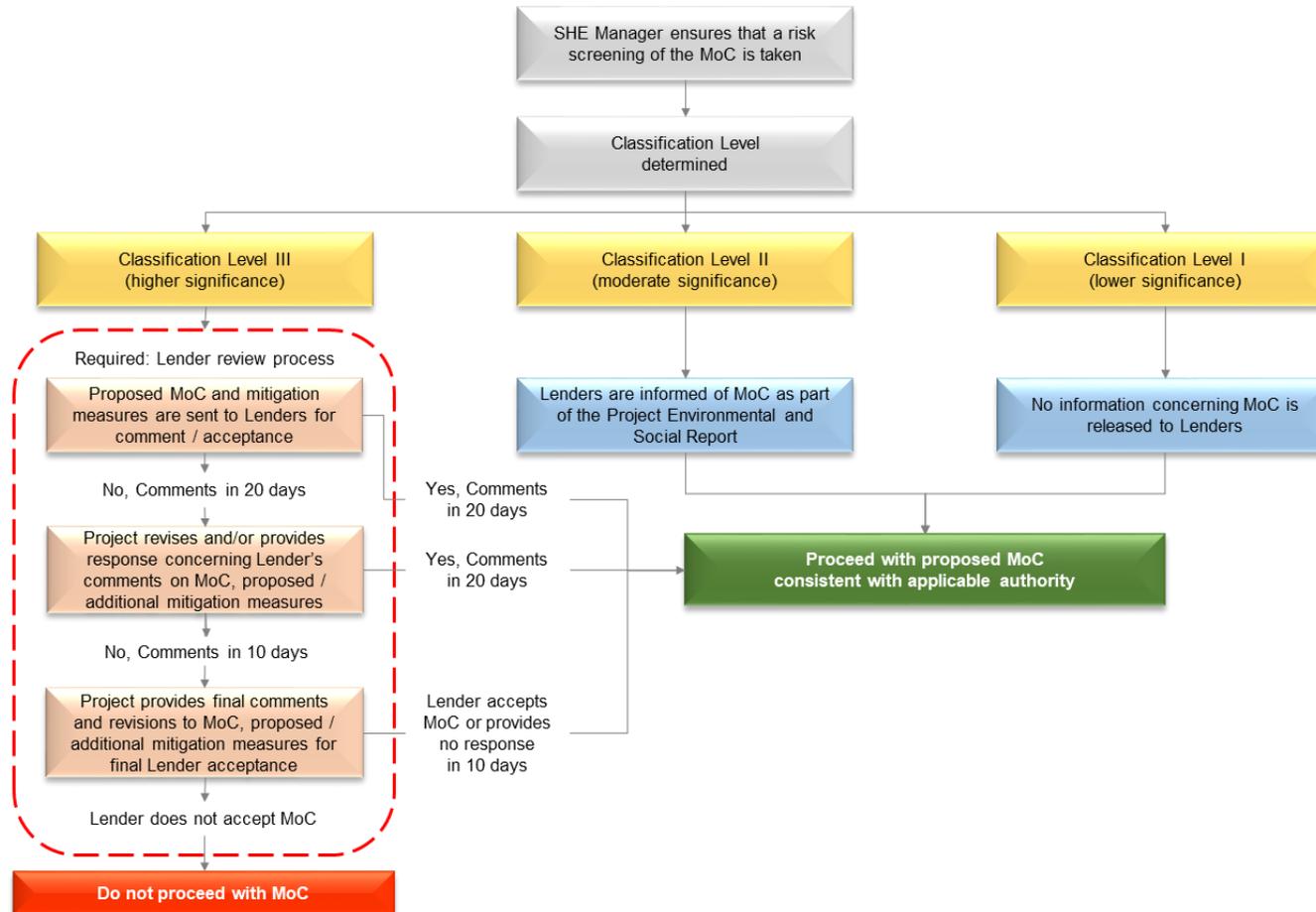
The Environmental Lead, Social Lead, and the Company IESC Interface Manager will be immediately informed of any proposed changes that have the potential to result in impacts above and beyond those already assessed and mitigated by the Project. It is the responsibility of the Environmental Lead, and Social leads to ensure that their respective disciplines highlight the potential concerns and propose updated or additional mitigations as appropriate. Lender MOC reporting criteria are described in Table 10-2.

**Table 10-2: Management of Change Lender Reporting**

<b>Classification</b>	<b>Lender Reporting Commitment</b>
Class III	A description of the proposed change, any supplementary survey or monitoring outputs, impact assessments and proposed mitigations will be provided to the IESC and the appropriate national regulatory authority for review prior to the implementation of the change. The change will not be implemented until both have authorities have approved the change. Changes will be reported in the E&S Report to the Lenders.
Class II	Changes will be reported in the E&S Report to the Lenders. Where applicable the appropriate national regulatory authorities will be notified, and the necessary licenses/ permits updated.
Class I	Changes will be not be reported



**Figure 10-1: Lender Group Management of Change Process**



 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		Page 48 of 60

## 11. REPORTING AND NOTIFICATION

### 11.1. Internal Reporting

Reporting outputs from the implementation of this ESMP, including, but not limited to, any non-conformances and non-compliances, will be periodically reported and made available to EMML management.

Where contractors are executing works on behalf of the EMML, they will provide routine reports measuring their E&S performance in accordance with the requirements described in the ESMP.

EMML internal reporting and contractor reporting will generally include, but not limited to:

- Pre-construction survey reports including details of additional management and mitigations arising, where applicable
- Details of environmental monitoring (sampling and analysis) and social monitoring during the reporting period
- Reporting of performance indicators applicable during the reporting period
- A summary and status of incident notifications
- A summary and copies of notifications and other reports made to GoM agencies
- A summary and status of non-conformances and field observations documented as part of verification and monitoring
- A summary of assessment and audit reports
- A summary of grievance management (worker and community) applicable during the reporting period
- A summary of stakeholder engagement activities conducted during the reporting period
- The number of GoM agency inspections (location, date, time, and outcome).

### 11.2. External Reporting

EMML, on behalf of MRV will submit regular environmental reports to the relevant GoM Department under the reporting requirements of Environmental Licenses. The structure, content, and format of the report will be agreed with the GoM. As a minimum, the following information will be reported when applicable:

- Details of applicable environmental monitoring (sampling and analysis) undertaken during the reporting period
- Details of stakeholder engagement activities undertaken during the reporting period
- A summary and status of incidents that occurred during the reporting period
- A summary and status of non-conformances, and corrective actions have been taken or are planned.

The GoM will also be notified of significant environmental incidents under the notification requirements of environmental permits and statutory requirements. Contractors will be responsible for GoM reporting and incident notifications for permits or licenses held in their name.

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> Revision: 0 Date: 9/05/2019
		<b>Page 49 of 60</b>

EMML will prepare and submit incident reports to the IESC/Lender Group for incidents classified as serious according to the criteria outlined in Section 8.2.

The Upstream and Midstream Operators will prepare E&S Social Reports for the Lender Group and will be made available to the public via the Project website. As a minimum, each report will contain for the reporting period:

- Details of environmental monitoring (sampling and analysis) and social monitoring undertaken
- Reporting of E&S performance indicators
- An outline of significant E&S activities
- A summary of verification, assessment and audit activities undertaken a summary and status of incidents, non-conformances, field observations and corrective actions undertaken
- A summary of grievance management
- A summary of public consultation and disclosure activities a summary of activities and performance against the Community Development Support Management Plan
- A summary of workforce and procurement statistics
- Details of livelihood restoration monitoring where applicable
- Details of additional land acquisition and compensation and resettlement where applicable.

Registers and data obtained from the monitoring, verification, assessment, audit and performance indicator processes described in this ESMP will be managed using an electronic information management system (ISOMETRIX). The information management system acts as a repository for all data relating to this ESMP and is designed to handle and manipulate data as required (for example tracking and trend analysis) to facilitate reporting.

## 12. ASSESSMENT AND REVIEW

EMML will undertake assessments, reviews, and audits where deemed necessary, and in accordance with ExxonMobil OIMS requirements.

The IESC will conduct periodic monitoring reviews of the Project, based mainly on the socioeconomic and environmental mitigation measures set out in this ESMP. Such reviews will be undertaken under a predetermined protocol as agreed with EMML. EMML, Contractors, and Subcontractors will cooperate with the IESC in the execution of monitoring reviews. Upon completion of reviews, the IESC will provide EMML and the Lender Group with a draft report. The draft report will be discussed between the IESC, EMML and the Lender Group, following which the IESC will provide EMML with a final report, which in turn will be disclosed on the Project website. EMML will steward the findings of the reviews.

EMML will also be responsible for the performance of environmental audits, which will be submitted to MITADER by environmental auditors.

### 12.1. Non-Conformances

Non-conformances identified via formal processes (e.g., internal assessments, reviews, and audits; review of monitoring data) and informal processes (e.g., field observations), will be stored in a database(s) to assist tracking, stewardship, and closure.

The database(s) will include details of the non-conformances; details of E&S field observations; remedial/corrective actions required; assigned actions/timings of responsible parties; and the status of remedial/corrective actions.

The database(s) will also include details regarding incidents.

EMML will ensure the database(s) remains current and relevant items are made available to the IESC/Lender Group upon request. These requirements apply equally to contractors and subcontractors where appropriate.

EMML has assigned three levels of non-conformance and an additional observation level, as presented in Table 12-1.

**Table 12-1: Levels of Non-Conformance**

Level	Description	Disposition	Action
Field Observation	A potential non-conformance situation where an observation, intervention, and/or corrective action is required in order to prevent non-conformance.	Field observations will generate a corrective action request or a recommendation for further action. A field observation that is not closed-out in a timely manner or repeats field observations may escalate to a non-conformance.	Record of Field Observation made, corrective action immediately implemented
Level 1	A non-conformance is a situation not consistent with ESMP requirements, but not believed to involve damage or reasonable expectation of damage to the environment or community or individual.	Level I non-conformances will generate a corrective action request or a recommendation for further action.	Record of non-conformance recorded, corrective action will be issued, and a timescale for closeout agreed. Non-conformance will be reviewed at the earliest opportunity after the deadline has passed.

Level	Description	Disposition	Action
Level II	A non-conformance situation that typically includes observed damage or a reasonable expectation of damage to the environment or community or individual. It requires expeditious corrective action to prevent an occurrence or reoccurrence.	Level II non-conformances will generate a corrective action request and a formal non-conformance notice. Level II non-conformances may result in stopping activities associated with the particular work scope.	Record of non-conformance recorded, corrective action will be issued, and a timescale for closeout agreed. Non-conformance will be reviewed at the earliest opportunity after the deadline has passed. Root cause analysis will be carried out by the entity the non-conformance was raised against.
Level III	A critical non-conformance situation, typically including observed significant damage or a reasonable expectation of significant damage to a sensitive environment or community or individual. It requires expeditious corrective action to prevent an occurrence or reoccurrence.	Level III non-conformances will generate a corrective action request or a recommendation for further action and will result in stopping activities associated with the particular work scope.	Record of non-conformance recorded, corrective action will be issued, and a timescale for closeout agreed. Non-conformance will be reviewed at the earliest opportunity after the deadline has passed. Root cause analysis will be carried out in conjunction with the Company utilizing the Company methodology.

EMML reports all non-conformances identified during the assessment and audit processes to the IESC/Lender Group as follows:

- Level III non-conformances are notified to the IESC/Lender Group within three business days. A report is provided within five business days
- Level II non-conformances are reported to the IESC/Lender Group and relevant local authorities in summary form as part of the EMML E&S Report to the Lenders.
- Level I non-conformances and field observations are reported to the IESC/Lender Group as a numeric total, as part of the EMML E&S Report to the Lenders.

All documentation relating to non-conformances is made available as part of periodic audits undertaken by the IESC/Lender Group.

## 12.2. Non-Conformance Action Tracking

The Environmental and Social Action Tracking System ISOMETRIX will be utilized for the tracking and stewardship of non-conformances identified as part of the Project's verification, monitoring, assessment and audit activities.

The Contractors' E&S Action Tracking System (or equivalent) will include:

- Details of all E&S non-conformances (all levels) and field observations
- Identify the remedial/corrective action required, assign actions/timings to responsible parties, and indicate the status of the remedial/corrective action.

The above requirements apply equally to subcontractors and subcontractor data which must be included in Contractors' routine reporting.

 <b>Rovuma LNG</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>MZLN-EL-RPPLN-00-0016</b> <b>Revision: 0</b> <b>Date: 9/05/2019</b> <b>Page 52 of 60</b>
---	---	--

### 12.3. Performance Indicators

Performance indicators are used to measure and track the performance of the mitigation and control measures described in the ESMP. Indicators can be divided into two groups—leading indicators and lagging indicators.

- Leading indicators are those that can be used to identify potential problems/risks before the occurrence of an incident or development of an adverse situation
- Lagging indicators are those that characterize situations or events that have already occurred, and that may be used to verify or change existing policies, programs or practices.

An indicative list of Performance Indicators is presented in Appendix B. This list is neither definitive nor exhaustive.

Additional Performance Indicators for the EPC Contractor (and associated subcontractors) may be incorporated into the EMMML-approved CIPs. All Performance Indicators are to be meaningful and quantifiably measurable and shall be used to track performance not the number of training events, toolbox talks, etc. these examples may be considered leading indicators but they do not act as performance indicators unless they are set against daily weekly, monthly, targets and are proportional to the number of personnel onsite.

## Appendices

**Appendix A Project E&S Organisations – Generic Job Descriptions**

Position	No. Staff	Description
SSH&E Manager	1	<ul style="list-style-type: none"> <li>• Reports to the Project Executive (direct reporting relationship)</li> <li>• Directly oversees the activities of the Project's E&amp;R Manager and maintains an interface with Project's Social Manager</li> <li>• Responsible for the Project's overall regulatory compliance and environmental performance, including the implementation and monitoring of the RCP and the ESMP</li> <li>• Responsible for setting overall E&amp;R goals and objectives for the Project and communicating specific regulatory compliance and environmental protection and performance strategies and objectives for the Project as a whole and for specific components of the Project as necessary</li> <li>• Responsible for ensuring that the appropriate resources are assigned to support the Project's regulatory compliance and environmental management activities, including the implementation and monitoring of the ESMP</li> <li>• Approves E&amp;R-related execution plans and reporting metrics in consultation with the E&amp;R Manager</li> <li>• Responsible for endorsing regulatory compliance and environmental performance stewardship indicators and maintaining on-going E&amp;R stewardship to the Project Executive and the Project Team (PT)</li> <li>• Liaises with the Company E&amp;R Function and the EHL SHE Group on regulatory compliance and environmental management issues as needed</li> <li>• Provides direction to the Contractors regarding regulatory compliance and environmental protection and performance matters</li> <li>• Manages the Project's E&amp;R budget</li> <li>• Works with the Project's Technical Manager, Community, and Land Affairs Team, and Social Team to interface with key external stakeholders regarding environmental matters, including the general public</li> <li>• Ensures that external Regulatory Compliance Assessments are conducted as per the scheduled provided in the Project's RCP</li> <li>• Ensures that worldwide best E&amp;R practices from Company projects are incorporated into the Project's processes and procedures</li> </ul>
Social-Economic Manager	1	<ul style="list-style-type: none"> <li>• Interfaces with the Project's construction engineering team and E&amp;R team to ensure that EPC execution plans are consistent with the Project's social programs, requirements, and commitments/obligations</li> <li>• Interfaces with EPC planners and engineers to ensure construction and execution plans have the necessary work processes and procedures for monitoring, recordkeeping and reporting social programs performance</li> <li>• Interfaces with the Project SSH&amp;E Organization as a whole to ensure consistency of the social programs execution across EPCs, that social issues are adequately and properly addressed/managed, that best practices and lessons learned are implemented and that all other social programs are adequately supported</li> <li>• Responsible for compliance and performance reporting</li> <li>• Reviews the Contractors' social management documents and deliverables for acceptability</li> <li>• Participates in Contractor management orientation and training sessions specific to social matters</li> <li>• Supports other social programs responsibilities as required to ensure successful execution of EPC scope for work consistent with Project's expectations, commitments, and requirements</li> </ul>



Environmental and Regulatory Manager	1	<ul style="list-style-type: none"><li>• Provides day-to-day direction and leadership to the Project E&amp;R Team and manages the Project E&amp;R team staffing plans.</li><li>• Oversees the implementation and monitoring of the Project's RCP and the Environmental components of the ESMP</li><li>• Manages and maintains the Project's RCP and ESMP and updates these documents as necessary</li><li>• Assists the Project Team in understanding applicable environmental laws, regulations, codes, guidelines, and permit / license / authorization / approval conditions throughout the Front End Engineering and Design (FEED) and detailed engineering phases and into construction</li><li>• Maintains key interfaces with regulatory agencies, EPC contractors, and the overall Project Team</li><li>• Provides regulatory and environmental technical support to design</li><li>• Endorses Project execution plans and participates in formal construction readiness reviews to ensure environmental performance/protection and regulatory compliance</li><li>• Provides regulatory and environmental input to support the development of the Project's Coordination Procedures, ITT packages, and other contractor bid packages</li><li>• Reviews contractor bid submissions from regulatory compliance and environmental performance/management viewpoint</li><li>• Reviews site- and activity-specific regulatory compliance and environmental execution plans generated by the Contractors</li><li>• Works with the Project's SSH&amp;E Organization as a whole to incorporate the required regulatory compliance and environmental content into training programs for workers and others</li><li>• Works closely with the Contractors to ensure the successful execution of the regulatory compliance and environmental protection/performance aspects of their work</li><li>• Works closely with the Project's Community and Land Affairs Teams to manage the public consultation process as it relates to regulatory compliance and environmental performance/management matters</li><li>• Contacts regulatory authorities on behalf of the Project regarding regulatory and environmental matters, including required notifications and reporting</li><li>• Provides a single window for all Project regulatory and environmental issues, and ensures that required recordkeeping is being properly undertaken</li><li>• Coordinates internal regulatory compliance and environmental performance assessments and readiness reviews, including external Regulatory Compliance Assessments</li><li>• Responsible for permit/license/authorization/approval applications and government reporting, as needed</li><li>• Approves environmental submissions to regulatory agencies</li><li>• Maintains regular contact with the SHE Group and the Company E&amp;R Function</li><li>• Responsible for internal and external Project E&amp;R stewardship and reporting, including monthly reporting to Lenders and applicable PNG agencies</li><li>• Develops E&amp;R business plans and budgets, and supports the Project SSH&amp;E</li><li>• Manager in stewarding the Project's E&amp;R budget</li><li>• Supports the Project's SSH&amp;E Manager</li></ul>
--------------------------------------	---	---



<b>Position</b>	<b>No. Staff</b>	<b>Description</b>
Regulatory and Compliance Advisor	1	<ul style="list-style-type: none"><li>• Prepares Project's RCP Review and provides endorsement to Environmental and Regulatory Manager of Contractors Regulatory documentation</li><li>• Assesses the need for and coordinates permit/license/authorization/approval applications; provides direction to the Contractors regarding the preparation of such applications</li><li>• Shepherds permit/license/authorization/approval applications through the regulatory process</li><li>• Distributes and communicates permit/license/authorization/approval conditions to the Project organization</li><li>• Responds to questions from the Project Team about the permitting process</li><li>• Stewards permit/license/authorization/approval status to the Project Team</li><li>• Clarifies conditions in permits/licenses/authorizations/approvals for the Project as requested</li><li>• Support interface with PNG regulatory agencies to successful delivery permitting requirements</li><li>• Support Environmental and Regulatory Manager</li><li>• Manages the Regulatory &amp; Permitting Coordinator</li></ul>
Field Environmental Lead	1	<ul style="list-style-type: none"><li>• Provides day-to-day direction and leadership in the Field</li><li>• Environmental Team and manages the Field Environmental Team's staffing plans</li><li>• Maintains and implements Environmental component of the Project's Environmental and Social Management Plan (ESMP) and the Project's Environmental Monitoring Plan</li><li>• Implements detailed environmental performance metrics, monitor results and continues to enhance performance. Track environmental program metrics and steward progress</li><li>• Plan develop and implement field environmental programs including logistics</li><li>• Manages a Team of Field Environmental Officers (5-10)</li></ul>

## Appendix B Indicative Performance Indicators

### ECOLOGY

ID #	Performance Indicator	Measurement	Internal Assessment Frequency
1	Area of vegetation planned for clearing against actually cleared; and new quarries planned and actual.	Disturbance in line with design plans. Actions were taken in cases of non-compliance.	Quarterly

### NOISE

ID #	Performance Indicator	Measurement	Internal Assessment Frequency
1	Number of unresolved complaints relating to noise and vibration issues	Complaints register shows complaints from stakeholders have been adequately addressed	Quarterly

### WASTE

ID #	Performance Indicator	Measurement	Internal Assessment Frequency
1	All waste going to facilities approved by Company	Waste Tracking Forms	Quarterly

### AIR

ID #	Performance Indicator	Auditing Frequency	Requirements/Audit Activity
1	Compliance with emission criteria	Quarterly	Verification of air monitoring program
2	Project maximizes efficiency	Quarterly	Verification of greenhouse and energy reporting

### WATER

ID #	Performance Indicator	Auditing Frequency	Requirements/Audit Activity
1	Number of exceedances of water quality and quantity criteria	Quarterly	Verification of water monitoring program
2	Appropriate corrective /remedial action taken in case of exceedance	Quarterly	Verification of water monitoring program

### SPILL PREVENTION AND RESPONSE PLAN

ID #	Performance Indicator	Measurement	Internal Assessment Frequency
1	Number of contained and uncontained releases	Number of releases	Quarterly
2	Number of spill prevention and response drills	Number of spill prevention and response drills	Quarterly

### HAZARDOUS MATERIALS

ID #	Performance Indicator	Measurement	Internal Assessment Frequency
1	Number of times chemicals subject to international bans or phase-outs are brought on site	Verification	Quarterly
2	Number of contained and uncontained releases	Number of releases	Quarterly

### WEED, PLANT PATHOGEN, AND PEST

ID #	Performance Indicator	Measurement	Internal Assessment Frequency
1	Control new significant weeds, plant pathogens or pests from establishing or spreading from the works area.	Visual inspections during construction to check that no establishment or spread of weeds, plant pathogens or pests has taken place in the Project area.	Quarterly

### EROSION AND SEDIMENT CONTROL

ID #	Performance Indicator	Measurement	Internal Assessment Frequency
1	Landform stability	The occurrence of sediment control structures and mass failings	Monthly and after significant storm events
2	Maintenance of water quality and flow regimes	Turbidity levels	Monthly

### RAW MATERIALS

ID #	Performance Indicator	Measurement	Internal Assessment Frequency
1	All aggregate procured from Company-approved quarry	Documenting sources and volumes of aggregate	Quarterly
2	All in-country timber acquired from Company approved sources	Documenting sources and volumes of timber	Quarterly

### REINSTATEMENT

ID #	Performance Indicator	Measurement	Internal Assessment Frequency
1	Landform stability	The occurrence of mass failings sedimentation	Quarterly
2	Vegetation regeneration	Vegetation cover	Quarterly

### INDUCED ACCESS

ID #	Performance Indicator	Measurement	Internal Assessment Frequency
1	Access to New Project Roads controlled	Measures to control access are effective (no third-party vehicle access) - Frequency of third-party vehicle access	Quarterly

### CULTURAL HERITAGE

ID #	Performance Indicator	Measurement	Internal Auditing Frequency
1	Number of known cultural heritage sites disturbed without permission	Number of incidents	Quarterly
2	The number of cultural heritage sites appropriately managed under this Cultural Heritage Management Plan and relevant Site-Specific Cultural Heritage Management Plans.	Number of sites appropriately managed	Quarterly

### HYDROTEST

ID #	Performance Indicator	Measurement	Internal Assessment Frequency
1	Percent reuse of abstracted water used for further hydrotest	Record of abstraction and discharge volumes	At hydro test
2	Number of exceedances of water quality criteria due to the discharge of hydrotest water	Verification of water quality analysis prior to discharge	Prior to discharge

### DREDGING

ID #	Performance Indicator	Measurement
1	Dredge spoil placement in designated and approved location/s	Inspection of records, verification.
2	Approved (permit) to dredge and place	Monitoring/validation program for compliance with permit conditions, dredging CIP



**Appendix C Minimum Environmental and Social Training Requirements**

<b>Personnel</b>	<b>Topic</b>	<b>Frequency</b>
All Project Personnel (Company, Contractor and subcontractor)	Environmental and Social Awareness Training: <ul style="list-style-type: none"> <li>• Company Policy and E&amp;S expectations and requirements</li> <li>• General Project E&amp;S expectations and requirements</li> <li>• Project E&amp;S objectives and a general overview of E&amp;S effects avoidance and mitigation measures</li> <li>• Project E&amp;S incident reporting</li> <li>• Environmental and social sensitivity training of key issues</li> </ul>	Once (with refreshers as needed) Delivered with safety training
Project Environmental and Social Advisors, Monitor, Specialists or Personnel identified as responsible for specific tasks (Company, Contractor, and subcontractor)	Environmental and Social Issue Training: <ul style="list-style-type: none"> <li>• Detailed training on the management, commitments, and mitigation measures of the Company and Contractor aspect specific management plans</li> <li>• Field monitoring, incident investigation, and response</li> <li>• Other E&amp;S issues dependent on roles and responsibilities</li> <li>• Typical topics include ground disturbance, surface water release, waste management, air emissions reporting, cultural heritage, social awareness, social interaction principles</li> </ul>	Ongoing, with training to be provided prior to the start-up of identified tasks Updated if tools or procedures change Refresher frequency as required, based on environmental risks associated with the task
Site Personnel (Company, Contractor and subcontractor)	Environmental and Social Site Awareness Training: <ul style="list-style-type: none"> <li>• Detailed site-specific training to understand the Project expectations, requirements, and commitments</li> </ul>	Once (with refreshers as needed) The timing could be associated with Site Safety training because of similar audiences
Management/Supervision (Company, Contractor and subcontractor)	Environmental and Social Management Strategy training: <ul style="list-style-type: none"> <li>• Project E&amp;S vision overview</li> <li>• General monitoring, verification, and incident response processes</li> <li>• A general overview of Project mitigation measures, management plans, and reporting requirements</li> <li>• Other E&amp;S site-specific and strategic management issues and requirements</li> </ul>	Once (with refreshers as needed)