



# ENVIRONMENTAL IMPACT ASSESSMENT FOR THE 66 kV POWER EVACUATION LINE FROM NAMAACHA WIND POWER PROJECT TO BOANE SUBSTATION

## ENVIRONMENTAL IMPACT STUDY

### FINAL REPORT

### VOLUME III – ENVIRONMENTAL MANAGEMENT PLAN



**NOVEMBER 2023**

**Prepared for:**



**ELECTRICIDADE  
DE MOÇAMBIQUE, E.P.**

*EDM – Electricidade de  
Moçambique, E.P.*

**Prepared by:**



*Consultec – Consultores Associados, Lda.*

# ENVIRONMENTAL IMPACT ASSESSMENT FOR THE 66 kV POWER EVACUATION LINE FROM NAMAACHA WIND POWER PROJECT TO BOANE SUBSTATION

## ENVIRONMENTAL IMPACT STUDY

### FINAL REPORT

### VOLUME III – ENVIRONMENTAL MANAGEMENT PLAN

**EDM – Electricidade de Moçambique, E.P.**

Av. Eduardo Mondlane Nr.1390, 5º andar,  
Maputo, Moçambique

Olga Utchavo | olga.utchavo@edm.co.mz

**Consultec – Consultores Associados, Lda.**

Rua Tenente General Oswaldo Tazama, n.º 169  
Maputo, Moçambique

Phone: +258 21 491 555

Email: consultec@consultec.co.mz

**November 2023**

# VOLUME INDEX

## Non-technical Summary

### Volume I – Introduction, Project Standards, Methodology, Project Description, Area Of Influence And Baseline Assessment

- Chapter 1 – Introduction
- Chapter 2 – Legal and Regulatory Framework
- Chapter 3 – EIA Approach and Methodology
- Chapter 4 – Project Description
- Chapter 5 – Project Area of Influence
- Chapter 6 – Baseline Assessment
- Annex I – Proof of Consultec’s Registration with MTA
- Annex II – Correspondence with MTA

### Volume II – Impact Assessment and Mitigation Measures

- Chapter 7 – Impact Assessment and Mitigation Measures
- Chapter 8 – Public Participation Process
- Chapter 9 – Conclusions and Recommendations
- Chapter 10 – References

### **Volume III – Environmental Management Plan**

- Chapter 1 – Introduction
- Chapter 2 – Legal and Regulatory Framework
- Chapter 3 – Project Description
- Chapter 4 – Implementation of the EMP
- Chapter 5 – Environmental Management
- Chapter 6 – Environmental Management Plans and Programs
- Chapter 7 – Environmental Monitoring and Reporting

### Volume IV – Physical and Socioeconomic Survey Report (Resettlement Policy Framework)

- Chapter 1 – General Considerations
- Chapter 2 – Introduction
- Chapter 3 – Project Details
- Chapter 4 – Scope and Objectives of the Resettlement Policy Framework
- Chapter 5 – Preliminary Land Acquisition and Resettlement Impacts

Chapter 6 – Socioeconomic Profile of the Surveyed Population  
Chapter 7 – Legal and Policy Framework  
Chapter 8 – Eligibility Criteria and Compensation Methodology  
Chapter 9 – Public Participation Process  
Chapter 10 – Resettlement Host Area  
Chapter 11 – Grievance Redress Mechanism  
Chapter 12 – Approach to Livelihoods Restoration  
Chapter 13 – Community Development Fund  
Chapter 14 – Institutional Framework and Implementation Arrangements  
Chapter 15 – Monitoring and Evaluation  
Chapter 16 – Compensation Packages and Estimated Resettlement Budget  
Chapter 17 – Terms of Reference for the RAP  
Chapter 18 – References  
Annex I – RPF Public Consultation Meeting Minutes

Volume V – Public Participation Process Report

Chapter 1 – Introduction  
Chapter 2 – Public Consultation Process  
Annex I – Public Announcement  
Annex II – Example of Invitation Letter  
Annex III – Attendance Registration  
Annex IV – Meeting Minutes

## TABLE OF CONTENTS

---

1	INTRODUCTION .....	1
1.1	GENERAL CONSIDERATIONS .....	1
1.2	PURPOSE AND OBJECTIVES OF THE EMP .....	1
1.3	EMP STRUCTURE .....	3
2	LEGAL AND REGULATORY FRAMEWORK .....	4
2.1	INSTITUTIONAL FRAMEWORK .....	4
2.1.1	Environmental Authorities .....	4
2.1.2	Energy Sector .....	4
2.2	LEGISLATIVE FRAMEWORK .....	5
2.3	RELEVANT INTERNATIONAL CONVENTIONS .....	12
2.4	INTERNATIONAL BEST PRACTICE GUIDELINES AND POLICIES .....	15
2.4.1	IFC Performance Standards .....	15
2.4.2	IFC Environmental Health and Safety Guidelines .....	16
2.4.3	Southern African Power Pool Guidelines .....	16
2.4.4	AfDB Integrated Safeguard System .....	17
3	PROJECT DESCRIPTION .....	18
3.1	PROJECT OVERVIEW .....	18
3.2	MAIN ACTIVITIES .....	18
3.2.1	Construction Phase .....	18
3.2.2	Operational Phase .....	20
3.2.3	Decommissioning Phase .....	20
4	IMPLEMENTATION OF THE EMP .....	21
4.1	COORDINATION WITH RELEVANT AGENCIES / STAKEHOLDERS .....	21
4.2	ROLES AND RESPONSIBILITIES .....	21
4.2.1	Key Role Players .....	21
4.2.2	Responsibility of the Implementation Partners (Construction) .....	22
4.2.3	Responsibility of the EPC Contractor .....	24
4.2.4	Responsibility of the Proponent (Operation) .....	25
4.2.5	Organogram .....	25

5	ENVIRONMENTAL MANAGEMENT .....	27
5.1	MITIGATION MEASURES FOR DETAILED DESIGN.....	27
5.2	MITIGATION MEASURES FOR THE CONSTRUCTION PHASE .....	28
5.3	MITIGATION MEASURES FOR THE OPERATIONAL PHASE .....	49
6	ENVIRONMENTAL MANAGEMENT PLANS AND PROGRAMS .....	52
6.1	AIR QUALITY MANAGEMENT PROGRAM .....	53
6.1.1	Justification and Objectives .....	53
6.1.2	Legal Framework.....	53
6.1.3	Proposed Actions and Implementation Schedule .....	54
6.1.4	Monitoring Actions and Follow-up .....	55
6.1.5	Corrective Actions .....	56
6.1.6	Performance and Reporting .....	57
6.2	NOISE MANAGEMENT PROGRAM.....	58
6.2.1	Justification and Objectives .....	58
6.2.2	Legal Framework.....	58
6.2.3	Proposed Actions and Implementation Schedule .....	59
6.2.4	Monitoring Actions and Follow-up .....	60
6.2.5	Corrective Actions .....	61
6.2.6	Performance and Reporting .....	62
6.3	EROSION AND SEDIMENTATION MANAGEMENT PROGRAM .....	63
6.3.1	Objectives .....	63
6.3.2	Scope and Responsibilities .....	63
6.3.3	Critical areas.....	63
6.3.4	Actions and Implementation Schedule .....	63
6.3.5	Follow-up Actions .....	66
6.3.6	Contingency Programs .....	66
6.3.7	Performance and Reporting .....	67
6.4	WASTE MANAGEMENT PROGRAM .....	67
6.4.1	Objectives .....	67
6.4.2	Scope and Responsibilities .....	68

6.4.3	Availability of Waste Disposal Facilities .....	68
6.4.4	Waste Management Actions .....	68
6.4.5	Follow-up Actions .....	73
6.4.6	Corrective Actions .....	73
6.4.7	Performance and Reporting .....	74
6.5	BIODIVERSITY MANAGEMENT PROGRAM .....	75
6.5.1	Justification and Objectives .....	75
6.5.2	Monitoring and Management Actions and Implementation Schedule .....	75
6.5.3	Monitoring Methodology .....	77
6.5.4	Corrective Actions .....	78
6.5.5	Performance and Reporting .....	78
6.6	STAKEHOLDER ENGAGEMENT PROGRAM.....	79
6.6.1	Objectives .....	79
6.6.2	Scope and Responsibilities .....	80
6.6.3	Actions and Implementation Schedule .....	80
6.6.4	Performance and Reporting .....	82
6.6.5	Project Grievance Redress Mechanism .....	82
6.7	COMMUNITY HEALTH AND SAFETY MANAGEMENT PROGRAM.....	89
6.7.1	Objectives .....	89
6.7.2	Scope and Responsibilities .....	90
6.7.3	Proposed Actions and Implementation Schedule .....	90
6.8	CULTURAL HERITAGE CHANCE FINDS PROCEDURE .....	95
6.8.1	Justification and Objectives .....	95
6.8.2	Legal Framework .....	95
6.8.3	Chance Find Procedure.....	95
6.9	EMERGENCY RESPONSE PROGRAM.....	96
6.9.1	Objectives .....	96
6.9.2	Emergency Communication Process .....	97
6.9.3	Emergency Scenarios .....	97
7	ENVIRONMENTAL MONITORING AND REPORTING .....	102

7.1	ENVIRONMENTAL MONITORING .....	102
7.1.1	Inspection .....	103
7.1.2	Auditing.....	103
7.1.3	Site Survey and Measurements .....	104
7.2	CORRECTIVE ACTIONS AND IMPROVEMENT.....	104
7.3	INCIDENT NOTIFICATION AND REPORTING.....	104
7.4	STATUTORY NOTIFICATIONS AND REPORTING.....	105



## LIST OF FIGURES

---

Figure 4.1 – EMP organizational chart for the construction phase .....	25
Figure 4.2 – EMP organizational chart for the operation phase.....	26
Figure 6.1 – Grievance and Issues Redress and Management Process.....	84

## LIST OF TABLES

---

Table 1.1 – Structure of the Environmental Management Plan .....	3
Table 2-1 – Key environmental and social legislation .....	5
Table 2-2 – Relevant international conventions .....	12
Table 3-1 – Typical tasks associated with overhead line construction. ....	19
Table 3.1 – Requirements for the Detailed Engineering Phase .....	27
Table 5.2 – Mitigation measures for construction phase .....	29
Table 5.3 – Mitigation measures for operational phase .....	50
Table 6.1 – Relevant ambient air quality standards .....	53
Table 6.2 – Environmental control actions, description, and implementation schedule .....	54
Table 6.3 – Follow-up and monitoring actions, description, and implementation schedule.....	56
Table 6.4 – Environmental corrective actions, description, and implementation schedule.....	57
Table 6.5 – Record Documents for the Air Quality Management Program .....	57
Table 6.6 – WHO Ambient Noise Levels Guidelines.....	58
Table 6.7 – WB/IFC Noise Level Guidelines .....	59
Table 6.8 – Environmental control actions, description, and implementation schedule .....	59
Table 6.9 – Follow-up and monitoring actions, description, and implementation schedule.....	61
Table 6.10 – Environmental corrective actions, description, and implementation schedule.....	62
Table 6.11 – Record Documents for the Noise Management Program .....	62
Table 6.12 – Actions, description implementation schedule, and responsibility for Implementation .....	64
Table 6-13 Erosion and sedimentation management program - follow-up and monitoring actions, description and implementation schedule .....	66
Table 6.14 – Waste management actions.....	68
Table 6.15 – Waste management follow-up and/or systematic and/or periodic verification actions	73

Table 6.16 – Waste Management Plan - corrective actions, description and implementation schedule .....	73
Table 6.17 – Performance indicators for Waste Management Plan .....	74
Table 6.18 – Record documents for the Waste Management Plan .....	74
Table 6.19 – Biodiversity monitoring and management actions, description and implementation schedule .....	76
Table 6.20 – Corrective actions, description and implementation schedule .....	78
Table 6.21 – Performance indicators for Biodiversity Management Program .....	78
Table 6.22 – Record documents for the Biodiversity Management Program .....	79
Table 6.23 – Communication actions, description and implementation schedule .....	80
Table 6.24 – Performance indicators for the Communication Plan.....	82
Table 6.29 – Community Health and Safety Management Program actions, description and implementation schedule .....	90
Table 6.30 – Chance finds procedure actions and implementation schedule .....	96
Table 6.31 – Procedure for spillages .....	99
Table 6.32 – Firefighting procedures .....	100
Table 6.33 – Procedure for assisting victims .....	101

## LIST OF ACRONYMS AND ABBREVIATIONS

---

AEJA	Youth and Adult Literacy and Education ( <i>Alfabetização e Educação de Adultos e Jovens</i> )
AHP	Analytical Hierarchy Process
AIDS	Acquired Immunodeficiency Syndrome
ANAC	National Administration of Conservation Areas
ANE	National Road Administration ( <i>Administração Nacional de Estradas</i> )
AP	Administrative Post
AQUA	The National Agency for the Control of Environmental Quality
ARA	Regional Water Authorities
ARENE	Energy Regulatory Agency
ART	Anti-retroviral
CEN	Central Eléctrica da Namaacha
DINAB	National Directorate for Environment
DNA	National Water Directorate
DNE	National Directorate of Energy
DPTADER	Provincial Directorate of Land and, Environment and Rural Development
DUAT	Land use rights
EDM	Electricidade de Moçambique, E.P.
EIA	Environmental Impact Assessment
EIS	Environmental Impact Study
EMP	Environmental Management Plan
EN	National Road
EP	Primary School
EPC	Complete Primary School
EPDA	Environmental Pre-feasibility and Scope Definition Study
ES	Ecosystem Services
ESG	General Secondary School
EIA	Environmental Impact Assessment
FIPAG	Investment Fund for Water Supply ( <i>Fundo de Investimento e Património do Abastecimento de Água</i> )
FUNAE	Mozambique Energy Fund ( <i>Fundo de Energia</i> )
GDB	Boane District Government
GDN	Namaacha District Government
GDP	Gross Domestic Product
GoM	Government of Mozambique's
HH	Household
HIV	Human Immunodeficiency Syndrome
HU	Health Unit

HV	High Voltage
IAN	Namaacha Agricultural Institute ( <i>Instituto Agrário de Boane</i> )
IBA	Important Bird and Biodiversity Areas
IF	Infrastructure
IFC	International Finance Corporation
IFP	Teachers Training Institute ( <i>Instituto de Formação de Professores</i> )
INE	National Institute of Statistic ( <i>Instituto Nacional de Estatística</i> )
ISETT	Higher Institute of Education and Technology
IUCN	International Union for Conservation of Nature
KBA	Key Biodiversity Areas (KBAs)
km/h	Kilometres per hour
kV	Kilovolt
m	Metre
MAE	Ministry of State Administration ( <i>Ministério da Administração Estatal</i> )
MCDM	Multicriteria Decision-Making
MIMAIP	Ministry of the Sea, Inland Waters and Fisheries ( <i>Ministério do Mar, Águas Interiores e Pescas</i> )
MIREME	Ministry of Natural Resources and Energy
MISAU	Ministry of Health ( <i>Ministério da Saúde</i> )
MTA	Ministry of Land and Environment
OHL	Over Head Line
PA	Administrative Post
PAV	Vaccination Expanded Programme ( <i>Programa Alargado de Vacinação</i> )
PESOD	District Economic and Social Plan and Budget ( <i>Plano Económico e Social e Orçamento Distrital</i> )
PESOE	Economic and Social Plan and State Budget
PPP	Public Participation Process
PS	(IFC Environmental and Social) Performance Standards
PSAA	Small Water Supply Systems ( <i>Pequenos Sistemas de Abastecimento de Água</i> )
PSESr	Physical and Socioeconomic Survey Report
PT	Transformer Stations ( <i>Posto de Transformação</i> )
RGPH	General Census of Population and Housing ( <i>Recenseamento Geral da População e Habitação</i> )
SADC	Southern African Development Community
SAPP	Southern African Power Pool
SDAE	Economic Activities District Service ( <i>Serviço Distrital de Actividades Económicas</i> )
SDEJT	Education, Youth and Technology District Service ( <i>Serviço Distrital de Educação, Juventude e Tecnologia</i> )
SDPI	Planning and Infrastructure District Service ( <i>Serviço Distrital de Planeamento e Infraestruturas</i> )
SDSMAS	Health, Women and Social Affairs District Service ( <i>Serviço Distrital de Saúde, Mulher e Acção Social</i> )
SES	Simplified Environmental Study

SMI	Mother and Child Health ( <i>Saúde Materno-Infantil</i> )
SNS	National Health System ( <i>Sistema Nacional de Saúde</i> )
SPA	Provincial Environmental Services
ToR	Terms of Reference
WHO	World Health Organization
WPP	(Namaacha) Wind Power Project

# 1 Introduction

## 1.1 General Considerations

EDM (the Proponent), with the support of Globeleq and Source Energia<sup>1</sup>, propose the construction of a transmission line, for the evacuation of energy generated by Central Eléctrica da Namaacha Project (CEN<sup>1</sup>), through two 66 kV overhead lines that connect the wind farm to Boane Substation.

To obtain the Environmental License required in terms of the Environmental Law (Law No. 20/1997, of 1 October) for the development described above (hereafter the “Project”), the Proponent must conduct an Environmental Impact Assessment (EIA) Process. Further to national law, the EIA is also a requirement of the Project’s funding agencies, to ensure that environmental and social risks and impacts of the project are adequately assessed and mitigated and to inform the decision-making process. Consultec - Consultores Associados, Lda, was appointed by the Proponent to carry out the EIA process on their behalf.

The EIA Process is initiated through the submission of a Screening Report to the Ministry of Land and Environment (MTA), to allow Project categorisation. The Screening Report was submitted to MTA on May 2022. Following MTA’s pre-assessment, the Project was classified as Category A on 16 June 2022 (letter ref. 601/SPA/DA/407/220/2022), thus requiring a full EIA Process.

This Environmental Management Plan (EMP) was compiled as part of the Environmental Impact Study (EIS)<sup>2</sup> and synthesizes all environmental management, mitigation and monitoring measures coming out of the impact assessment provided in **Volume II** of the EIS Report.

## 1.2 Purpose and Objectives of the EMP

Environmental management of a proposed activity is a crucial tool to ensure any project’s environmental performance. This EMP aims to establish the guidelines for best practice environmental management of the Project, through a clear definition of the environmental actions and management procedures to be implemented in each phase of project development, as defined in the EIS.

The objectives of the EMP are to:

- Recommend changes to the Project design, to be developed in the detailed engineering phase, so as to avoid or minimize negative impacts;

---

<sup>1</sup> Central Eléctrica da Namaacha (CEN) Project, whose shareholders are Globeleq, Source Energia and EDM, consists of the construction of a 120 MW wind farm within a site of approximately 855 ha near Namaacha tow and had its own EIA process. The CEN has secured its environmental license from MTA.

<sup>2</sup> In the Mozambican context, the EIA process has three phases: screening, scoping and impact assessment. The Environmental Impact Study (EIS) is the report that presents the findings of the third phase of the EIA process, including baseline assessment, impact assessment and mitigation and the EMP. In the international context, this is usually referred to as the EIA report. As such, the terms EIS report and EIA report are interchangeable and should be read as synonyms.

- Facilitate the implementation of relevant environmental mitigation actions. These should be practical, easy to implement and suited to the nature and scale of the proposed Project;
- Highlight the environmental management and implementation requirements throughout the life cycle of the Project, and the responsibilities of each of the key role players;
- Identify management programs for achieving the required environmental management during all project phases, reflecting the recommendations of the EIS;
- Encourage and achieve the highest environmental performance and response from all employees and contractors;
- Ensure that management efforts are proactive and focused to prevent impacts from occurring; and
- Supplement the proactive approach with reactive measures to minimize the severity or significance of any impacts that cannot be prevented at source.

By formally documenting environmental management measures and commitments, the EMP serves a vital role in ensuring that potential negative impacts are minimized, and positive impacts enhanced. The EMP, therefore, is a tool that guides the management and monitoring of impacts.

In the event that impacts are found to be higher than initially predicted, additional mitigation measures will need to be implemented to control, reduce or prevent an impact from occurring. As such, this EMP will need to be continuously updated and amended as necessary, throughout the project life cycle, to ensure that any negative impacts from the Project are prevented or reduced and positive ones are enhanced.

As noted above, the EMP documents the environmental (and social) management measures and commitments resulting from the EIS. It is important to note, however, that at the time of development of the EIS and associated EMP the detailed engineering design was not available. As such, some of the mitigation measures and commitments resulting from the EIS and included in the EMP will need to be further defined to be more site-specific, once the detailed design information is available.

Given the above, the Proponent will need to:

- Update and finalize the EMP where applicable, on completion of the review of the Project conceptual design and submit any modifications to the EMP for approval by MTA. The updated EMP, based on the reviewed conceptual design, will inform the environmental requirements and environmental specifications in the bidding documents for all EPC contracts;
- Once the EPC Contractors have completed the detailed engineering design and the detailed design has been reviewed, any modifications to the EMP arising from the detailed design review will be submitted to MTA for approval, and where applicable the EPC Contractors' EMP (C-EMP) shall be amended;
- Further develop the EMP into a Project Environmental and Social Management System (ESMS), compliant with PS1, so as to ensure that the Project is conducted and managed in a sustainable manner;

- Ensure that its contractors abide by the EMP, making it a part of the contractors' contractual obligations. To the effect, the Proponent will require its Contractor to develop a Construction EMP (C-EMP), in compliance with all requirements listed in this EMP and including all management plans required in this EMP. This C-EMP will be developed and submitted for the Proponent's approval prior to the start of field construction activities. The C-EMP shall include a detailed implementation budget.

It should also be noted that the EMP does not address the Project's economic and physical resettlement impacts. Mitigation of those impacts will be addressed through a Resettlement Action Plan (hereinafter referred to as the RAP), as stated in the EIS. As per the national resettlement regulations, the RAP will be developed following the approval of the EIA, based on the resettlement policy guidelines provided in the Physical and Socioeconomic Survey Report (Volume IV of the EIS).

### 1.3 EMP Structure

The structure of this EMP is presented in **Table 1.1**.

**Table 1.1 – Structure of the Environmental Management Plan**

Chapter	Content
<b>Chapter 1</b>	<b>Introduction</b> Provides a background to the proposed project and describes the objectives of the EMP.
<b>Chapter 2</b>	<b>Legal and Regulatory Framework</b> Outlines the legal framework within which the EIA will be undertaken and identifies other environmental legislation, standards, and guidelines applicable to the project.
<b>Chapter 3</b>	<b>Project Description</b> Discusses the background and desirability of the project and provides a description of the project.
<b>Chapter 4</b>	<b>Implementation of the EMP</b> Indicates the management structure for implementation of the EMP and lists the roles and responsibilities of key role players throughout the project life cycle.
<b>Chapter 5</b>	<b>Environmental Management</b> Provides the main recommendations resulting from the EIA for the detailed engineering phase and lists the mitigation and management measures to be implemented during the construction and operation phases, in order to avoid or minimize impacts.
<b>Chapter 6</b>	<b>Environmental Management Plans</b> Provides guidelines for specific environmental management programs and plans that will need to be developed and implemented by the Project Proponent or its Contractors.
<b>Chapter 7</b>	<b>Environmental Monitoring and Reporting</b> Outlines the monitoring and reporting processes associated with this EMP.



## 2 Legal and Regulatory Framework

### 2.1 Institutional Framework

#### 2.1.1 Environmental Authorities

The **Ministry of Land and Environment (MTA)**, established by Presidential Decree No. 1/2020, of 17 January, is the central authority that plans, coordinates, controls and ensures the execution of policies related to the management of land, forests and wildlife, environment, conservation areas and climate change. Presidential Decree No. 4/2020, of 7 February, defines MTA's role and scope of intervention. At the provincial level, MTA is represented by the **Provincial Environmental Services (SPA)**.

EIA applications are managed by MTA through the **National Directorate for Environment (DINAB)** at the national level, and through SPA at the provincial level.

The management and monitoring of environmental quality, such as pollution control, water, soils and air quality, noise emissions and waste management, are also a part of MTA's attributions. The **National Agency for the Control of Environmental Quality (AQUA)** was created by Decree 80/2010, of 31 December, amended by Decree 2/2016, of 10 February, and is responsible, among other attributions, to develop and implement strategies for the integrated control of water, air, and soil pollution.

#### 2.1.2 Energy Sector

The **Ministry of Mineral Resources and Energy (MIREME)** was created by Presidential Decree No. 1/2015, of 16 January. The Ministry's attributions are defined by Resolution No. 14/2015, of 8 July, and include, among others, promoting improved knowledge of national energy resources and their development and usage and the development of energy production to satisfy national needs and to seize the opportunities of the regional market.

The **Energy Regulatory Agency (ARENE)** was created by Law No. 11/2017, of 8 September, replacing the former National Electricity Council. ARENE possesses supervision, regulation, inspection, and sanctioning powers over the energy sector.

The **National Directorate of Energy (DNE)**, created by Resolution No. 14/2015, of 8 July, is the department of MIREME responsible for the conception, promotion, assessment, execution, and monitoring of the electricity sector policies.

**Electricidade de Moçambique, E.P. (EDM)** was created in 1977 by Decree-Law No. 38/77, of 27 August, as the state-owned national electricity utility. It became a public enterprise in 1995, expected to operate on commercial terms (Decree No. 28/95, of 17 July). EDM is under the tutelage of MIREME and is tasked with the establishment and operation of the public service of production, transmission, distribution, and commercialisation of electricity in Mozambique, and as such manages the national electrical grid (Decree No. 43/2005 of 29 November).

## 2.2 Legislative Framework

The Constitution of the Republic of Mozambique defines the right of all citizens to a balanced environment and the duty to protect it (Article 90°). Additionally, the State is required to ensure: (i) the promotion of initiatives to ensure ecological balance and environmental preservation, and (ii) the implementation of policies to prevent and control pollution and integrate environmental concerns in all sectorial policies to guarantee the citizen the right to live in a balanced environment supported by sustainable development (Article 117°).

The proposed Project must comply with the legal requirements for environmental licensing, taking into consideration not only the specific EIA regulations but also all the applicable environmental regulation (physical, ecological, social, and economic) that may be relevant to the Project throughout its life cycle (construction, operation, and decommissioning).

The environmental instruments and regulations relevant to the proposed Project's EIA Process, as well as the relevant legal framework in place for the Energy Sector, are discussed in Table 2-1 below.

**Table 2-1 – Key environmental and social legislation**

Legislation	Description	Relevance
<b>ENVIRONMENTAL IMPACT ASSESSMENT</b>		
Resolution 5/95 - National Environmental Policy	Establishes the basis for all environmental legislation. According to clause 2.1, its main goal is to ensure sustainable development, to maintain an acceptable balance between socioeconomic development and environmental protection. To reach this goal, the Policy requires the integration of environmental considerations in the socioeconomic planning, the management of the country's natural resources and the protection of ecosystems and of the essential ecological processes.	The Project should strive to meet the policy's goals, integrating environmental considerations in its design, thus minimizing impacts on natural resources and ecosystems. The environmental and social assessment developed in this EIA will generate inputs to the project's design.
Law 20/97 - Environmental Law	Defines the legal basis for the sound use and management of the environment towards the sustainable development of the country. The Environmental Law applies to all public and private activities that may directly or indirectly affect the environment.	The Project should strive to meet the sustainable development principle defined by the Environmental Law, throughout its life cycle. This EIA is part of that effort.
Decree 54/2015 - Regulation for the EIA Process	Establishes the EIA Process as one of the fundamental instruments for environmental management, aiming at mitigating the negative impacts that public or private projects may cause to the natural and socio-economic environment, through the undertaking of environmental studies prior to commencement of the projects. Defines the EIA Process, the required environmental studies, PPP, studies review process, project environmental feasibility decision process and environmental license issuance. Applies to all public or private activities with direct or indirect influence in environmental components.	The Project needs to be submitted to a formal EIA Process, in accordance with this regulation. An environmental license needs to be obtained from MTA, and the issuance of the environmental license precedes any other license or permit required for the Project. The EPDA is the second step in the Project's EIA Process, as described in Chapter 3.
Ministerial Decree 129/2006 - General Guidelines for Environmental Impact Studies	Provides details on environmental licensing procedures, as well as the format, structure, and contents of the environmental impact assessment report. The objective is to standardise procedures followed by various role-players in the EIA process.	The EIS report must conform to the guidelines outlined in this Ministerial Decree. During the compilation of the EIS, the requirements of this legislation will be considered.

Legislation	Description	Relevance
Ministerial Decree 130/2006 - guides the PPP of the EIA Process	Defines the basic principles, methodologies, and procedures for the EIA consultation process. Considers public participation as an iterative process that initiates at the design stage and continues throughout the lifetime of the project.	The PPP for the EIA Process (including for this EPDA) is being developed in compliance with the guidelines provided in this Ministerial Decree.
Decree 25/2011 - Regulation on the Environmental Audit Process	Defines an environmental audit as a documented and objective instrument for management and systematic assessment of the management system and relevant documentation implemented to ensure protection of the environment. Its objective is to assess compliance of work and operational processes with the environmental management plan, including the environmental legal requirements in force, as approved for a project.	Throughout the Project's lifecycle, the Proponent should conduct independent environmental audits at least once a year. In addition, public environmental audits may be requested under this decree.
Decree 11/2006 - Regulation for Environmental Inspections	Regulates the supervision, control, and verification of compliance with environmental protection rules at a national level.	During the construction or operational phases of the Project, MTA may undertake inspections to ascertain compliance with environmental legislation and the Environmental Management Plan (EMP). The Proponent must allow for and facilitate such inspections.
<b>ATMOSPHERIC EMISSIONS AND AIR QUALITY</b>		
Law 20/97 - Environmental Law	Article 9 forbids the discharge of any toxic substances to the atmosphere if exceeding the legal standards. The emission standards are defined by Decree No. 18/2004 (see below).	The Project must comply with the air quality emissions limits, as defined in this regulation. Given the nature of the project, this will mostly be applicable to the emissions of vehicles and machinery.
Decree 18/2004 (as amended by Decree 67/2010) - Regulation for Environmental Standards and Effluent Emissions	Establishes parameters for the maintenance of air quality (Article 7°); patterns of emission of gaseous pollutants for various industries (Article 8°); and standards for emission of gaseous pollutants from mobile sources (Article 9°) - including light and heavy vehicles.	
Decree 24/2008 of July 1st - Approves the Regulation on the Management of Substances that Deplete the Ozone Layer	It establishes the general bases of the environmental protection regime, the discharge into the atmosphere of any toxic or polluting toxic or polluting substances, the production and deposit in the soil, and assigns to the Government the responsibility to ensure that measures are taken for the protection of the ozone layer.	
Resolution No.78/2009, of December 22nd (on the banning of import, export, production, commercialization, and transit of Ozone-Depleting Substances	It aims to strengthen the legal framework for the implementation of the Vienna Convention on the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer. As part of the adoption of measures to protect the Ozone Layer, this Resolution bans the import, export, production, marketing and transit of substances that deplete the ozone layer.  The banned substances are Chlorofluorocarbons (CFC's), Halogenated hydrocarbon (Halon-1211, Halon-1301 and Halon-2402) and Carbon Tetrachloride (CCL4).	The banned substances must not be used in any of the project phases

Legislation	Description	Relevance
<b>WATER RESOURCES AND WATER QUALITY</b>		
Law 16/91 - Water Law	This law is based on the principles of public water use, basin scale management, and user-pays and polluter-pays. Intends to safeguard the ecological balance and environment. Water uses require either a water concession (permanent or long-term water uses) or a water license (short term water uses). Licenses are given for a period of 5 renewable years, while concessions are valid for a period of 50 renewable years.  Article 54 of this Law stipulates that any activity with the potential of contaminating or degrading public waters, in particular the discharge of effluents, is subject to a special authorisation to be issued by the Regional Water Administration and payment of a fee.	The project needs to include measures to prevent the pollution of any water resources in the construction and operation phases.  If the Project requires the discharge of effluents into water bodies, a discharge license must be obtained.
Decree 18/2004 – Regulations for Environmental Quality Standards and Effluent Emissions	Determines that when industrial effluent is discharged into the environment, the final effluent discharged must comply with discharge standards established in Annex III of the decree. The discharge of domestic effluent must comply with the discharge standards in Annex IV.	The Project must comply with the effluent emission limits established by this regulation. This may be applicable to any construction camps used in support of the Project's construction.
<b>POLLUTION AND WASTE MANAGEMENT</b>		
Law 20/97 – Environmental Law	Limits the production and / or disposal into the soil or subsoil and the disposal into water or the atmosphere of any toxic or polluting substances, as well as the practice of activities that accelerate erosion, desertification, deforestation, or any other form of environmental degradation to those limits established by the law (Article 9).	The Project needs to include measures to prevent pollution during and after implementation. Any project must conform to the requirements outlined in this regulation. The EMP will include such measures.
Decree 94/2014 - Regulation for Urban Solid Waste Management	Establishes the legal framework for urban solid waste management. The key objective is to establish rules for the generation, collection, and disposal of urban solid wastes, so as to minimise their impacts on public health and the environment. Urban solid wastes are to be classified in accordance with the Mozambican Norm NM339 – Solid Wastes – Classification. Waste management is a responsibility of Municipal Councils and District Governments, as applicable.	The project should implement suitable waste management practices throughout its life cycle, in compliance with the requirements outlined in this regulation. To the effect, a Waste Management Plan will be included in the EMP.
Decree 83/2014 - Regulation for Hazardous Waste Management	Establishes the legal framework for hazardous waste management. The key objective is to establish rules for the generation, collection, and disposal of hazardous wastes, so as to minimise their impacts on public health and the environment. Annex IX of this decree provides waste classifications. MTA is the competent entity to manage hazardous wastes, namely by licensing waste management units. Only entities which are licensed by MTA can collect and transport hazardous wastes, beyond the limit of the facilities where they were generated.	
Decree No. 8/2003 of February 18th - Regulation on Biomedical Waste Management	Aims to establish the rules for the management of biomedical waste in order to safeguard the health and safety of health care facility workers, ancillary workers and the general public and to minimize the impacts of such waste on the environment.	

Legislation	Description	Relevance
<b>BIODIVERSITY</b>		
Law 20/97 – Environmental Law	Articles 12 and 13 state that the planning, implementation, and operation of projects should guarantee the protection of biological resources, particularly of plant or animal species threatened with extinction or that, by their genetic value, ecological, cultural, or scientific, require special attention and this issue is to extend their habitats, especially those built within areas of environmental protection.	The Project must consider protected biodiversity. The presence of potentially relevant biodiversity values in the Project area will be assessed in the EIA. The EMP will include adequate mitigation to minimize the Project's impacts on biodiversity.
Law 10/99 - Forests and Wildlife Law	Establishes the principles and basic rules on protection, conservation and sustainable use of forest and wildlife resources.	The Project must consider the protection of forest and wildlife. The Proponent must notify MTA if a species listed in this regulation is affected or disturbed.
Decree 12/2002 – Regulation on the Forests and Wildlife Law	Applies to protection, conservation, use, exploration and production activities of fauna and flora resources. Includes the commerce, transport, storage and primary artisanal or industrial transformation of these resources. Annex I include a list of classification of wood-producing species, including precious wood and woods of 1st, 2nd, 3rd, and 4th grades. Annex II includes a list of protected fauna species, for which hunting is prohibited.	
Decree No. 25/2008 – Regulation for the Control of Invasive Alien Species	Article 8 of this decree prohibits activities involving invasive alien species without prior authorization and states that 'after hearing the Interinstitutional Group for the Control of Exotic Species Invasive, the National Environmental Authority (MTA) may prohibit any activity which, by its nature, may involve the spread of invasive alien species'. Activities include the following: - Import of any type of invasive exotic species, whether by sea, land or air; - Possess any type of invasive exotic species; - Develop, breed or otherwise propagate any type of invasive alien species; and - Transport, move or relocate any type of invasive alien species	The Project must ensure the control of the propagation of invasive alien species. Article 11 of the decree suggests that adequate methods must be implemented to control and eradicate invasive alien species. The Project should include mitigation measures for potential impacts related to invasive alien species, which must be binding and ensure compliance with the requirements of the Regulation by the proponent.
Law 16/2014 (as amended by Law 5/2017) – Protection, Conservation and Sustainable Use of Biodiversity Law and its Regulation	This Law regulates the creation and management of all conservation areas in Mozambique, revoking the Forestry and Wildlife Law competences in this matter. Article 16 states that all activities that could result in changes to vegetation cover, or that could disturb flora, fauna, and ecological processes up to the point of compromising their maintenance, are interdicted within national parks, except if required for scientific reasons or management needs. Article 26 states that activities can be approved within conservation areas, if planned in the area's management plan, which among other things defines the construction of the infrastructure required for the area's management or that aimed to improve the quality of life of the local populations.	No protection or conservation areas are interfered by the Project.
Decree No. 89/2017 of December 29th - Regulation of Protection, Conservation and Sustainable Use of Biological Diversity;	The present Regulation applies to the set of values and natural resources existing in the national territory and in the waters under national jurisdiction, covering all public or private entities that may directly or indirectly influence the national system of the country's conservation areas, under the terms of the Law No. 16/2014 (Amended by Law 5/2017), law for the Protection, Conservation and Sustainable Use of Biological Diversity.	

Legislation	Description	Relevance
Decree 51/2021 of July 19th - Regulation for the Protection, Conservation and Sustainable Use of Avifauna	<p>This decree regulates the protection, conservation and sustainable use of avifauna, including its natural, continental, marine, lake and river habitats.</p> <p>Art 5 defines as avifauna protection zones the “Key Areas for Biodiversity”, and “Important Areas for Birds” and art. 4 prohibits the exercise of any activity or construction of infrastructure capable of disturbing the avifauna or its habitat in the protection areas, as well as any economic or social infrastructure, to be built in sensitive areas for birds, must respect the international standards of good practice, ensuring the placement of signalling devices that prevent collision of birds or any other damage that affects the avifauna.</p> <p>Appendices A and D define the protected species whose exploitation is not permitted; Appendix B defines the species of avifauna in Mozambique included in CITES.</p>	<p>The Project must consider the protected avifauna as well as their habitats. The presence of relevant potential avifauna values in the Project area, namely “Key Areas for Biodiversity”, and “Important Areas for Birds”, should be assessed in the EIA.</p>
Ministerial Diploma No. 55/2022 of May 19th – Adoption of the Biodiversity Counterbalances Directive	<p>Establishes the principles, methodologies, requirements and procedures for the correct implementation of Biodiversity Counterbalances, integrated into environmental impact assessment processes.</p>	<p>The Project must consider Biodiversity Counterbalances if significant residual impacts over key biodiversity areas, critical habitats or threaten species or ecosystems are identified. Biodiversity Action Plan should be part of the EMP.</p>
<b>LAND OWNERSHIP AND RESETTLEMENT</b>		
Resolution 10/95 – Land National Policy	<p>Establishes that the State must provide the land for each family to build or possess their own habitation, and is responsible for land use and physical planning, although plans can be made by the private sector.</p>	<p>The Project must conform to the principles of this policy, as per the regulations defined in the implementing legislation, which is discussed below.</p>
Law 19/1997 – Land Law	<p>Defines land use rights (DUAT), including details on customary rights and procedures for acquisition and use of land titles by communities and individuals. This law recognises and protects the rights acquired through inheritance and occupation (customary rights and duties of good faith), except for legally defined reserves or areas where land has been legally transferred to another person or institution.</p>	<p>The Land Law and its regulation define total and partial protection zones. In these zones, land use is restricted. According to this regulation, the corridor of 50 m to each side of a new transmission line is considered to be a partial protection zone (the line’s RoW). The approval of power transmission line projects by the Council of Ministers or by the relevant competent authorities automatically implies the creation of the respective partial protection zones.</p>
Decree 66/98 – Regulation for Land Law	<p>Defines total protection areas, set aside for nature conservation and State defence, as well as partial protection areas, where land use titles may not be granted, and where activities cannot be implemented without a license. Partial protection areas, which include, amongst others, the 50 m strip of land along lakes and rivers, 100 m strip of land along the seafront and estuaries, 50 m along aerial, surface or underground pipelines/cables for electricity, telecommunications, oil, gas and water, 30 m along primary roads and 15 m along secondary and tertiary roads.</p>	
Decree 31/2012 – Regulation for the Resettlement Process Resulting from Economic Activities	<p>Defines rules and basic principles for resettlement processes from the implementation of public or private economic activities. Article 15 states that the Resettlement Plan is part of the EIA Process and that its approval precedes the issuance of the environmental license. There are three steps in the Resettlement Plan (article 19): a) Physical and socioeconomic data collection; b) Resettlement Plan; and c) Resettlement Action and Implementation Plan.</p>	<p>If physical displacement results from the Project, this regulation is applicable, and a resettlement action plan will be required. Any potential economic displacement (such as the loss of farming plots or other assets) will also need to be assessed in the EIA and, if present, duly compensated for, in accordance with the Land Law. Note that for electricity projects, expropriation procedures may apply (please see Decree 21/97 below).</p>

Legislation	Description	Relevance
Technical Directives No. 155/2014 and 156/2014	<p>TD 155/2014 approves the internal regulation for the Monitoring and Supervision Technical Committee for Resettlement.</p> <p>TD 156/2014 approves the technical requirements for the preparation of RAPs. Section 3 describes in detail the requirements for the 3 steps of the RAP: a) Physical and Socioeconomic Survey Report; b) Resettlement Plan; and c) Resettlement Action and Implementation Plan. It also defines the requirements of the RAP's Public Consultation and Participation Process.</p>	<p>The Resettlement Plan to be prepared has to follow the technical requirements stated on Technical Directive 156/2014, regarding the process steps and specifications. The Physical and Socioeconomic Survey Report is developed along with the EIA.</p>
Law 12/2022, Electricity Law	<p>Approves the new Electricity Law, revoking previous Law n.º 21/97.</p> <p>Article 43, concerning land use and expropriation, states that:</p> <ol style="list-style-type: none"> <li>1) The land to carry out energy production, transportation and distribution activities is governed by the Land Law and related applicable legislation;</li> <li>4) The construction or deployment of electrical facilities, including overhead, surface, underground and subsea power lines, for the transport and distribution of electricity, as well as for the connection of production installations to transport or distribution grids, requires the creation of an administrative servitude, to be defined in accordance with the tension levels and technical and safety standards, up to 50 metres of confining land from the line's axis;</li> <li>5) The terms and conditions of the confining strip of land indicated in paragraph 4 of this Article is in accordance with tension levels and other technical and safety standards, and is assessed in function of the rural or urban environment;</li> <li>6) (...) a safety zone for the electrical facilities, corresponding to the adjacent strip, is established, within the servitude area;</li> <li>8) The acquisition of the right of land use, as well as the creation of the servitude for the purpose of carrying out energy supply activities is subject, where applicable, to the resettlement rules and the payment of compensations, in accordance with the applicable legislation.</li> </ol>	<p>According to this law, a servitude of up to 50 m from the 66 kV line's axis needs to be established in accordance with the tension levels and technical and safety standards. Within this area, a safety zone shall be established. The technical and safety standards to define the specific width of these areas are yet to be published.</p>
Decree 23/2008 – Regulation for Land Planning	<p>Aims to establish regulatory territorial planning measures and procedures to ensure the rational and sustainable use of natural resources, regional potentials, infrastructure, and urban centres, and to promote national cohesion and safety of the people. Articles 68 to 71 deal with expropriation procedures for private property for national public interest reasons. Article 70 states that expropriation should be preceded by fair compensation.</p>	<p>If expropriation of land or land rights is required for Project implementation, the requirements of this regulation should be complied with. Expropriation requires the issuance of a declaration of public interest for the Project, as defined in the Electric Energy Law.</p>
Ministerial Decree 181/2010 – Guidelines for the Expropriation Process Resulting from Land Planning	<p>Establishes procedures for expropriation processes resulting from land planning, including procedures for the issuance of a declaration of public interest, compensations for expropriation (including calculation methods) and the expropriation process itself.</p>	<p>If expropriation of land and land rights within the Project area is required, the procedures established in these guidelines should be followed.</p>

Legislation	Description	Relevance
<b>CULTURAL HERITAGE</b>		
Law 10/88 - Cultural Heritage Law	<p>Aims to legally protect material and non-material assets of the Mozambican cultural heritage. Under this law, cultural heritage is defined as a “group of material and non-material assets created or integrated by the Mozambican people through history, with relevance to the definition of the Mozambican cultural identity”.</p> <p>Material cultural assets include monuments, groups of buildings with historic, artistic, or scientific importance, places or locations (with archaeological, historic, aesthetic, ethnologic or anthropologic interest) and natural elements (physical and biological formations with particular interest from an aesthetic or scientific point of view).</p>	The potential presence of cultural heritage on the Project area will be assessed in the EIS. Archaeological objects may also be found during the construction phase of the Project. In such cases, the Proponent must immediately communicate the finding to the relevant cultural heritage agency.
<b>WORK AND SAFETY</b>		
Law 23/2007 - Labour Law	Defines general principles and establishes the legal framework applicable to individual and collective employment relationships in respect of work rendered to an employer for remuneration.	The project must, throughout its entire life cycle, abide by Mozambique’s labour law.
Law 19/2014 - Law of Protection of People, Workers and Job Applicants Living with HIV/AIDS	This law establishes the general principles that aim to ensure that all employees and job applicants are not discriminated against in the workplace or when applying for jobs, for being suspected of having or having HIV / AIDS. It is prohibited testing of HIV / AIDS to workers, job seekers, or candidates to training or promotion, at the request of employers, without the employee's or job seeker consent.	Testing job applicants for HIV / AIDS is prohibited. Testing of workers without the employee's consent is also prohibited. The proponent must train and reorient all HIV positive workers who are able to fulfil their duties at work, with activities compatible with their capabilities.
Decree 45/2009 - Regulation on the General Labour Inspectorate	This Regulation lays down the rules on inspections, under the control of the legality of work. Paragraph 2 of Article 4 provides for the employer's responsibility for the prevention of occupational health and safety risks for the employee.	The Proponent shall comply with the requirements. In the case of an inspection, the proponent must help to provide all necessary information to the inspectors.
Decree 62/2013 - legal regime for accidents at work and occupational diseases	Establishes the legal regime for accidents at work and occupational diseases and aims to bring the legal in line with the current labour law, introduce new formulas for calculating pensions and indemnities, as well as the possibility of revising pensions as a result of the aggravation or corrosion of the elements that served as the basis for its calculation.	The Proponent shall comply with the requirements.
<b>ELECTRIC ENERGY</b>		
Law 12/2022, Electricity Law	Same as above.	Same as above.
Decree 42/2005 – Regulation establishing rules for the national electric grid	Article 3 reinforces that the construction and operation of power transmission infrastructure requires the issuance of a concession, as required by Law No. 21/97.	EDM has been designated as the managing entity of the national power transmission grid, as per Decree No. 43/2005. As such, EDM will be the operator of the proposed transmission line.
Decree 57/2011 – Safety Regulation for High Voltage Power Lines	This Decree establishes several standards and guidelines for the design of power lines, to ensure their safety. Article 28 (clause 3) states that in order to ensure a safe operation of high voltage power lines, trees close to the power line may need to be cut, within a protection zone with a maximum width of: (i) 30 m, for lines under 66 kV, and (ii) 50 m, for lines equal or over 66 kV.	According to this decree, trees and other obstacles that may result in a risk to the infrastructure will need to be removed. Note that the protection zone named in this decree is a safety zone, and is not equivalent to the line's partial protection zone (the Project's RoW), as defined in the Land Law.



## 2.3 Relevant International Conventions

Relevant international conventions for the Project under assessment are provided in **Table 2-2**.

**Table 2-2 – Relevant international conventions**

Convention	Description
<b>BIODIVERSITY</b>	
African Convention on the Conservation of Nature and Natural Resources (AU 1968) as well as its Revised Version (AU 2017)	Under this Convention, the Contracting States commit to take action to ensure the conservation, use and development of soil, water, flora, and fauna resources in accordance with scientific principles and with due regard to the best interests of the people. Pursuant to Resolution 18/81, of 30 December 1981, the Republic of Mozambique acceded to this convention.
United Nations Convention on Biological Diversity (UN 1992)	The main goals of this convention are the conservation of biodiversity, the sustainable use of biodiversity, and the fair and equitable sharing of the benefits arising from the use of genetic resources. Its overall objective is to encourage actions which will lead to a sustainable future. Mozambique ratified this convention in 1994, through Resolution 2/94.
Convention on Wetlands of International Importance, Especially as Waterfowl Habitat – Ramsar Convention (UNESCO 1971)	Pertains to the sustainable use and conservation of wetlands. Ratified by Mozambique in 2003.
Convention on the International Trade of Endangered Species of Wild Fauna and Flora (CITES 1973)	Aims to ensure that international trade in specimens of wild animals and plants does not threaten the species survival. It accords varying degrees of protection to more than 33,000 species of animals and plants. Convention ratified by Mozambique through Resolution 20/81.
Convention on the Conservation of Migratory Species of Wild Animals (CMC 1979)	Aims to foster protection measures for migratory species of wild animals throughout their natural range, through a conservation strategy of wildlife and habitats on a global scale. Ratified by Mozambique in 2008.
SADC's Protocol on Wildlife Conservation and Law Enforcement (SADC 1999)	Aims to ensure the conservation and sustainable use of wildlife resources. Ratified by Mozambique in 2002.
<b>NON-HAZARDOUS AND HAZARDOUS WASTE</b>	
Basel Convention on the control of Trans-boundary Movements of Hazardous Wastes and their Disposal (UNEP 1989)	This convention regulates the import, export, and trans-boundary movement of hazardous waste. The Basel Convention was superseded by the Bamako Convention (see below). The Republic of Mozambique ratified the Basel Convention on the control of Trans-boundary Movements of Hazardous Wastes and their Disposal by way of Resolution 18/96 of 26 November.
Convention on the Ban of the Import into Africa and the Control of Transboundary Movements and Management of Hazardous Wastes within Africa (AU 1991)	During the negotiation of the Basel Convention, the African states represented by the Organisation for African Unity adopted the Bamako Convention believing that the Basel Convention was not strict enough. The Bamako Convention totally prohibits the import of hazardous waste into Africa. The Convention came into force on April 22, 1998. The Republic of Mozambique ratified the Bamako Convention by way of Resolution 19/96 of 26 November.

Convention	Description
<b>AIR QUALITY / CLIMATE CHANGE</b>	
The United Nations Framework Convention on Climate Change (UNFCCC 1992) and the Kyoto Protocol (UNFCCC 1997)	UNFCCC is an international environmental treaty produced with the objective of achieving stabilisation of greenhouse gas concentrations in the atmosphere at a low enough level to prevent dangerous anthropogenic interference with the climate system. The Kyoto Protocol to the UNFCCC was adopted in December 1997, whereby the signing parties agreed to legally binding reductions in greenhouse gas emissions of an average of 6 to 8% below 1990 levels between the years 2008-2012, defined as the first emissions budget period. The UNFCCC was ratified by way of Resolution 1/94, of 24 August and the Kyoto Protocol acceded to by the Republic of Mozambique by way of Resolution 10/2004, of 28 July.
Vienna Convention for the Protection of the Ozone Layer (UNEP 1985)	Under this Convention, the parties committed to take appropriate measures to protect human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the ozone layer. Pursuant to Resolution 8/93, of 8 December, the Republic of Mozambique acceded to the Vienna Convention for the Protection of the Ozone Layer and to its 1990 and 1992 Amendments.
The Montreal Protocol on Substances that deplete the Ozone Layer (UNEP 1987), London Amendment (UNEP 1990), Copenhagen Amendment (UNEP 1992), Montreal Amendment (UNEP 1997)	Designed to control the production of ozone depleting substances to reduce their abundance in the atmosphere, and thereby protect the earth's fragile ozone Layer. Forbids the use of chlorofluorocarbons. Mozambique ratified this convention through Resolution 9/2009.
<b>POLLUTION PREVENTION</b>	
Stockholm Convention on Persistent Organic Pollutants (UNEP 2001).	Action and control at world level of chemicals that persist in the environment, bio-accumulate in the food chain, and pose a risk to human health and the environment. These substances are listed in Annex I. Mozambique ratified this convention in 2005.
<b>CULTURAL HERITAGE</b>	
UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO 1972)	Designed to help identify and protect both cultural (monuments, groups of buildings and sites) and natural heritage (natural features, geological and physiographical formations, and natural sites). Mozambique ratified the convention in 1982.
UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage (UNESCO 2003)	Aims to safeguard to ensure respect for the intangible cultural heritage of communities, groups, and individuals. Ratified by Mozambique in 2007.
UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions (UNESCO 2005)	Aims to protect and promote the diversity of cultural expressions, promote dialogue between cultures and promote respect for cultural diversity. Ratified by Mozambique in 2007.

Convention	Description
<b>HUMAN RIGHTS</b>	
<p>International Labour Organisation Conventions</p>	<p>Forced Labour Convention, ratified in June 2003: Convention concerning Forced or Compulsory Labour (ILO 1930)</p> <p>Freedom of Association and Protection of the Right to Organise Convention, Dec 1996: Convention concerning Freedom of Association and Protection of the Right to Organise (ILO 1948)</p> <p>Right to Organise and Collective Bargaining Convention, Dec 1996: Convention concerning the Application of the Principles of the Right to Organise and to Bargain Collectively (ILO 1996)</p> <p>Equal Remuneration Convention, Jun 1977: Convention concerning the equal remuneration for men and women workers for work of equal value refers to rates of remuneration established without discrimination based on sex (ILO 1977)</p> <p>Abolition of Forced Labour Convention, Jun 1977: Convention concerning the Abolition of Forced Labour (ILO 1977a)</p> <p>Discrimination (Employment and Occupation) Convention, June 1977: Convention concerning Discrimination in Respect of Employment and Occupation (ILO 1977b)</p> <p>Minimum age specified: 15 years Jun 2003: Convention concerning Minimum Age for Admission to Employment (ILO 2003)</p> <p>Worst Forms of Child Labour Convention, June 1999: Convention concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour (ILO 2003a)</p>
<p>International Covenant on Civil and Political Rights (UN 1966)</p>	<p>Recognises equal and inalienable rights to all human beings in terms civil and political freedom. Ratified in 1993.</p>
<p>International Covenant for the Elimination of Racial Discrimination (UN 1969).</p>	<p>The signing parties undertake to pursue by all appropriate means and without delay a policy of eliminating racial discrimination in all its forms and promoting understanding among all races. Ratified in 1983.</p>
<p>Convention on the Elimination of Discrimination against Women (UN 1979)</p>	<p>States have the obligation to ensure the equal rights of men and women to enjoy all economic, social, cultural, civil, and political rights. Ratified in 1997; 2008.</p>
<p>Convention Against Torture (UN 1985)</p>	<p>State parties prohibit themselves under any circumstances from committing acts of torture and other cruel, inhuman, or degrading treatments or punishments. Ratified in 1999.</p>
<p>Convention on the Rights of the Child (UN 1989)</p>	<p>Guarantees protection of children's rights. Signed in 1990 and ratified in 1999.</p>
<p>International Convention on the Rights of Migrant workers (UN 1990)</p>	<p>Its primary objective is to protect migrant workers and their families, a particularly vulnerable population, from exploitation and the violation of their human rights. Signed in 2012; ratified in 2013.</p>
<p>International Convention on the Rights of Persons with Disabilities (UN 2007)</p>	<p>States have the obligation to protect the rights and dignity of persons with disabilities; signed in 2007.</p>
<p>African Union related protocols</p>	<p>Several protocols and charters promoting and protecting human rights and basic freedoms, children rights and others on the African continent.</p>

## 2.4 International Best Practice Guidelines and Policies

This EIA is being developed in compliance with national regulations and in line with international best practice, notably the environmental and social policy and performance requirements as defined by the World Bank / International Finance Corporation (IFC). The most important of these international standards and guidelines applicable to the Project are described below.

### 2.4.1 IFC Performance Standards

The IFC Performance Standards (PS) on Environmental and Social Sustainability, which were published in January 2012 (IFC, 2012), are among the most comprehensive standards available to international finance institutions working within the private sector. The principles provide a framework for an accepted international approach to the management of social and environmental issues.

The seven IFC PS applicable to the proposed Project are:

- **PS 1: Assessment and Management of Social and Environmental Risks and Impacts** underscores the importance of managing environmental and social performance throughout the life of a project. PS 1 requires the client to conduct a process of environmental and social assessment and to establish and maintain an Environmental and Social Management System (ESMS), appropriate to the nature and scale of the project and commensurate with the level of its environmental and social risks and impacts;
- **PS 2: Labour and Working Conditions** recognizes that the pursuit of economic growth through employment creation and income generation should be accompanied by protection of the fundamental rights of workers;
- **PS 3: Resource Efficiency and Pollution Prevention** recognizes that increased economic activity and urbanization often generate increased levels of pollution to air, water, and land, and consume finite resources in a manner that may threaten people and the environment at the local, regional, and global levels;
- **PS 4: Community Health, Safety and Security**, recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts;
- **PS 5: Land Acquisition and Involuntary Resettlement**, recognizes that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons that use this land;
- **PS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources**, recognizes that protecting and conserving biodiversity, maintaining ecosystem services, and sustainably managing living natural resources are fundamental to sustainable development;
- **PS 8: Cultural Heritage** recognizes the importance of cultural heritage for current and future generations.

It should be noted that PS 7 (Indigenous People) is not applicable to the Project, as the concept of Indigenous People, as defined in this PS, is not applicable to Mozambique. Under this PS, Indigenous Peoples are groups who, by virtue of their economic, social, and legal status and/or their institutions, custom, culture and/or language may be characterized as distinct from mainstream society, and that maintain a collective attachment to distinct habitats or ancestral territories. Although Mozambican society is composed of several different ethnicities, they are all integrated into one mainstream society and do not have differentiated claims over the territory.

PS 1 establishes the importance of (i) integrated assessment to identify the environmental and social impacts, risks, and opportunities of projects; (ii) effective community engagement through disclosure of project-related information and consultation with local communities on matters that directly affect them; and (iii) the client's management of environmental and social performance throughout the life of the project.

IFC PS's 2, 3, 4, 5, 6 and 8 present requirements to avoid, reduce, mitigate, or compensate for impacts on people and the environment, and to improve conditions where appropriate. Where social or environmental impacts are anticipated, the client is required to manage them through its ESMS consistent with PS 1.

## 2.4.2 IFC Environmental Health and Safety Guidelines

IFC's Environmental Health and Safety (EHS) Guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice, as defined in IFC's PS 3 on Resource Efficiency and Pollution Prevention.

The EHS Guidelines contain the performance levels and measures that are normally acceptable to IFC and are generally considered to be achievable in new facilities at reasonable costs by existing technology. For IFC-financed projects, application of the EHS Guidelines to existing facilities may involve the establishment of site-specific targets with an appropriate timetable for achieving them. The environmental assessment process may recommend alternative (higher or lower) levels or measures, which, if acceptable to IFC, become project- or site-specific requirements.

Relevant Industry Sector IFC guidelines applicable to the proposed Project include:

- EHS General Guidelines (IFC, 2007a);
- EHS Guidelines for Electric Power Transmission and Distribution (IFC, 2007b).

## 2.4.3 Southern African Power Pool Guidelines

The Southern African Power Pool (SAPP) is a regional body that was formed in 1995 through a Southern African Development Community (SADC) treaty to optimize the use of available energy resources in the region and support one another during emergencies. SAPP is comprised of twelve SADC member countries represented by their respective Electric Power Utilities, including Mozambique, represented by EDM.

SAPP's Environmental Sub-Committee has developed a number of environmental management guidelines, aiming to ensure that energy sector activities are developed sustainably. The following SAPP guidelines were taken into consideration:

- EIA Guidelines for Transmission Infrastructure for the SAPP Region (September 2010) - provides a recommended framework and guide to a systematic approach to performance of EIA for power transmission infrastructure projects in the SAPP region;
- SAPP Occupational Health, Safety and Environmental Guideline (November 2007).

#### 2.4.4 AfDB Integrated Safeguard System

AfDB's Integrated Safeguard System consists of an Integrated Safeguards Policy Statement, Operational Safeguards (OSs), a revised set of Environmental and Social Assessment Procedures (ESAPs) and Integrated Environmental and Social Impacts Assessment (IESIA) Guidance Notes. The set of 5 OSs is globally aligned with IFC PSs' as well as the ESAPs.

## 3 Project Description

### 3.1 Project Overview

The proposed Project is located in Maputo Province and in the Districts of Boane and Namaacha.

The main Project components are the following:

- Two 66 kV overhead lines approximately 33.5 km long, connecting the CEN to Boane substation;
- 66 kV electrical extensions at Boane substation.

The CEN will export power via two 66 kV lines that shall run from the CEN site in Namaacha to Boane substation with a length of approximately 33.5 km. The purpose of the two separate overhead lines is to provide n-1 redundancy (i.e., the full export of the wind farm capacity on one of the lines, if the other line fails) on the connection of the WPP to the EDM network in Boane Substation, in accordance with the Mozambican grid code requirements. For the first 29 km of the route (starting from the Namaacha wind farm site), two parallel 66 kV lines (20 m minimum separation) will be installed on monopole towers. From this point onward, the transmission line will follow the EDM existing servitude of an older transmission line that has been decommissioned. In this area, a single monopole tower will be used, with two lines installed, to minimize the corridor affecting resettlement. In the last 310 m of the route, the transmission line transitions to a buried underground cable.

The line will be supported by the monopole steel towers (typically 200 m spaced and 20-25m high).

The complete Boane substation 66 kV existing busbar conductor and associated clamps and support structures is to be replaced to allow for an uprated conductor to be used.

The two new 66 kV line bays are to be installed in the existing Boane substation control building and are to match those that are already in place at Boane substation.

In order to accommodate the additional busbar and the two incomer 66kV feeder lines from the Namaacha WPP, as well as the Statcom, the Boane substation yard is to be extended by approximately 25m to the East.

### 3.2 Main Activities

#### 3.2.1 Construction Phase

The main activities of the construction phase will involve civil construction works, including:

- Preliminary earthworks - preparation of the site work areas will start with preliminary site survey and earthworks activities which include, removing of shrubs and trees, surface slope and grading, drainage line and containment according to the design drawings;
- Setting up of the site and mobilization of equipment and auxiliary structures;
- Transmission line survey, environmental and social clearance surveys;

- Land clearing – the construction areas will be marked and cleared, including the clearing of vegetation and tree roots and the removal of the upper layer of soil;
- Earthworks – including cuts and fills to model the terrain and prepare the foundations;
- Transportation of construction materials and workers to/from site;
- Operation of vehicles and heavy equipment;
- Construction of the transmission power line and Boane substation expansion;
- Installation of the equipment and control systems;
- Pre-commissioning and commissioning activities.

Specifically for overhead lines, the following typical tasks can be listed:

**Table 3-1 – Typical tasks associated with overhead line construction.**

Task	Description
Site preparation	This may include vegetation clearance, verification of local utilities and underground services, and geotechnical surveys, as necessary.
Site enabling works	Vehicle access to each tower site is required either via direct access road or along the RoW. This may require the construction of one or more temporary access roads.
Civil works	Tower foundations are mechanically excavated and filled with concrete. Piled foundations may be required in some areas where ground conditions are unstable. The dimensions of the excavation will differ depending on local conditions. Concrete will be delivered by ready mixed concrete truck from batching plants.
Steel structure fabrication	Steel structure fabrication may not be carried out in Mozambique. In such case the materials need to be transported via Maputo Port to the tower location along the power line route.
Steel erection	Steelwork sections for the towers will be delivered by road using a four-wheel drive vehicle. Cranes may be necessary to support the assembly of higher sections of the towers.
Conductor stringing	Stringing is undertaken using a winch to pull the conductor along the towers and a “tensioner” at the other end to keep the conductor above the ground.
Testing of equipment	Overhead line components including conductors, insulators, towers, joints, and fittings are designed and tested to prove compliance with structural, mechanical, and electrical requirements.
Reinstatement of tower construction area (during construction decommissioning)	At completion, the area and materials will be disassembled and transported for reuse or recycled. Site along the PPZ will be, cleared and tidied up. Access routes and disturbed land will be reinstated in agreement with the land users and title owners or Mozambique Authority.

Further to the Project’s main components, described above, the implementation of the transmission line will require complementary components and activities, which are required to support the Project’s construction or to allow its operation and maintenance. These include:

- Construction of access roads, for line construction and maintenance purposes;
- Exploration of borrow pits to provide aggregates and inert materials;
- Establishment and maintenance of the right-of-way (RoW).



### 3.2.2 Operational Phase

Once built, EDM will be responsible for the maintenance and operation.

The expected average annual evacuated electricity through the transmission line is 350GWh/yr.

The main works associated with transmission line operation are the maintenance of the RoW, tower and line inspections and line maintenance works. Control of vegetation regrowth is necessary to avoid disruption to the overhead line and towers. If tree and plant growth is left unchecked, there are higher risks of power outages from contact with trees, forest and bush fires, corrosion of steel equipment, equipment access blockages, and interference with grounding equipment. Access for technical inspection and repairs will be intermittent and use existing access roads and take place within the existing RoW. One aspect that will be monitored during technical inspections is the encroachment of new infrastructure and settlements into the RoW, which may constitute a risk.

During operations, the substation will be mostly automated. A few EDM workers will monitor the substation operation, as it is already the case for the existing Boane substation. Maintenance works will be intermittent and within the operational site boundary.

### 3.2.3 Decommissioning Phase

The design lifetime of the infrastructure is 35 years<sup>3</sup>, although this may be prolonged via maintenance and/or upgrades. The Project's decommissioning phase is thus likely to occur in a relatively distant timeframe, and as such the degree of confidence regarding the activities to be developed at that stage is relatively low. In general, however, the decommissioning phase will include the following activities:

- Removal of foundations and towers;
- Removal of wastes and decontamination of sites;
- Disposal of wastes and hazardous materials, in adequate waste disposal facilities; and
- Devolution and reuse of RoW, in line with the proposed end use.

Given the distant timeframe of these activities, a Decommissioning Plan should be developed by EDM prior to decommissioning, which should include all specialist studies required to guide the decommissioning activities and minimize their environmental and social impacts.

---

<sup>3</sup> The useful life could be considered 35 years. The Concession Agreement is a BOOT (Build Own Operate Transfer) arrangement, therefore after the term of the PPA (25 years), the asset transfers to EDM.

## 4 Implementation of the EMP

### 4.1 Coordination with Relevant Agencies / Stakeholders

Regular coordination and communication with all relevant agencies supervising environmental and social affairs will be maintained throughout the lifetime of the Project covering permit requirements, environmental and social reports, management of change and in the unlikely event of emergency coordination/notification. Similar coordination will be carried out with EPC Contractors (and subcontractors) who will be responsible to implement the EMP during construction phase.

### 4.2 Roles and Responsibilities

#### 4.2.1 Key Role Players

The **Proponent** of the Project is EDM. Their implementation partners, Globeleq and Source Energia will be the organizations ultimately responsible for Project implementation during construction, but will do so by hiring one or more construction contractors, that will be responsible for construction of the Project infrastructure. As such, many of the construction environmental and social mitigation and management required under this EMP will be the Contractor's responsibility, under the Proponent's supervision.

Once built, EDM will be responsible for the maintenance and operation.

Mitigation of the Project's induced impacts will require active management in all project phases. Given that these phases will be under the responsibility of different role players, it is crucial to clearly define the responsibilities of the main role players across the project's life cycle, to ensure that the environmental management procedures defined in this EMP are fully implemented.

The environmental and social management of the Project will thus be dependent on the actions of the following key role players:

- **Globeleq and Source Energia**, as the Project implementation partners, leading during construction under EDM supervision, will be responsible for ensuring that the Project is designed and built according to the requirements set out in this EMP. This will include the following main tasks:
  - Ensure that the Project's detailed design (which will be undertaken by each of the EPC Contractor) complies with the requirements set out in the EMP (see Chapter 5.1);
  - Update and finalize the EMP based on the final detailed engineering design and ensure that measures to be undertaken during construction and environmental technical specifications are included in the bidding documents and contractual obligations with the winning bidder for each of the contracted elements of the Project;
  - Ensure that the EPC Contractor(s) are fully aware of, and contractually bound to, the environmental management requirements set out in the EMP for the construction phase of the different Project components (included in Chapters 5.2 and 6), through their inclusion in the tendering process and on the subsequent contracts;

- Require from all Contractors the submission of a Construction Environmental and Social Management Plan (CESMP) and all related management plans and method statements, for the Proponent approval, that are compliant with all requirements included in this EMP;
- Oversee a contractor to lead on the RAP/IRAP process, as set out in the Resettlement Framework Plan;
- Supervise the EPC Contractor's environmental performance, to ensure that all management requirements in this EMP are implemented;
- Develop and implement a project-specific Stakeholder Engagement Plan (SEP), based on the guidelines provided (see Section 6.6), and a Grievance Redress Mechanism (GRM), as per the guidelines provided in Section 6.6.5.
- **EPC Contractor** – the EPC Contractor, to be procured and appointed by the Proponent/implementation partners, will be responsible for developing the detailed engineering design of their respective parts of the Project to a level of detail adequate for construction, in compliance with the requirements provided in the EMP for detail design and the construction phase (see Chapters 5.1 and 5.2). When hiring subcontractors, the EPC Contractor will also ensure that they abide by all requirements of the EMP, through the inclusion of the EMP in the tendering process and contracts of their subcontractors.
- **EDM**, as the Project Proponent and leading institution during operation, will manage the Project during the operational phase in compliance with the environmental management requirements set out in this EMP for operations (included in Chapter 5.3 and 6, where applicable).

The responsibilities of each of these key role players are described in greater detail in the following sections.

#### 4.2.2 Responsibility of the Implementation Partners (Construction)

Globeleq and Source Energia, implementation partners leading during construction, shall interact with EDM and the detailed engineering phase contractor, to verify that the final design is compliant with the recommendations and guidelines set out in Chapter 5.1, 5.2 and 6 (where applicable) of this EMP.

With regards to the construction phase, Globeleq and Source Energia shall appoint an **Environmental and Social Governance Manager (ESGM)**, responsible for monitoring compliance of the EPC Contractor within the implementation of the EMP, including the undertaking of environmental management compliance audits.

The ESGM shall have the following responsibilities:

- Ensure that the EPC Contractor is duly informed of the EMP, and all its environmental and social management requirements, prior to any contract award, by including the necessary environmental and social documents in tenders and expression of interests;

- Make sure that the EPC Contractor takes ownership of the environmental and social requirements defined in this EMP, by requesting the Contractor to submit a CESMP, and any associated plans or procedures, detailing how the EPC Contractor will implement these requirements;
- Review and approve the CESMP and any associated plans or procedures;
- Inform key, on-site staff of their roles and responsibilities in terms of the EMP, through initial environmental awareness training;
- Monitor, review and verify compliance with the EMP by the EPC Contractor, as well as any sub-contractors, if applicable;
- Identify areas of non-compliance and recommend measures to rectify them in consultation with EDM and EPC Contractor, as required;
- Ensure that the EPC Contractor remedies environmental and social problems in a timely manner and to the satisfaction of EDM and authorities (when necessary);
- Request method statements from the EPC Contractor prior to the start of relevant activities and approve these (as appropriate) without causing undue delay to the EPC Contractor;
- Ensure induction material includes Project appropriate environmental and social issues;
- Approve environmental training programs and other awareness initiatives;
- Provide feedback for continual improvement in environmental and social performance;
- Respond to changes in project implementation or unanticipated site activities which are not addressed in the EMP, and which could potentially have environmental impacts, and advise EDM and the EPC Contractor as required;
- Review, approve and archive the EMP Performance Reports.

The ESGM will be supported by the Community Liaison Officer (CLO), appointed by the implementation partners, who will have the following main responsibilities:

- Liaise with communities and report to ESGM any issues that need to be resolved;
- Provide information to local communities about the upcoming construction activities;
- Together with the ESGM, evaluate compliance to the construction phase stakeholder engagement, as per the Stakeholder Engagement Plan to be developed by Globeleq and Source Energia, based on the Communication Plan Framework provided in this EMP;
- Together with the ESGM, ensure that the Grievance Redress Mechanism (GRM) is implemented and disclosed to the communities around the construction corridor. The CLO will be the point of contact for lodging of grievances and suggestions resulting from the Project's construction phase.

### 4.2.3 Responsibility of the EPC Contractor

The **EPC Contractor** shall be responsible for implementation of all management actions outlined in this EMP for the construction phase (see Chapters 5.1, 5.2 and 6) and shall abide by the ESGM instructions regarding the implementation of the EMP. Note that the Proponents may name either a single EPC Contractor for the transmission line and the wind power plant, or this scope may be split between two contractors. If the later, these responsibilities apply to the EPC Contractor assigned the transmission line, but it is noted that some collaboration will be required between the two contractors where the transmission line connects to the wind farm site.

The EPC Contractor shall name a **Health, Safety and Environmental Manager (C-HSEM)**, or equivalent, who shall report to the Proponents' ESGM and ensure that the management actions set out in this EMP are complied with on a day-to-day basis. The C-HSEM shall:

- Develop environmental induction and awareness training for all new site personnel (e.g., posters, toolbox talks, signage);
- Ensure that all activities on site are undertaken in accordance with the EMP;
- Undertake visual inspections of the activities of employees regarding implementation of the requirements outlined in the EMP;
- Immediately notify the ESGM of any non-compliance with the EMP, or any other complaints or issues of environmental and or social concern;
- Develop and submit the C-EMP to the ESGM for approval;
- Develop and submit Method Statements to the ESGM for approval;
- Keep site documentation related to environmental management on site (e.g., permits, EMP, Environmental Method Statements, Environmental License, reports, audits, receipts for waste removal, etc.);
- Keep a regular photographic record of all environmental incidents;
- Monitor and record EMP performance indicators;
- Keep any records as required in the Environmental Management Plans/Programs;
- Compile and submit EMP performance reports to the ESGM.

The C-HSEM will also ensure that all stakeholder engagement activities under the contractor's responsibility are undertaken as per the Communication Plan Framework set out in the EMP and in coordination with the Proponent's CLO.

Additionally, the EPC Contractor has the following general responsibilities:

- Get all necessary licenses and permits to perform the activities;
- Get all the licenses and permits required for wastewater discharge;
- Get all the licenses and permits required for handling, treatment, transport, and disposal of waste at final destination;
- Comply with all requirements included in the EMP;
- Allocate human and financial resources to implement the EMP. Ensure that all the necessary equipment (e.g., waste containers, safety equipment, fire extinguishers) and materials (e.g., spill kits) are available on board;

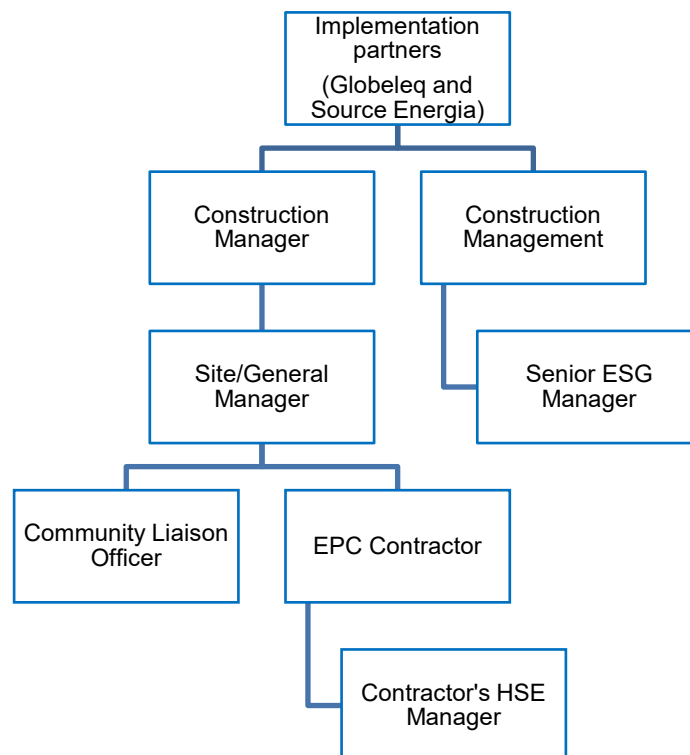
- Provide environmental training to the workers;
- Carry out their own inspections to ensure compliance with the EMP;
- Be open to periodic audits from the Proponent and provide necessary information to do so.
- Implement a communication channel with local communities according to the Communication Plan Framework, coordination with the Proponent's CLO;
- Ensure that Subcontractors, if any, comply to the EMP;
- Implement all necessary correctives measures. Keep record of the incidents, accidents and community complains;
- Supervise the activities of the subcontractors; and
- Report all relevant incidents and accidents to the Proponent.

#### 4.2.4 Responsibility of the Proponent (Operation)

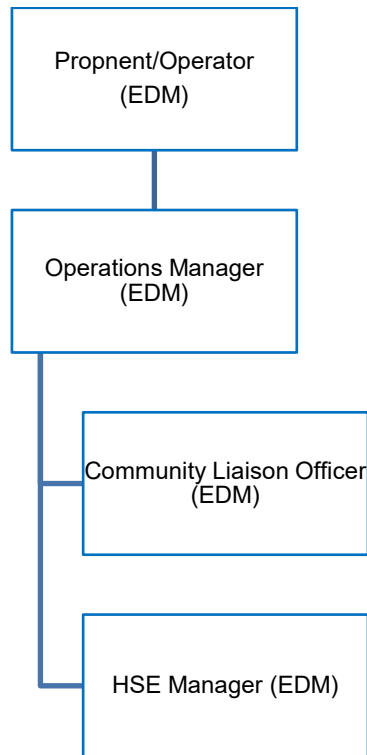
Once built, the transmission line will be operated by EDM (Proponent/Operator). EDM will be fully responsible for the maintenance and operation, in compliance with the environmental management requirements outlined in this EMP for operations (included in Chapter 5.3 and 6, where applicable).

#### 4.2.5 Organogram

The following organograms show the different role players and the official chain of communications proposed for the implementation of the EMP in the construction and operation phases.



**Figure 4.1 – EMP organizational chart for the construction phase**



**Figure 4.2 – EMP organizational chart for the operation phase**

## 5 Environmental Management

### 5.1 Mitigation Measures for Detailed Design

Following the Project's impact assessment, the EIS defined a number of measures for the detailed engineering phase, which are summarized in Table 5.1. These include guidelines for the detailed design of some Project components, which are proposed to avoid or minimize negative impacts. The integration of these recommendations into the Project final design will be the responsibility of the EPC Contractor, under the supervision and approval of the Proponent. Note that whilst these measures will be implemented during the detailed design phase, they mostly mitigate impacts during operation. All measures listed below will be verified through a one-time demonstration prior to construction, and will be documented via a Performance Report and Audit.

Table 5.1. These include guidelines for the detailed design of some Project components, which are proposed to avoid or minimize negative impacts. The integration of these recommendations into the Project final design will be the responsibility of the EPC Contractor, under the supervision and approval of the Proponent. Note that whilst these measures will be implemented during the detailed design phase, they mostly mitigate impacts during operation. All measures listed below will be verified through a one-time demonstration prior to construction, and will be documented via a Performance Report and Audit.

**Table 5.1 – Requirements for the Detailed Engineering Phase**

Project Component	Requirements	Avoided or Mitigated Impacts
Transmission line towers / Overhead line	<ul style="list-style-type: none"> <li>- Sufficient geological-geotechnical evaluation will be undertaken such that the structures can be designed for their suitability to the terrain. This will include consideration of soil erosion and landslide.</li> <li>- Consult with the mining concession companies which the ROW crosses to determine any concerns that they have and identify any additional mitigation measures required.</li> </ul>	<ul style="list-style-type: none"> <li>- Potential slope instability</li> <li>- Adverse effects on geological heritage or mineral resources</li> </ul>
	<ul style="list-style-type: none"> <li>- Any drainage systems provided for the Project must be sufficient to ensure effective surface water drainage, maintaining the stability of the slopes and not causing erosion.</li> </ul>	<ul style="list-style-type: none"> <li>- Impacts on geology and water resources</li> </ul>
	<ul style="list-style-type: none"> <li>- All towers will be located at least 30 m from the nearest water source to avoid polluting the waters and to reduce the flow of sediments.</li> <li>- Prioritize/avoid locating the towers outside riverbanks, wetlands, and floodplains.</li> </ul>	<ul style="list-style-type: none"> <li>- Impacts on water resources</li> <li>- Direct loss of vegetation units and habitats</li> <li>- Impacts on riverine habitats</li> </ul>



Project Component	Requirements	Avoided or Mitigated Impacts
Overhead line	<ul style="list-style-type: none"> <li>- Signalling devices must be installed in the whole extension of earth cables. Signals must be placed with 20 m spacing, alternating in each earth cable, resulting in an apparent 10 to 10 m distancing between signals considering both earth cables. Use this signalling scheme with rotative fireflies or tapes as signal devices in areas where the line cross or goes closer to riparian vegetation and any large, undisturbed woodland areas along the route (i.e., those in the northern part of the route). In other woodland areas use double spirals as signal devices with the same distancing.</li> <li>- Install elements that increase the gap between the conductors on the crossarm.</li> <li>- Cover the conductors and other live elements (surge arresters, fuses, disconnectors) with insulating materials, to ensure minimum safety distances.</li> <li>- Install elements that discourage or prevent birds from perching on dangerous parts (anti-perching devices).</li> </ul>	<ul style="list-style-type: none"> <li>- Increased mortality of bird and bat species due to collisions and electrocution</li> </ul>
	<ul style="list-style-type: none"> <li>- The route of the transmission line should be further evaluated for optimization in order to potentially reduce the number of households requiring resettlement.</li> </ul>	<ul style="list-style-type: none"> <li>- Involuntary resettlement</li> </ul>

## 5.2 Mitigation Measures for the Construction Phase

Table 5.2 lists the general mitigation measures for the construction phase (i.e., not integrated into a specific management program), by type of construction activity. These are mostly good practice environmental management procedures that should be applied to minimize impacts on several environmental aspects. Table 5-2 also provides information regarding the impacts that will be mitigated by the proposed measures, as well as the key actor which is responsible for their implementation. Note, however, that the Proponent is the ultimate responsible for ensuring the implementation of mitigation, even when other actors (such as the contractors) are involved, through supervision and auditing.

**Table 5.2 – Mitigation measures for construction phase**

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
<b>CLIMATE AND CLIMATE CHANGE</b>					
GHG emissions during the construction phase	Promote proper and regular maintenance of vehicles and other motorized equipment per manufacturers' guidance.	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Monthly
<b>AIR QUALITY</b>					
Increase in dust emissions near sensitive receptors	Vegetation clearing and earthworks should be minimized as much as possible and limited to the strictly needed areas	EPC Contractor	- Performance report - Audits	- % of cleared area - No. of Non-conformities	- Monthly
	All the unpaved surfaces where vehicle movement is to be expected should be kept moist (e.g., through a water sprinkler truck), in particular during dry and windy conditions, to minimize the dust emitted by vehicle entrainment	EPC Contractor	- Performance report - Audits	- No. of Non-conformities - No. of complaints	- Monthly
	Speed limits for construction heavy vehicles should not exceed 30 km/h in critical segments, such as when near residential areas	EPC Contractor	- Performance report - Audits	- No. of Non-conformities - No. of complaints	- Monthly
	Circulation of construction heavy vehicles should be limited to pre-approved construction routes	EPC Contractor	- Performance report - Audits	- No. of Non-conformities - No. of complaints	- Monthly
	Heavy trucks transporting construction materials should not be loaded to full capacity. A free edge of approximately 0.2m should be kept avoiding spills during materials transport	EPC Contractor	- Performance report - Audits	- No. of Non-conformities - No. of complaints	- Monthly
	Stockpiles of granular materials should be regularly sprinkled with water to minimize windborne dust	EPC Contractor	- Performance report - Audits	- No. of Non-conformities - No. of complaints	- Monthly
	Trucks carrying dusty materials should have the load conveniently covered, preventing the emission of particulate matter and fugitive dust	EPC Contractor	- Performance report - Audits	- No. of Non-conformities - No. of complaints	- Monthly

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
Increase in atmospheric concentrations of exhaust gases from vehicle and equipment operation	All internal combustion machinery and equipment should be kept in good maintenance conditions, in order to minimize combustion gases exhaust emissions	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Monthly
	Select traffic construction routes that minimize the crossing of residential areas and optimize fuel consumption as much as feasible possible	EPC Contractor	- Performance report - Audits	- No. of Non-conformities - No. of complaints	- Monthly
	Speed limits for construction heavy vehicles should not exceed 30 km/h when near residential areas	EPC Contractor	- Performance report - Audits	- No. of Non-conformities - No. of complaints	- Monthly
	Internal combustion equipment should be turned off when not in operation. Avoid maintaining equipment in idle when not being used	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Monthly
<b>Noise</b>					
Increase of noise levels near sensitive receptors during construction	Vegetation clearing and earthworks should be minimized as much as possible and limited to the strictly needed areas	EPC Contractor	- Performance report - Audits	- % of cleared area - No. of Non-conformities	- Monthly
	Speed limits for construction heavy vehicles should not exceed 30 km/h in critical segments, such as when near residential areas	EPC Contractor	- Performance report - Audits	- No. of Non-conformities - No. of complaints	- Monthly
	Construction activities, in particular the noisier ones, should whenever possible be limited to the daytime period (between 07:00 and 22:00) during weekdays, avoiding working during the night-time and on weekends	EPC Contractor	- Performance report - Audits	- No. of Non-conformities - No. of complaints	- Monthly
	Circulation of construction heavy vehicles should be limited to pre-approved construction routes. These will avoid crossing residential areas, schools, hospitals, cultural heritage and religious facilities whenever feasible	EPC Contractor	- Performance report - Audits	- No. of Non-conformities - No. of complaints	- Monthly
	Operate earth moving equipment within specification and capacity (e.g., ensure machines are not overloaded)	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Monthly
	Perform regular maintenance of all equipment as per manufacturer specifications	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Monthly
	The EPC Contractor should avoid, whenever possible, placing fixed equipment (such as cranes or compressors) in proximity to sensitive receptors	EPC Contractor	- Performance report - Audits	- No. of Non-conformities - No. of complaints	- Monthly

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
	Inhabitants of local communities nearby the construction locations should be previously informed by the EPC Contractor regarding the upcoming construction activities, including information on the planned start of activities, their nature and duration. This communication should also include information regarding the project nature and goals as per the Project Stakeholder Engagement Plan	EPC Contractor, CLO	- Performance report - Audits	- N.º of engagements with communities - No. of Non-conformities - No. of complaints	- Monthly
	Grievance redress mechanisms should be implemented during construction phase	EPC Contractor, CLO	- Performance report - Audits	- No. of Non-conformities - No. of implemented measures	- During construction
<b>GEOLOGY</b>					
Potential slope instability	Conduct regular inspection and maintenance of any drainage system provided by the Project	EPC Contractor	- Regular field inspections to visually assess the condition of the drainage systems, such as culverts, ditches, or retention ponds	- Absence or minimal occurrence of surface water-related issues, such as ponding, flooding, or erosion, within the project area	- Daily or weekly inspections during critical construction activities
Changes in erosion, transport and sedimentation processes	Unused soil remaining after backfilling of tower foundation sites shall be disposed near the tower foot, levelled and vegetated	EPC Contractor	- Regular site inspections - Documentation and records	- Compliance with project specification - Adequacy of vegetation growth	- One-off activity during the construction phase

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
<b>SOILS</b>					
Impacts on irrigation lands and on soils with suitability for irrigation	Prioritize the use of existing tracks to access work sites. Restrict transportation to the identified access by clearly marking out the limit of the RoW and access roads	EPC Contractor	- Site inspections	- Violations or incidents: The number of instances where vehicles or personnel deviate from the designated access routes	- Daily basis throughout the construction phase
	Limit the clearing of vegetation to strictly required areas	EPC Contractor	- Visual inspections - Transect surveys	- % of vegetation cleared: This indicator measures the extent of vegetation cleared in relation to the total area of the power transmission line corridor.  - Incidents of unauthorized clearing	- Daily basis throughout the construction phase
	Conducting regular meetings or workshops with farmers to discuss their upcoming field activities and understand their specific needs regarding powerline construction. This will allow for proactive planning and coordination between the powerline project team and farmers, minimizing disruptions	EPC Contractor, CLO	- Meeting records - Feedback mechanisms	- Frequency of meetings - Farmer satisfaction through surveys or feedback mechanisms	- Monthly or quarterly schedule for meetings or workshops

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
Increased soil erosion and sediment compaction	Prioritize the use of existing tracks to access work sites. Restrict transportation to the identified access by clearly marking out the limit of the RoW and access roads	EPC Contractor	- Site inspections	- Incidents of unauthorized access - Condition of markings	- Throughout the construction phase on a daily basis
	Control the movement of heavy vehicles and equipment over the soil, including restricting movement over non-essential areas	EPC Contractor	- Regular Inspections - Security Personnel	- Violation Incidents - Corrective Actions - Communication and Training	- Daily basis, especially during peak construction periods - Event-based Assessments: Certain activities, such as the transportation of large equipment or materials, may require additional monitoring during their execution
	Soils excavated for pylon foundations should be used for backfilling excavations and not be left exposed to wind or water for long periods	EPC Contractor	- Site Inspections - Documentation and Records: Maintaining accurate records of the excavation activities, including the quantity and location of soil reuse	- Soil reuse % - Exposure duration	- Daily basis during the active construction phase
	Stockpile topsoil into low, broad mounds and replacing as soon as possible to prevent excessive compaction and help with the retention of soil fauna	EPC Contractor	- Site Inspections - Maintaining records and documentation of the stockpiling and replacement activities, including	- Soil compaction (using a penetrometer to measure soil resistance)	- As Needed/Ad Hoc: The measure can be implemented whenever topsoil is being stockpiled during the construction phase.

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
			dates, quantities, and locations		
	Protect temporarily stored soils with a waterproof cover and adequate height to ensure stability	EPC Contractor	<ul style="list-style-type: none"> <li>- Site inspections</li> <li>- Documentation: Maintaining records or logs to document the status of the soil storage areas</li> </ul>	<ul style="list-style-type: none"> <li>- Stability of covers</li> <li>- Incidents of soil erosion or sediment runoff</li> <li>- Incidents of soil erosion or sediment runoff</li> </ul>	<ul style="list-style-type: none"> <li>- Throughout the construction phase on a daily basis</li> </ul>
	Ensure that all cleared and impacted land is rehabilitated and re-vegetated, as appropriate	EPC Contractor	<ul style="list-style-type: none"> <li>- Site Inspections</li> <li>- Vegetation Surveys</li> </ul>	<ul style="list-style-type: none"> <li>- Vegetation coverage</li> <li>- Plant Species Diversity</li> <li>- Soil Erosion</li> </ul>	<ul style="list-style-type: none"> <li>- During Construction: as frequently as needed to ensure timely restoration after each stage of construction</li> </ul>
Potential soil contamination	Maintain vehicles and equipment to ensure no oil or fuel leakages. If a spill occurs, a spill kit must be used to immediately reduce the potential spread of the spill.	EPC Contractor	<ul style="list-style-type: none"> <li>- Maintenance records</li> <li>- Spill kit inventory</li> </ul>	<ul style="list-style-type: none"> <li>- Compliance with maintenance schedules</li> <li>- Absence of spill incidents</li> <li>- Spill response time</li> </ul>	<ul style="list-style-type: none"> <li>- Daily throughout the construction phase</li> </ul>
	Prohibit the discharge of any type of non-treated residual water in the soil and/or water resources	EPC Contractor	<ul style="list-style-type: none"> <li>- Regular site inspections</li> </ul>	<ul style="list-style-type: none"> <li>- Absence of pollution incidents: Tracking the occurrence of pollution incidents or violations related to the discharge of non-treated residual water</li> </ul>	<ul style="list-style-type: none"> <li>- Throughout the construction phase on a daily basis</li> </ul>

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
<b>WATER RESOURCES</b>					
Changes to natural run-off patterns and water bodies	Do not block or constrain river flow in the construction of access roads, even if temporary. Ensure that suitable transversal drainage (culverts, viaducts, etc.) are in place	EPC Contractor	- Site inspections of transversal drainage structures.	- Compliance with design specifications - Monitoring the functionality of transversal drainage structures	- Daily or weekly monitoring during the rainy season
	Only areas already disturbed (outside any watercourse) or within the construction area limits should be used for setup of laydown areas. The following sites must be avoided: a. Sites susceptible to seasonal flooding. b. Steep terrain which, in periods of high rainfall, may drag sediments downstream and into waterways. c. Places that are less than 50 m from surface water and any identified wells and boreholes	EPC Contractor	- Regular inspections by environmental experts or designated personnel - Records or logbooks that document the selection process for laydown areas, including site assessments and the justification for chosen locations	- Absence of environmental impacts - Compliance with regulatory requirements	- Early stages of the project to identify suitable locations and avoid prohibited sites - This assessment can be considered a one-off activity
	Watercourses, including wetlands should be clearly marked. These areas should be avoided by contractors and site personnel	EPC Contractor	- Site inspections - Records (e.g., within CESMP) document the marking of watercourses and wetlands, as well as any instances of non-compliance or corrective actions taken	- Absence of encroachments or disturbances - Corrective actions taken: Documenting any instances of non-compliance and tracking the implementation of corrective actions to address identified issues	- Watercourses and wetlands should be marked before the start of construction activities. This marking process can be considered a one-off activity



Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
	Riverbeds will not be modified beyond the strictly necessary to complete a particular work. The affected areas will be rehabilitated to the original profile and native vegetation	EPC Contractor	<ul style="list-style-type: none"> <li>- Before-and-after documentation: Conducting surveys and collecting photographic evidence before and after construction activities to compare the condition of the riverbeds.</li> </ul>	<ul style="list-style-type: none"> <li>- Degree of modification: Assessing the extent of riverbed modification compared to the original profile</li> <li>- Rehabilitation success: monitoring vegetation growth, erosion control, and the overall ecological function of the rehabilitated areas</li> </ul>	<ul style="list-style-type: none"> <li>- Throughout the construction phase whenever riverbeds are encountered or affected</li> </ul>
Accidental contamination of surface and/or ground waters	The disposal and/or storage of construction materials and construction waste shall be protected from wind and rain and should be located as far away as possible from sensitive areas, including water lines (minimum 50 m)	EPC Contractor	<ul style="list-style-type: none"> <li>- Site inspections</li> <li>- Documentation review: related to storage and disposal practices, such as records of material inventory, waste management plans, and disposal receipts</li> </ul>	<ul style="list-style-type: none"> <li>- Compliance with storage guidelines</li> <li>- Verifying the distance: through on-site measurements and spatial analysis</li> </ul>	<ul style="list-style-type: none"> <li>- Daily or weekly inspections during active construction phases, while monthly or quarterly during less intense periods</li> </ul>
	No soil, vegetation, waste or construction materials will be discharged into any water courses	EPC Contractor	<ul style="list-style-type: none"> <li>- Documentation review: Reviewing documentation related to waste management plans, spill response procedures, and incident reports</li> </ul>	<ul style="list-style-type: none"> <li>- Compliance with discharge guidelines</li> </ul>	<ul style="list-style-type: none"> <li>- Daily or weekly during active construction phases, while monthly or quarterly during less intense periods</li> </ul>

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
	Natural water resources (rivers, lakes, etc.) will not be used for equipment or vehicle washing. This activity will only be conducted in designated authorized washing areas	EPC Contractor	- Site inspections	- Compliance with designated washing areas - Reviewing incident reports	- Daily or weekly inspections during active construction phases, while monthly or quarterly during less intense periods
	Refuelling and maintenance of equipment will only be done only in designated areas, adequately delimited, with impermeable pavement and adequate drainage infrastructure, including a water-oil separation system. The waste generated from these activities must be properly managed to ensure safe disposal (storing and transporting)	EPC Contractor	- Site inspections - Waste management tracking	- Waste management compliance - Incident reports	- Daily or weekly during active construction phases, while monthly or quarterly during less intense periods
	Whenever necessary, install portable toilets in the construction sites, with watertight septic tank for storage	EPC Contractor	- Site inspections - Feedback and complaints mechanism	- Inspection findings and documentation review - Worker's satisfaction	- Installed at the construction site before the start of the construction activities or as soon as the need arises
	Any spill of chemicals or hydrocarbons on the soil surface will be cleaned up using control/spill kits. Contaminated soils will be collected and managed and disposed appropriately as hazardous waste	EPC Contractor	- Spill response protocols - Inspection and observation	- Spill response time. - Post-spill inspections and testing of soil samples - Assesses compliance with regulations and standards for the disposal of hazardous materials	- Throughout the construction activities

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
Increase of suspended sediments in water bodies	Vegetation clearing and earthworks should be minimized as much as possible and limited to the strictly needed areas	EPC Contractor	- Performance report - Audits	- % of cleared area - No. of Non-conformities	- Monthly
	In areas with high erosion risk (from pk 0+000 to 2+500), ensure that sediment control measures are in place prior to disturbance	EPC Contractor	- Site inspections to verify the presence and effectiveness of sediment control measures	- Presence of sediment control measures - Visual inspections	- Before any ground disturbance takes place in the specified areas with high erosion risk
	Rehabilitate disturbed areas as soon as practicable after they are vacated; Revegetate disturbed areas along riverbanks	EPC Contractor	- Site inspections - Vegetation surveys. - Reviewing project documentation, including rehabilitation plans, progress reports, and monitoring records	- % Area rehabilitated. - Evaluating the density and health of vegetation - Compliance with timing requirements	- Throughout the construction phase and beyond
	Silt-laden water must not be pumped directly into a watercourse. It must be pumped into a settling pond, behind a silt-filtering medium, or onto an adjacent vegetated area sufficient in size to filter any water returning to the watercourse, such that the concentration of suspended solids in the watercourse does not increase more than 25 mg/l above background level	EPC Contractor	- Visual inspections	- Suspended solids concentration	- Throughout the construction phase whenever there is a potential for silt-laden water discharge
	Restore the transversal and longitudinal profile of the river to its original geometry. In areas with high erosion risk (from pk 0+000 to 2+500), construct the necessary protection works of riverbanks	EPC Contractor	- Field surveys	- River profile restoration: Assessing the extent to which the transversal and longitudinal profile of the river has been restored to its original geometry.	- Biannual or annual basis, or as determined by the project timeline

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
Changes in groundwater recharge	During the construction of the powerline minimize the disturbance to the ground and avoid damaging the aquifer recharge zone (alluvial zones). This may include using low-impact construction techniques, minimizing the amount of excavation, and avoiding the use of heavy equipment in sensitive areas	EPC Contractor	- Regular field visits by environmental experts	- Area of disturbance	- Monthly or biannually
	If possible, use permeable materials to construct access roads to maintain the natural recharge	EPC Contractor	- Field inspections	- Monitoring groundwater levels in the vicinity of the access roads	- During the initial construction phase
<b>LANDSCAPE</b>					
Temporary degradation of landscape at worksites	Vegetation clearing, topsoil removal, and earthmoving activities should be minimized as much as practicable and limited to the strictly needed areas	EPC Contractor	- Performance report - Audits	- % of cleared area - No. of Non-conformities	- Quarterly
	All temporary construction sites, such as borrow pits and landing areas, and any other areas disturbed by construction, will be revegetated as soon as practicable following the completion of the construction activities. The use of native species will be prioritized for the rehabilitation works;	EPC Contractor	- Performance report - Audits	- % of rehabilitated area - No. of Non-conformities	- Quarterly
	Priority will be given to areas that are already highly disturbed for the establishment of construction site camps and/or laydown areas	EPC Contractor	- Performance report - Audits	- % of cleared area - No. of Non-conformities	- Quarterly
	Laydown areas and machinery parks should be located as far as possible (minimum distance of 300 m) from any areas of sensitive use (residential areas, schools, and health units)	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Quarterly
	Limit the movement of machines and vehicles to work areas	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Quarterly

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
<b>BIODIVERSITY</b>					
Wetlands and riverine areas degradation	Adopt good housekeeping to prevent spillages and contamination	EPC Contractor	- Performance report - Audits	- No. of incidents - No. of Non-conformities	- Quarterly
	Forbid movement of heavy machinery in wetlands, riverbanks, riverbeds, and waterbodies as far as practically possible. Where it can't be avoided, the project HSE manager must provide case by case guidance to the EPC on how best to avoid damage, record any damage caused and ensure it is rehabilitated completely before construction is completed	EPC Contractor	- Performance report - Audits	- No. of complaints - No. of Non-conformities	- Quarterly
	All vehicles and equipment should be well-maintained per manufacturers' guidance	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Quarterly
	All refuelling and servicing of equipment should take place in demarcated areas, away from rivers, wetlands, and waterbodies. Refuelling and servicing of equipment must take place on an impermeable surface, and a spill kit must be available where the servicing or refuelling takes place	EPC Contractor	- Performance report - Audits	- No. of incidents - No. of Non-conformities	- Quarterly
	Limit the movement of machines and vehicles to work areas. Forbid disturbance outside site boundaries	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Quarterly
Direct loss of vegetation units and habitats	Strictly limit the clearing of vegetation to the required areas, with particular emphasis of this in areas of natural habitat	EPC Contractor	- Performance report - Audits	- % of cleared area - No. of Non-conformities	- Quarterly
	Prioritise siting of construction lay-down areas and borrow pits outside of areas of natural habitat	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Quarterly
	Areas to be cleared within the right-of-way will be marked by a surveyor and searched by a suitably trained professional for threatened species, before the vegetation is cleared. Any identified threatened species will be relocated in similar habitats outside the area to be disturbed. If any animal or nesting sites with eggs or chicks/juveniles are identified, they will be removed and relocated, unless the species is identified as threatened, upon which the breeding will be allowed to reach completion. The surveys will be done during the flowering season of the majority of threatened plant species that may be present. Search and rescue reports will be maintained, which will include the names and coordinates of relocated specimens. Vegetation in the remainder of the	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Ongoing visual observation throughout construction - Immediate notification to EO if nesting site identified

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
	transmission line servitude will remain untouched, except where required for access, construction, or height clearance it will be cropped no lower than knee height				
	Rehabilitate temporary work areas as soon as practical (ie, once work is concluded in each segment)	EPC Contractor	- Performance report - Audits	- % of rehabilitated area - No. of Non-conformities	- Quarterly
	Whenever possible new and temporary accesses should be created based in existent accesses	EPC Contractor	- Performance report - Audits	- N°. of new accesses - No. of Non-conformities	- Quarterly
Degradation of nearby vegetation units	Limit the movement of machines and vehicles to work areas. Forbid disturbance outside site boundaries. Where disturbance outside site boundaries can't be avoided, the HSE Manager needs to record the instance and an environmental incident and ensure that the area is rehabilitated.	EPC Contractor	- Performance report - Audits	- No. of complaints - No. of Non-conformities	- Quarterly
	Limit non-Project vehicles entrance in the construction area to avoid invasive and ruderal species dispersion and entrance of people that can exploit illegally natural resources.	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Quarterly
	Strictly limit the clearing of vegetation to the required areas, with particular emphasis of this in areas of natural habitat	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Quarterly
	Whenever possible new and temporary accesses should be created based in existent accesses	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Quarterly
	Vegetation clearing, topsoil removal, and earthmoving activities should be minimized as much as practical and limited to the strictly needed areas	EPC Contractor	- Performance report - Audits	- % of cleared area - No. of Non-conformities	- Quarterly

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
Reduction of feeding, breeding and roosting areas	Areas to be cleared within the right-of-way will be marked by a surveyor and searched by a suitably trained professional for threatened species, before the vegetation is cleared. Any identified threatened species will be relocated in similar habitats outside the area to be disturbed. If any animal or nesting sites with eggs or chicks/juveniles are identified, they will be removed and relocated, unless the species is identified as threatened, upon which the breeding will be allowed to reach completion. The surveys will be done during the flowering season of the majority of threatened plant species that may be present. Search and rescue reports will be maintained, which will include the names and coordinates of relocated specimens. Vegetation in the remainder of the transmission line servitude will remain untouched, except where required for access, construction, or height clearance it will be cropped no lower than knee height	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Ongoing visual observation throughout construction - Immediate notification to EO if nesting site identified
	Whenever possible new and temporary accesses should be created based in existent accesses	EPC Contractor	- Performance report - Audits	- Nº. of new accesses - No. of Non-conformities	- Quarterly
	The Project will conduct training on biodiversity management program	EPC Contractor	- Performance report - Audits	- No. of awareness actions - No. of Non-conformities	- Quarterly
Increased fauna mortality and decreased species diversity	Vegetation clearing, topsoil removal, and earthmoving activities should be minimized as much as practical and limited to the strictly needed areas	EPC Contractor	- Performance report - Audits	- % of cleared area - No. of Non-conformities	- Quarterly
	Limit machinery and vehicles speed limit to 30km/h to reduce risk of animal run over	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Quarterly
	Place signs along access roads informing speed limits and possible animal presence	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Quarterly
	During induction sessions inform workers about the importance of biodiversity and commitment of the project to it, in order to avoid run over animal on purpose	Contractor	- Performance report - Audits	- No. of awareness actions - No. of Non-conformities	- Quarterly

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
	Areas to be cleared within the right-of-way will be marked by a surveyor and searched by a suitably trained professional for threatened species, before the vegetation is cleared. Any identified threatened species will be relocated in similar habitats outside the area to be disturbed. If any animal or nesting sites with eggs or chicks/juveniles are identified, they will be removed and relocated, unless the species is identified as threatened, upon which the breeding will be allowed to reach completion. The surveys will be done during the flowering season of the majority of threatened plant species that may be present. Search and rescue reports will be maintained, which will include the names and coordinates of relocated specimens. Vegetation in the remainder of the transmission line servitude will remain untouched, except where required for access, construction, or height clearance it will be cropped no lower than knee height	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Ongoing visual observation throughout construction - Immediate notification to EO if nesting site identified
	In instances where animals and birds have not vacated a specific construction area and the construction can't be postponed, the project will use an air horn to frighten animals from the area in order to avoid injury or fatalities during vegetation clearance	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Throughout construction, verified monthly
	Whenever possible new and temporary accesses should be created based in existent accesses	EPC Contractor	- Performance report - Audits	- Nº. of new accesses - No. of Non-conformities	- Quarterly
Possible introduction or spread of invasive species in the Project area	Forbid vegetation disturbance outside the set boundaries for each construction site	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Quarterly
	Limit vegetation clearance to the construction footprint. Avoid clearing any further vegetation in the project boundary as far as possible.	EPC Contractor	- Performance report - Audits	- % of cleared area - No. of Non-conformities	- Quarterly
	Restrict people and vehicle movements outside project accesses, especially in natural habitat areas	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Quarterly
	Whenever possible new and temporary accesses should be created based in existent accesses	EPC Contractor	- Performance report - Audits	- Nº. of new accesses - No. of Non-conformities	- Quarterly
	Strictly limit the clearing of vegetation to the required construction footprint, particularly in areas of natural habitats	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Quarterly



Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
Exclusion of fauna species due to increase of disturbance	Whenever possible new and temporary accesses should be created based in existent accesses	EPC Contractor	- Performance report - Audits	- Nº. of new accesses - No. of Non-conformities	Quarterly
	Areas to be cleared within the right-of-way will be marked by a surveyor and searched by a suitably trained professional for threatened species, before the vegetation is cleared. Any identified threatened species will be relocated in similar habitats outside the area to be disturbed. If any animal or nesting sites with eggs or chicks/juveniles are identified, they will be removed and relocated, unless the species is identified as threatened, upon which the breeding will be allowed to reach completion. The surveys will be done during the flowering season of the majority of threatened plant species that may be present. Search and rescue reports will be maintained, which will include the names and coordinates of relocated specimens. Vegetation in the remainder of the transmission line servitude will remain untouched, except where required for access, construction, or height clearance it will be cropped no lower than knee height	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Ongoing visual observation throughout construction - Immediate notification to EO if nesting site identified
	Restrict construction works to the daytime hours, limiting illumination in the construction areas as much as practical	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Quarterly
	All garbage should be secured in sealed containers overnight to avoid attracting nocturnal carnivores and other opportunistic species to site	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Quarterly
	Avoid vegetation clearance activities in natural habitats and near large water masses between October and March, as much as practical, to minimize impacts on migratory birds	EPC Contractor	- Performance report - Audits	- % of cleared area - No. of Non-conformities	- Quarterly
	Start construction from south to north (between April to September) to avoid disturbing the larger natural areas during the period when more birds are breeding	EPC Contractor	- Performance report - Audits	- No. of Non-conformities	- Quarterly

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
<b>SOCIOECONOMIC ENVIRONMENT</b>					
<ul style="list-style-type: none"> <li>- Involuntary resettlement as a result of the establishment of the transmission lines' Partial Protection Zone</li> <li>- Disturbance of cultivation areas due to the construction of the transmission line and establishment of the Protection Zone</li> </ul>	<p>The Project will develop and implement a comprehensive Resettlement Action Plan (RAP) based on the resettlement policy framework (RPF) and that is fully aligned with the Mozambican legislative framework (including Decree 31/2012 and directives No. 155/2014 and 156/2014) and the IFC's Performance Standards (including PS 1 and 5).</p>	Proponent	<ul style="list-style-type: none"> <li>- Audits</li> <li>- GRM</li> </ul>	<ul style="list-style-type: none"> <li>- No. of complaints</li> <li>- No. of implemented RAP measures</li> </ul>	- Before construction
Creation of employment opportunities during the construction phase	<p>Develop a transparent, fair, non-discriminatory and ethical local recruitment plan. The recruitment plan shall be consistent with local labour legislation and international standards including the UNGPs and ILO standards (1 through to 17) and declarations.</p>	EPC Contractor	<ul style="list-style-type: none"> <li>- Performance report</li> <li>- Audits</li> </ul>	<ul style="list-style-type: none"> <li>- No. of Non-conformities</li> <li>- No. of implemented measures</li> </ul>	- Before and during construction
	<p>Ensure that, during the process of contracting workers, priority should be given to the local population and consideration on gender parity apply, provided applicants have the necessary skills for the relevant employment opportunity.</p>	EPC Contractor	<ul style="list-style-type: none"> <li>- Performance report</li> <li>- Audits</li> </ul>	<ul style="list-style-type: none"> <li>- No. of women employed</li> <li>- No. of local employees</li> </ul>	- Before and during Construction
	<p>Ensure that employment opportunities are adequately advertised, so as not to limit application opportunities.</p>	EPC Contractor	<ul style="list-style-type: none"> <li>- Performance report</li> <li>- Audits</li> </ul>	<ul style="list-style-type: none"> <li>- No. of Non-conformities</li> <li>- No. of implemented measures</li> </ul>	- Before and during construction
	<p>Carry out the process of contracting staff in a transparent manner, following pre-established and accepted criteria.</p>	EPC Contractor	<ul style="list-style-type: none"> <li>- Performance report</li> <li>- Audits</li> </ul>	<ul style="list-style-type: none"> <li>- No. of Non-conformities</li> <li>- No. of implemented measures</li> </ul>	- Before and during construction
	<p>Implement Globeleq's corporate GBVH procedure, which shall be applicable to all staff as well as third party contractors</p>	EPC Contractor	<ul style="list-style-type: none"> <li>- Performance report</li> <li>- Audits</li> </ul>	<ul style="list-style-type: none"> <li>- No. of Non-conformities</li> <li>- No. of implemented measures</li> </ul>	- Before and during construction

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
Transfer of skills to local communities due to mobilization of construction workforce	The construction contractor should develop and implement a Training and Skill Transfer Program, with the following main goals: <ul style="list-style-type: none"> <li>- Provide technical training programs for unskilled workers, with the objective of improving their job performance and giving them the skills to compete for other positions.</li> <li>- Provide environmental and social awareness training to all workers, including matters related to the code of conduct, non-discrimination and sexual harassment, abuse and exploitation.</li> </ul>	EPC Contractor	- Performance report - Audits	- No. of awareness actions	- Monthly
	The construction contractor will provide environmental and social awareness training to all workers	EPC Contractor	- Performance report - Audits	- No. of awareness actions	- Monthly
	The construction contractor will provide health and safety training to all workers	EPC Contractor	- Performance report - Audits	- No. of awareness actions	- Monthly
Stimulation of the local and regional economy due to construction expenditure	The procurement of goods and services by the construction contractor will give priority to sourcing from the local and provincial markets, whenever possible	EPC Contractor	- Performance report - Audits	- No. of local and regional companies contracted - Volume of local and regional goods purchased	- Before and during construction
Potential disturbance of cultural heritage resources	Religious temples will be relocated or compensated according to the RAP process	Proponent	- Audits - GRM	- No. of complaints - No. of implemented RAP measures	- Before construction
	The affected cemeteries will be relocated to a location to be agreed with the local communities, following all the necessary ceremonies and traditional practices	Proponent	- Audits - GRM	- No. of complaints - No. of implemented RAP measures	- Before construction
	Implement a Chance Finds Procedure for cultural heritage, during construction activities that involve vegetation clearance and earthworks	EPC Contractor	- Performance report - Audits	- No. of Non-conformities - No. of implemented measures	- During construction

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
Increase in road traffic and potential damage to existing roads and other public infrastructures	The EPC Contractor will develop and submit a Traffic and Transport Management Plan to the Proponent for approval. The EPC Contractor will then implement this plan throughout the construction phase.	EPC Contractor	- One-time verification - Performance report - Audits	- No. of Non-conformities	Before construction (plan approval) -Quarterly (plan implementation)
Potential public safety impacts as a result of Project construction and increased traffic volumes	The EPC Contractor will develop and submit a Traffic and Transport Management Plan to the Proponent for approval. The EPC Contractor will then implement this plan throughout the construction phase.	EPC Contractor	- One-time verification - Performance report - Audits	- No. of Non-conformities	- Before construction (plan approval) -Quarterly (plan implementation)
	If an existing road or pedestrian access is cut due to Project construction activities, alternative routes will be provided to restore pedestrian and road accessibility.	EPC Contractor	- Performance report - Audits	- No. of Non-conformities - No. of complaints	- Monthly
	The Project will implement Globelec's corporate GBVH procedure for all labourers (including those subcontracted) and ensure all relevant labour policies are in place.	EPC Contractor	- Performance report - Audits	- No. of Non-conformities - No. of implemented measures	- Before and during construction
	The GRM shall be fully communicated and implemented along the impacted areas to ensure stakeholders are aware of and able to seek recourse from the Project.	EPC Contractor	- Performance report - Audits	- No. of Non-conformities - No. of implemented measures	- Before and during construction
Risk of social conflicts elicited by the Project security personnel	The EPC Contractor will develop a Security Management Plan, detailing the security arrangements to be deployed during construction. This plan will be compliant with IFC's PS 4, and with the UNGPs and ILO standards, regarding human rights and labor and, and will be submitted for the Proponent's approval, prior to start of construction. This plan will include mandatory training for all security personnel, in what regards human rights, proportionate force use and adherence to the Contractor's code of conduct	EPC Contractor	- Performance report - Audits	- No. of implemented measures - No. of Non-conformities	- Quarterly
	The Project will implement Globelec's corporate GBVH procedure for all labourers (including those subcontracted) and ensure all relevant labour policies are in place.	EPC Contractor	- Performance report - Audits	- No. of Non-conformities - No. of implemented measures	- Before and during construction

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
Potential impacts on workers' health and safety during the construction phase	The EPC Contractor will develop and implement an Emergency Response Plan	EPC Contractor	- Performance report - Audits	- No. of implemented measures - No. of Non-conformities	- Quarterly
	The EPC Contractor will develop and implement a Health and Safety Management Plan to protect every worker involved in construction activities, even temporary workers. This plan will comply with national legislation, international best practices (OHSAS 18001:2007, NEBOSH or similar) and World Bank/IFC General EHS Guidelines and Industry Sector Guideline for Electric Power Transmission	EPC Contractor	- Performance report - Audits	- No. of implemented measures - No. of Non-conformities	- Quarterly
	Establish and develop a grievance mechanism for all workers.	EPC Contractor	- Performance report - Audits	- No. of implemented measures - No. of Non-conformities	- Quarterly

### 5.3 Mitigation Measures for the Operational Phase

**Table 5.3** lists the general mitigation measures for the operational phase (i.e., not integrated into a specific management program), by Project component.

**Table 5.3** also provides information regarding the impacts that will be mitigated by the proposed measures, as well as the key actor which is responsible for their implementation.

Note, however, that the Proponent (Operator), EDM, is the ultimate responsible for ensuring the implementation of mitigation, even when other actors (such as governmental agencies) are involved, through supervision and auditing or engagement with relevant authorities.

**Table 5.3 – Mitigation measures for operational phase**

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
<b>NOISE</b>					
Wind-induced noise	Regular maintenance of the transmission line such as cleaning and replacing damaged components will reduce the probability of wind-generated noise	EDM	- Inspections - Audits	- No. of Non-conformities	- Monthly
<b>LANDSCAPE</b>					
Permanent alteration to the landscape	Limit vegetation removal/maintenance activities exclusively to the transmission line corridor	EDM	- Inspections - Audits	- % of clearance - No. of Non-conformities	- Quarterly
	During maintenance activities, existing access roads will be used as much as possible to avoid new landscape disturbance	EDM	- Inspections - Audits	- No. of Non-conformities	- Quarterly
	Allow tree and shrub species whose height is limited to 4 m to grow within the RoW	EDM	- Inspections - Audits	- No. of Non-conformities	- Quarterly
<b>BIODIVERSITY</b>					
Indirect degradation of vegetation units and habitats along the RoW	Forbid vegetation control outside the designated maintenance boundary	EDM	- Inspections - Audits	- % of clearance - No. of Non-conformities	- Quarterly
	Limit non-Project vehicle entrance and circulation along the RoW, as much as possible, through the placement of signage	EDM	- Inspections - Audits	- No. of Non-conformities	- Quarterly
	Incorporate in the normal maintenance procedures of the RoW the monitoring of creation of new settlements or cutting or burning of woodland areas in adjacent areas along the RoW and report these occurrences to the local authorities	EDM	- Inspections - Audits	- No. of Non-conformities	- Quarterly
Habitat fragmentation due to the presence of the RoW	Limit vegetation clearance to within the designated maintenance boundary	EDM	- Inspections - Audits	- % of clearance - No. of Non-conformities	- Quarterly
	Ensure tree and shrub species, whose height is limited to 4 m, are allowed to re-establish in the RoW, by providing a list of such species to vegetation clearing/ control contractors and ensuring they are trained on the identification of such species	EDM	- Inspections - Audits	- % of clearance - No. of Non-conformities	- Quarterly

Impact	Mitigation Actions	Responsible	Monitoring and Performance Evaluation		
			Monitoring Methods	Performance Indicators	Timing / Frequency
<b>SOCIOECONOMIC RISK ASSESSMENT AND IMPACTS</b>					
Creation of employment opportunities	Develop a transparent, fair, non-discriminatory and ethical local recruitment plan. The recruitment plan shall be consistent with local labour legislation and international standards including the UNGPs and ILO standards (1 through to 17) and declarations	EDM	- Performance report - Audits	- No. of Non-conformities - % of local workers - No. of grievances	- Before operation start - Annually
	Ensure that employment opportunities are adequately advertised, so as not to limit application opportunities.	EDM	- Performance report - Audits	- No. of Non-conformities - No. of grievances	- Before operation start - Annually
	Carry out the process of contracting staff in a transparent manner, following pre-established and accepted criteria.	EDM	- Performance report - Audits	- No. of Non-conformities - No. of grievances	- Before operation start - Annually
Risks to community health and safety due to encroachment into the Protection Zone	Monitor encroachment of infrastructure into the protection zone and strictly enforce the restrictions	EDM	- Performance report - Audits	- No. of Non-conformities - No. of cases of encroachment	- Annually
Potential impacts on workers' health and safety	Implement EDM's existing health and safety policies and procedures for the operation of substations and transmission lines	EDM	- Performance report - Audits	- No. of Non-conformities - No. of H&S incidents	- Annually



## 6 Environmental Management Plans and Programs

Based on the affected environment and communities, and the impact assessment carried out, the following programs will be implemented in order to address potential impacts during all project phases (construction and operation):

- Air Quality Management Program;
- Noise Management Program;
- Erosion and Sedimentation Management Program;
- Waste Management Program;
- Biodiversity Management Program;
- Stakeholder Engagement Program;
- Community Health and Safety Management Program;
- Cultural Heritage Chance Find Procedure; and
- Emergency Response Program

The following sections provide guidelines for the development and implementation of these programs, as part of the ESMS to be developed and implemented by the Proponent, the Contractor, and EDM, as applicable.

Further to the programs listed above, and described in the following sections, the Contractor will also be required to develop and implement a number of management plans for the construction phase, as per the requirements presented in Chapter 5.2 (mitigation measures for construction). These include:

- Security Management Plan;
- Waste Management Plan;
- Soil and Erosion Management Plan;
- Traffic and Transportation Management Plan;
- Local Recruitment and Working Conditions Plan (including Worker Grievance Mechanism);
- Local Procurement Plan;
- Worker's Health and Safety Management Plan;
- Emergency Response Plan;
- Rehabilitation and Revegetation Plan;
- Environmental and Social Code of Conduct; and
- Oil Spill Contingency Plan.
- Method Statements, including, but not limited to: erosion control, water crossing, work in heights, and others that may be required by the ESGM.

These specific management plans will be drafted by the Contractor, based on the requirements presented in this EMP, and submitted to the Proponent (ESGM/CLO) for approval with prior to the start of activities.

## 6.1 Air Quality Management Program

### 6.1.1 Justification and Objectives

The construction phase of the Power Evacuation Line from Namaacha to Boane may result in localized and temporary changes to ambient air quality due to construction activities, in residential areas close to construction sites. This Air Quality Management Program aims to control the atmospheric emissions of the construction phase, to avoid nuisance effects on both cultivated fields and the settlements located near the construction fronts. It should be noted that no relevant impacts on air quality were identified for the operational phase, and as such no management actions are proposed for that phase.

### 6.1.2 Legal Framework

Air quality standards aim to safeguard public health and the protection of ecosystems. Mozambican air quality standards are established through Decree No. 18/2004, of 2 June (Regulation on Environmental Quality Standards and Effluent Emissions), as amended by Decree No. 67/2010, of 31 December. The relevant air quality standards, including IFC General EHS (that point to World Health Organization) are listed on Table 6.1.

**Table 6.1 – Relevant ambient air quality standards**

Pollutant	Averaging Period	Mozambique ( $\mu\text{g}/\text{m}^3$ )	IFC/WHO* ( $\mu\text{g}/\text{m}^3$ )
TSP	24 hours	150	--
	1 year	60	--
PM <sub>10</sub>	24 hours	--	45
	1 year	--	15
SO <sub>2</sub>	10 minutes	500	--
	1 hour	800	--
	24 hours	100	40
	1 year	40	--
CO	30 minutes	60 000	--
	15 minutes	100 000	--
	1 hour	30 000	--
	8 hours	10 000	--
	24 hours	--	4 000
NO <sub>2</sub>	1 hour	190	--
	24 hours	--	25
	1 year	10	10

Pollutant	Averaging Period	Mozambique ( $\mu\text{g}/\text{m}^3$ )	IFC/WHO* ( $\mu\text{g}/\text{m}^3$ )
O <sub>3</sub>	1 hour	160	--
	8 hours	120	--
	24 hours	50	--
	1 year	70	--

\* Decree No. 18/2004 as amended by Decree No. 67/2010.

+ World Health Organization (WHO, 2021)

### 6.1.3 Proposed Actions and Implementation Schedule

Table 6.2 lists the control and mitigation measures to be applied during the planning and construction phases, to minimize emissions of particulate matter and other atmospheric pollutants. It should also be noted that the implementation of the other general mitigation measures proposed for the construction phase will help mitigate some air quality impacts.

**Table 6.2 – Environmental control actions, description, and implementation schedule**

Control and Mitigation Actions	Description	Implementation Schedule	Responsibility for Implementation	Supervision
Control emissions of dusts and pollutant gases	- The circulation routes of construction vehicles should be adequately planned in order to minimize, as much as possible, crossing through, or passing nearby, residential areas	Planning phase	Contractor	ESGM
	- Speed limits should be set for construction heavy vehicles. This speed limit should not exceed 30 km/h in critical segments, such as when near residential areas	During construction	Contractor	ESGM
Control emissions of dusts and pollutant gases	- All internal combustion machinery and equipment should be kept in good maintenance conditions to minimize combustion gases exhaust emissions. This should include preventive maintenance of machines, equipment and vehicles and operator training, as well as internal monitoring program of proper maintenance of vehicles	During construction	Contractor	ESGM
	- Heavy trucks transporting granular construction materials should not be loaded to full capacity. A free edge of approximately 0.2m should be kept, to avoid spills during materials transport			
	- Vegetation clearing and earthworks should be minimized as much as possible and limited to the strictly needed areas			
	- Trucks carrying dusty materials should have the load adequately covered			
	- Stockpiles of granular materials should be protected with a waterproof cover, or alternatively regularly sprinkled with water			

Control and Mitigation Actions	Description	Implementation Schedule	Responsibility for Implementation	Supervision
	- All the unpaved surfaces where vehicle movement is to be expected should be kept moist (e.g., through a water sprinkler truck), in particular during dry and windy conditions, to minimize the dust emitted by vehicle entrainment	Daily (in the dry season), during construction	Contractor	ESGM
	- The construction machinery parking area (in construction camps) should be regularly sprinkled with water, in particular in dry and windy conditions		Contractor	ESGM

### 6.1.4 Monitoring Actions and Follow-up

Air quality monitoring actions should be developed during the construction phase nearby relevant sensitive receptors. The following paragraphs define the criteria for the selection of the monitoring points and the air quality monitoring procedures. Two types of monitoring actions are required: periodic air quality monitoring, to verify the effectiveness of the control and mitigation in place, and monitoring in response to local complaints or grievances.

#### **Monitoring Locations**

Monitoring should be undertaken in the human settlements along the proposed alignment where heavy construction activities take place at less than 200 m from residential dwellings, as they might be affected by the emissions generated by those activities.

#### **Monitoring Parameters**

At the locations described above, air quality monitoring should be undertaken for the following parameters:

- Total Suspended Particle Matter concentrations;
- Visual identification of dust plumes resulting from the movement of construction machinery and equipment.

TSP concentrations should comply with the guideline established in Decree No. 18/2004 (as amended by Decree 67/2010). TSP will be used as an indicative proxy for PM10.

#### **Monitoring Frequency**

Visual monitoring should be undertaken whenever heavy construction activities are taking place at less than 200 m from residential dwellings. At the minimum, quarterly campaigns of quantitative TSP values will be undertaken.

#### **Sampling Methods**

The reference methods to be applied in the monitoring campaigns should preferably be the following:

- USEPA 40 CFR part 50, Appendix J – “Sampling of Ambient Air for Total Suspended Particulate Matter”. or equivalent method.

Alternative methods, equivalent to the listed above, may be used, if they are internationally recognized by recognized by relevant institutions, such as the International Organization for Standardization (ISO), national environmental protection agencies, etc.

### Result Interpretation

The air quality monitoring results should be compared against applicable air quality guidelines, as listed on Table 6.1, to identify any non-compliance with such guidelines.

The following table summarizes the follow-up and monitoring actions and the implementation schedule.

**Table 6.3 – Follow-up and monitoring actions, description, and implementation schedule**

Follow-up or Monitoring Action	Description	Implementation schedule
Periodic air quality monitoring	- Air quality monitoring actions should be developed during the construction phase nearby relevant sensitive receptors. Monitoring should take place at residential areas closer than 200 m to an active construction front.	Visual monitoring: Whenever work fronts are active near residential areas Quantitative TSP monitoring: At least quarterly
Air quality monitoring in response to complaints	- If complaints from the local population regarding air quality are registered, air quality monitoring should be undertaken near the affected sensitive receptors, to verify the ambient air quality levels and define additional mitigation, if required	When necessary

### 6.1.5 Corrective Actions

If exceedances of the air quality guidelines are recorded (see previous section for the proposed monitoring actions), or if complaints from the local communities are lodged, the causes of such exceedances should be identified and corrected. Exceedances may result from:

- Non-compliance to the set speed limits by the vehicle conductors;
- Presence of unidentified (new) sensitive receptors;
- Lack of adequate maintenance of machinery and equipment;
- Inadequate implementation of the proposed control and mitigation actions.

In the event of non-conformities, additional mitigation should be implemented, as required, to eliminate or minimize the negative effects. These additional mitigation measures should be defined case by case, depending on the assessment of the specific issues. The following are examples of possible additional mitigation and control actions that may be adopted:

- Intensify and monitor the maintenance of machinery and equipment, to avoid bad working conditions that may cause an increase of dust and tailpipe emissions;
- Provide additional training to workers, regarding the environmental management requirements set out in this management program.

After the implementation of the corrective actions, a monitoring campaign should be undertaken for the areas where the non-compliances were recorded, to verify the resolution of the issue (see following section for the monitoring).

The table below presents the main proposed corrective actions.

**Table 6.4 – Environmental corrective actions, description, and implementation schedule**

Corrective Actions	Description	Implementation Schedule
Act on exceedances of air quality standards	- If exceedances of the air quality guidelines are recorded the causes of such exceedances should be identified and corrected, through the implementation of adequate mitigation and control measures, to be identified based on the nature of the specific conditions that led to the recorded exceedances. Following correction, monitoring should be undertaken to verify resolution	Whenever necessary
Act on local complaints and grievance claims	- If complaints from the local population regarding air quality are registered, act on them in consultation with local authorities. This may require the adoption of additional mitigation and control measures, as appropriate. Following correction, monitoring should be undertaken to verify resolution	Whenever necessary

## 6.1.6 Performance and Reporting

### 6.1.6.1 Performance Indicators

The following performance indicators should be monitored for the Air Quality Management Program:

- Number of TSP exceedances during periodic monitoring;
- Number of community complaints regarding air quality and subsequent verification monitoring;
- Number and type of air quality mitigation measures undertaken in response to complaints.

The performance indicators results should be determined and compiled in quarterly reports, as indicated in the following section.

### 6.1.6.2 Reports

Table 6.5 summarizes the documental records that should be kept, to control the execution of this environmental management program. These documents should be prepared, archived, and maintained by the ESGM, to document the results of program implementation. Records of relevant events should be made following the occurrence, and monthly progress reports and quarterly Performance Reports should be prepared, reporting on the recorded events and performance indicators.

**Table 6.5 – Record Documents for the Air Quality Management Program**

Document Title	Document Type	Frequency of Record or Report
Record of periodic air quality monitoring	Record	Whenever necessary
Record of air quality associated community complaints	Record	Whenever necessary

Document Title	Document Type	Frequency of Record or Report
Record of air quality monitoring in response to complaints and mitigation responses	Record	Whenever necessary
Progress Report	Report	Monthly
Performance Report	Report	Quarterly

## 6.2 Noise Management Program

### 6.2.1 Justification and Objectives

The construction phase of the Project may result in localized and temporary changes to the noise environment, in particular near the human settlements close to construction sites along the power evacuation route. This Management Plan defines measures to control noise emissions from the construction phase, and for the operation phase as well, in order to avoid the nuisance effects over the identified settlements near the OHL.

### 6.2.2 Legal Framework

The World Health Organization (WHO) and the World Bank (WB) noise guidelines are widely accepted guidelines and have been adopted as project standards. WHO's recommended noise guidelines were determined considering noise's potentially negative effects on health and specific environments. Under WHO's noise policy residential areas, schools and hospitals are sensitive receptors / land uses. The table below lists WHO's ambient noise guidelines for such sensitive receptors.

**Table 6.6 – WHO Ambient Noise Levels Guidelines**

Land use / Specific Environment	Guideline (L <sub>Aeq</sub> in dB (A))	Reference Period	Effect on Health
Outdoor of residential areas (day-time)	55 dB(A)	16 hours (06h00 – 22h00)	Serious annoyance
Outdoor of residential areas (night-time)	45 dB(A)	8 hours (22h00 – 06h00)	Sleep disturbance

Source: Berglund *et al.* (1999).

In 1998, WB developed a pollution management program, so as to ensure that WB financed projects in developing countries were environmentally sustainable (WBG, 1999), the scope of which included noise. The results were then incorporated into WB and International Finance Corporation (IFC) guidelines, which state that noise impacts from a particular project should not exceed the levels presented in Table 6.7 or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site.

**Table 6.7 – WB/IFC Noise Level Guidelines**

Receptor	One Hour LAeq (dB(A))	
	Daytime (07:00 - 22:00)	Night-time (22:00 – 07:00)
Residential; institutional; educational	55	45
Industrial, commercial	70	70

Source: IFC (2007).

As can be seen from the table above, the WHO noise guideline for outdoors of residential areas are the same as IFC's guidelines for residential, institutional, or educational receptors, for both the daytime and night-time periods.

### 6.2.3 Proposed Actions and Implementation Schedule

Table 6.8 lists the control and mitigation measures to be applied during the planning and construction phases, to minimize noise emissions.

**Table 6.8 – Environmental control actions, description, and implementation schedule**

Control and Mitigation Actions	Description	Implementation Schedule
Key noise control measures during construction phase	<ul style="list-style-type: none"> <li>- Circulation of construction heavy vehicles (such as trucks used in the transportation of materials) should be limited to pre-approved construction routes. These will be defined in order to avoid crossing residential areas, whenever possible.</li> <li>- Construction heavy vehicles, such as trucks used in the transportation of materials, must limit the circulation velocity. This speed limit should not exceed 30 km/h in critical segments, such as when near residential areas.</li> <li>- Construction activities, in particular the noisier ones, should be limited to the daytime period (between 07:00 and 22:00) and to working weekdays, avoiding working during the night-time and on weekends.</li> <li>- Vegetation clearing and earthworks should be minimized as much as possible and limited to the strictly needed areas.</li> <li>- The contractor should avoid, whenever possible, placing fixed equipment (such as cranes or compressors) in proximity to noise sensitive receptors.</li> <li>- The location and organization of the construction camps should be carefully defined, considering the induced road traffic and activities to be undertaken.</li> <li>- Perform noise monitoring campaigns during the construction phase near the identified settlements.</li> </ul>	During construction phase
	<ul style="list-style-type: none"> <li>- Inhabitants of local communities nearby the construction fronts should be previously informed by the contractor regarding the upcoming construction activities. This communication should also include information regarding the project nature and goals, as per the guidelines provided in the Communication Plan Framework.</li> </ul>	Before starting construction work in the proximity of a given community
	<ul style="list-style-type: none"> <li>- Inform the local communities on any upcoming noise monitoring campaign, to avoid misunderstandings.</li> </ul>	Before noise monitoring actions
Key noise control measures during operation phase	<ul style="list-style-type: none"> <li>- Regular maintenance of the transmission line such as cleaning and replacing damaged components will reduce the probability of wind-generated noise.</li> </ul>	During operation



## 6.2.4 Monitoring Actions and Follow-up

Noise monitoring actions should be developed during the construction phase nearby relevant sensitive receptors. The following paragraphs define the criteria for the selection of the monitoring points and the noise monitoring procedures.

Two types of monitoring actions are required: periodic noise monitoring, to verify the effectiveness of the control and mitigation in place, and monitoring in response to local complaints or grievances.

### **Monitoring Locations**

Monitoring should be undertaken in the human settlements along the proposed alignment where heavy construction activities take place at less than 200 m from residential dwellings, as they might be affected by construction noise.

### **Monitoring Parameters**

At the locations described above, noise monitoring should be undertaken for the following parameters:

- At all the monitoring points the continuous A-weighted equivalent sound pressure level ( $L_{Aeq}$ ) will be recorded. The statistical noise level indicators  $L_{95}$ ,  $L_{90}$ ,  $L_{50}$ ,  $L_{10}$ ,  $L_{max}$ , and  $L_{min}$  will also be determined. 1/3 Octave Band Spectrum will also be recorded at each site. Measurements are to be performed during the daytime reference period, and also during the night-time period, if construction activities occur after 22h00.

### **Monitoring Frequency**

Monitoring should be undertaken whenever heavy construction activities are taking place at less than 200 m from residential dwellings. At the minimum, quarterly campaigns will be undertaken.

### **Sampling Methods**

The reference methods to be applied in the monitoring campaigns should preferably be the following:

- ISO EN 1996-1: 2017 – Acoustics – Description, measurement, and assessment of environmental noise – Part 1: Basic Quantities and assessment procedures;
- ISO EN 1996-2: 2018 - Acoustics – Description, measurement, and assessment of environmental noise - Part 2: Determination of environmental noise levels.

Note that the sampling setup should include:

- mount on a tripod 1.5 m above the ground;
- evaluation of free-field conditions, at least 3.5m away from hard reflecting surfaces;
- use of a windshield to avoid wind noise on the microphone;
- calibration of the noise meter at start of survey.

Monitoring should be planned to avoid large contribution from other noise sources. This means avoid:

- wind speeds above 5 m/s;
- rain or adverse weather conditions such as thunder; and

- monitoring near other localised noise sources (e.g. running vehicle engines, roads, barking dogs, music).

All samples should be for a minimum of 15 minutes.

### **Result Interpretation**

Noise monitoring results should be compared against the adopted project guidelines, as listed on Table 6.9 to identify any non-compliance with such guidelines. The following table summarizes the follow-up and monitoring actions and the implementation schedule.

**Table 6.9 – Follow-up and monitoring actions, description, and implementation schedule**

Follow-up or Monitoring Action	Description	Implementation schedule
Periodic noise monitoring	- Monitoring actions should be developed during the construction phase nearby the previously identified sensitive receptors. Monitoring should take place at residential areas closer than 200 m to an active construction front	At least quarterly
Noise monitoring in response to complaints	- If complaints from the local population regarding noise emissions are registered, noise monitoring should be undertaken near the affected sensitive receptors, to verify the noise levels and define additional mitigation, if required	When necessary

### **6.2.5 Corrective Actions**

If exceedances of the noise project standards are recorded, or if complaints from the local communities are lodged, the causes of such exceedances should be identified and corrected. Exceedances may result from:

- Non-compliance to the set vehicle speed limits;
- Presence of unidentified (new) sensitive receptors;
- Lack of adequate maintenance of machinery and equipment;
- Inadequate implementation of the proposed control and mitigation actions.

In the event of non-conformities, additional mitigation should be implemented, as required, to eliminate or minimize the negative effects. These additional mitigation measures should be defined case by case, depending on the assessment of the specific issues. The following are examples of possible additional mitigation and control actions that may be adopted:

- Intensify and monitor the maintenance of machinery and equipment, to avoid bad working conditions that may cause increased noise emissions;
- Install noise barriers between the noise source and the affected receptors;
- Provide additional training to workers, regarding the environmental management requirements set out in this management program.

After the implementation of the corrective actions, a monitoring campaign should be undertaken for the areas where the non-compliances were recorded, to verify the resolution of the issue (see following section for the monitoring).

Table 6.10 presents the main proposed corrective actions.

**Table 6.10 – Environmental corrective actions, description, and implementation schedule**

Corrective Actions	Description	Implementation Schedule
Act on exceedances of Noise project standards	- If exceedances of the noise project standards are recorded, the causes of such exceedances should be identified and corrected, through the implementation of adequate mitigation and control measures, to be identified based on the nature of the specific conditions that led to the recorded exceedances. Following correction, monitoring should be undertaken to verify resolution	Whenever necessary
Act on local complaints and grievance claims	- If complaints from the local population regarding noise emissions are registered, act on them in consultation with local authorities. This may require the adoption of additional mitigation and control measures, as appropriate. Following correction, monitoring should be undertaken to verify resolution	Whenever necessary

## 6.2.6 Performance and Reporting

### 6.2.6.1 Performance Indicators

The following performance indicators should be monitored for the Noise Management Program:

- Number of exceedances during periodic monitoring;
- Number of community complaints regarding noise and subsequent verification monitoring;
- Number and type of noise mitigation measures undertaken in response to complaints.

The performance indicators results should be determined and compiled in quarterly reports, as indicated in the following section.

### 6.2.6.2 Reports

Table 6.11 summarizes the documental records that should be kept, to control the execution of this environmental management program. These documents should be prepared, archived, and maintained by the ESGM, to document the results of the program implementation. Records of relevant events should be made following the occurrence, and monthly progress reports and a quarterly Performance Report should be prepared, reporting on the recorded events and performance indicators.

**Table 6.11 – Record Documents for the Noise Management Program**

Document Title	Document Type	Frequency of Record or Report
Record of periodic noise monitoring	Record	Whenever necessary
Record of noise associated community complaints	Record	Whenever necessary
Record of noise monitoring in response to complaints and mitigation responses	Record	Whenever necessary
Progress Report	Report	Monthly
Performance Report	Report	Quarterly

## 6.3 Erosion and Sedimentation Management Program

### 6.3.1 Objectives

Managing erosion and sedimentation is essential to ensuring compliance with regulations in significant construction endeavours. It can disrupt soil integrity, alter landforms, and disrupt natural drainage patterns. If not effectively addressed at every stage of a project, these disturbances can lead to soil erosion and subsequent contamination of water bodies, thereby posing adverse effects on the surrounding ecosystems.

The purpose of this program is to mitigate the occurrence of activities that have the potential to induce erosion and its consequential impacts on the environment and local communities arising from project-related operations.

### 6.3.2 Scope and Responsibilities

The onus of executing this Program lies with the Contractors engaged in the construction phase of the Project. They must utilize the guidelines in this Program to formulate a tailored Erosion and Sedimentation Management Program that aligns with their respective activities. The Client assumes the responsibility of conducting audits to assess the adherence of Contractors to the prescribed measures.

### 6.3.3 Critical areas

The delineated critical zones comprise specific geographic areas containing sensitive receptors, such as populated regions, remote dwellings distanced from inhabited areas, individual residences, and necessary facilities like educational institutions and medical centres. Furthermore, critical areas are identified as recreational spaces within the designated corridor and property boundaries adjacent to forested regions. Moreover, the segment from point pk 0+000 to point pk 2+500 at the initial part of the route is designated as a high-risk erosion zone owing to its topographical characteristics.

### 6.3.4 Actions and Implementation Schedule

Considering the nature of the Project, it is anticipated that no substantial erosion impacts will occur. Nevertheless, the table below outlines the requisite control and mitigation measures to be implemented during both the planning and construction phases. These measures aim to minimize the likelihood and consequences of erosion events.

**Table 6-12 – Actions, description implementation schedule, and responsibility for Implementation**

Actions	Description	Implementation Schedule	Responsibility for Implementation
Minimize soil movement (or proceed only where necessary)	<ul style="list-style-type: none"> <li>- Land clearing and vegetation should be kept to a minimum to reduce soil exposure. Existing vegetation should be conserved whenever possible.</li> <li>- In non-covered areas (areas that have suffered the intervention of project activities), additional vegetation should be planted to stabilize the exposed soil surfaces.</li> <li>- Vegetation should be rehabilitated as an area competes in construction to reduce management of cleared areas</li> <li>- Exposed soils should be inspected regularly to assess the effectiveness of erosion control measures.</li> <li>- The construction site and material storage area should, whenever possible, be located on a with low slope (no more than 2:1), low wind intensity and with close access, in order to avoid/minimize earth movement and opening accesses.</li> <li>- All works involving earthmoving in the vicinity of water lines or small lines or small reservoirs should be carried out in such a way as to avoid water erosion and sediment transport, taking special care during periods of heavy rainfall.</li> <li>- Before the rainy season, erosion mitigation measures should be implemented in areas of exposed soil, namely through water drainage with temporary structures (such as sandbags) and the establishment of retention basins.</li> <li>- Limit soil/material stockpiles and prevent their location within 50 meters (m) of watercourses or stormwater drains.</li> </ul>	During the construction phase	Contractor
Minimize the effects of erosion resulting from the provisional soil takeover, including wind and rain erosion	<ul style="list-style-type: none"> <li>- Land clearing and vegetation should be kept to a minimum to reduce soil exposure. Existing vegetation should be conserved where possible.</li> <li>- In non-covered areas additional vegetation shall be planted to stabilize exposed soil surfaces.</li> <li>- Avoid soil handling or equipment movement during periods of intense rainfall (saturated soil conditions) and/or windy (consistently greater than 30km/h) conditions.</li> <li>- Drainage barriers and controls should be installed before earth moving commences.</li> <li>- Prevent erosion of temporary stockpiles awaiting transfer to soil deposition areas</li> <li>- Mitigation of sediment tracking to areas outside the Project Area.</li> </ul>	During the Construction phase	Contractor
Minimize the effects of erosion caused by traffic on the Site	<ul style="list-style-type: none"> <li>- Temporary access roads and haul roads should be dampened with water to reduce dust and help stabilize the soil.</li> <li>- Land clearing for road opening should be minimal to maximize retention of vegetation cover.</li> <li>- Site vehicle movement should be confined to access routes defined in accordance with the Traffic and Transportation Management Plan.</li> <li>- Construction of new access roads should be minimized, using existing pathways where possible.</li> </ul>	During the Construction phase	Contractor

Actions	Description	Implementation Schedule	Responsibility for Implementation
Minimize the effects of erosion in sensitive areas	<ul style="list-style-type: none"> <li>- Activities should as far as possible be avoided in sensitive areas and if possible, should be developed in areas/zones of total or partial protection, since these are areas of public domain (areas destined for the satisfaction of public interest), avoiding issues of resettlement and direct affectation of communities for the effects of the project.</li> <li>- If necessary instal:               <ul style="list-style-type: none"> <li>- Silt Fences - Toe of slope stockpiles or berms containing exposed soils. Downgradient of exposed soil on slopes where rainfall could entrain and transport sediment.</li> <li>- Erosion Control Blanket – Slopes can be stabilized with erosion control blanket to minimize erosion. Also used in channels which will be exposed to water flow before vegetation establishment.</li> <li>- Riprap - Steep slopes can be immediately stabilized with riprap to minimize erosion and ensure long-term stability.</li> <li>- Turbidity Curtain - Used within ponds, lakes, or streams to isolate work area from other water.</li> </ul> </li> </ul>	During the Construction phase	Contractor
Worker's training	<ul style="list-style-type: none"> <li>- Appropriate training for all operation staff including construction contractors, and delegation of responsibilities to appropriate qualified environmental technicians.</li> <li>- The environmental technician's responsibility will be to evaluate and report on the effectiveness of the prescribed erosion and sediment control measures and strategies.</li> <li>- Relevant employees and contractors will receive training in soil management from the environmental team prior to the start of work. The training will cover:               <ul style="list-style-type: none"> <li>- What types of soils are important for reclamation.</li> <li>- How they are salvaged, stockpiled and inventoried;</li> <li>- How to minimize stockpile erosion, protect stockpiles from contamination and machinery, and prevent the spread of invasive plants;</li> <li>- Soil stockpile locations;</li> <li>- How to report observations of erosion at soil stockpiles</li> </ul> </li> <li>- On-site Program will be reviewed prior to initiation of Project activities, and a scheduling Program for on-site inspections, sampling, monitoring and reporting will be prepared.</li> <li>- Contingency responses for specific site condition triggers will be provided.</li> </ul>	During the Construction phase	Contractor

### 6.3.5 Follow-up Actions

The following table summarizes the follow-up verification actions and their implementation schedule.

**Table 6-13 Erosion and sedimentation management program - follow-up and monitoring actions, description and implementation schedule**

Follow-up or Monitoring Action	Description and implementation schedule
Surface Preparation and Construction Activities	<ul style="list-style-type: none"> <li>- Inspections and monitoring will be conducted during activities and immediately after control measures have been installed</li> <li>- Surface preparation and initial construction activities will require regularly scheduled visual inspections and reporting by qualified technicians. Specifically, check dams and sediment traps, if needed, will require weekly and monthly inspections and maintenance to ensure adequate performance. This includes cleaning check dams and sediment traps when 50% capacity is reached, regular inspection at outlets for evidence of erosion and immediate repairs to any damage</li> <li>- Inspection and cleaning all of erosion and sediment control measures in anticipation of storm events will be conducted.</li> </ul>
Operation Activities	<ul style="list-style-type: none"> <li>- The Erosion and Sedimentation Management Program measurements will require regular monitoring and inspection to ensure adequate performance. Inspections will include description of pre-site activity conditions, implementation of erosion and sediment control measures, monitoring of control measures and records of visual observations. Based on this site monitoring information, recommendations for maintenance and/or improvements to the erosion and sediment control structures will be provided in detailed reports</li> <li>- Scheduled weekly inspections will be conducted during surface preparation, construction, operation, and closure phases. General maintenance procedures include assessing for damaged erosion and sediment control structures, removing accumulated sediment, and maintaining prescribed vegetation erosion control measures</li> <li>- Critical monitoring sites will be developed immediately upstream and immediately downstream of disturbed areas in order to compare sediment inputs against background levels</li> </ul>

### 6.3.6 Contingency Programs

Contingency programs for the Project will be active and adaptive, with ongoing inspection, maintenance and re-evaluation for all control measures and surrounding site conditions.

Routine and specific event monitoring will be conducted to identify control measures that may not be functioning adequately. The following steps will be taken:

Contingency supplies of sediment and erosion control materials shall be maintained on site and workers shall be sufficiently trained in their appropriate installation and maintenance. The contractor will keep an inventory of erosion and sediment control material accessible at work sites. The inventory will consist of but not limited to:

- Silt fence rolls with wooden stakes;
- Rolled erosion control products with staples;
- Floating turbidity curtain;
- Silt curtain;
- Stockpiles of boulder and clean sand; and
- Sand bags

- Confirm control measure/feature installed correctly;
- Assess if appropriate size or length/depth of control method with site circumstances;
- Determine if alternate control method required; and,
- Assess if increased maintenance/inspections required.

In anticipation of a major storm, all erosion and sediment control measures will be inspected and maintained/repared in advance of the event.

### 6.3.7 Performance and Reporting

Reports will be prepared to document site conditions and provide Project activity summaries including: progress reports and environmental management efforts, scheduling Programs, on-site and external communications; and upcoming activities. Appropriate data collection and information management systems will be utilized. Detailed site notes, photographs and accurate location of inspection sites will be recorded.

Progressive Erosion and Sediment Control reports will be completed on a weekly/monthly basis, and when site specific events occur (e.g., severe storm events). Progressive Reports will outline the following:

- Program reviews;
- On-site inspections;
- Communications/training strategy for all contractors' staff to ensure knowledge of Erosion and Sedimentation Management Program;
- Construction scheduling and activities;
- Ongoing environmental management efforts, with specific corrective issues and resolutions;
- Incident reports; and,
- Contingency reports.

## 6.4 Waste Management Program

### 6.4.1 Objectives

The objective of the Waste Management Program is to ensure adequate management of hazardous and non-hazardous waste. Waste management comprises the collection, conditioning, transportation and deposition at an appropriate final destination.

Adequate waste management is fundamental to prevent the contamination of soils and water resources (surface and groundwater). It is also important so as to prevent jeopardizing the public health of the local communities and workers, and prevent the proliferation of pests.

The present program takes into consideration the Mozambican legislation referring to waste management, as well as international best practices on the issue, namely the recommendations of the IFC PS and IFC EHS General Guidelines.



It is expected that the EPC Contractor will prepare a project-specific Waste Management Plan that aligns with the principles set out in this Waste Management Program.

### 6.4.2 Scope and Responsibilities

The Waste Management Plan will be applicable to all construction activities. The operational phase is not expected to generate relevant amounts of waste, but a suitable Waste Management Plan will also be required at this stage.

The responsibility for implementing the proposed waste management actions and procedures during construction will be the selected EPC Contractor. During operations, this responsibility will sit with the Operator (EDM).

### 6.4.3 Availability of Waste Disposal Facilities

When planning its waste management activities, the EPC Contractor will take into consideration the availability, or lack thereof, of adequate waste disposal facilities in Mozambique, namely:

- In what regards urban solid wastes (non-hazardous), no adequate waste disposal facilities exist in Mozambique. Waste management is the responsibility of municipalities, or district authorities where no municipalities exist. No public landfills exist in the Project region, or in Mozambique as a whole. Municipalities use open air dump sites, without adequate environmental controls or monitoring;
- As for hazardous waste, there is one licensed facility in Boane District, Maputo Province – the Mavoco Industrial Landfill. This facility is an adequate final destination for the small volumes of hazardous waste likely produced by the Project.

### 6.4.4 Waste Management Actions

Table 6.14 below summarizes the proposed waste management actions.

**Table 6.14 – Waste management actions**

Waste management actions	Description	Implementation Schedule	Responsibility for Implementation	Supervision
Prepare waste inventory	<ul style="list-style-type: none"> <li>- Prepare inventory of any hazardous and non-hazardous waste;</li> <li>- Classify the waste according to Decree No. 94/2014 and Decree No. 83/2014;</li> <li>- Define sources, volumes and indicate appropriate final destination for each type of waste, taking into consideration the specifications of the region in question in what concerns the availability of waste treatment and disposal facilities.</li> </ul>	Planning phase	EPC Contractor	ESGM

Waste management actions	Description	Implementation Schedule	Responsibility for Implementation	Supervision
Reduce waste production	<ul style="list-style-type: none"> <li>- Working sites must be kept clean, neat and tidy at all times;</li> <li>- Avoid leaving garbage unattended, in order to avoid attracting pests and nocturnal carnivores;</li> <li>- Implement daily cleaning routines to minimize waste;</li> <li>- Promote the recycling and recovery of waste in coordination with municipal authorities or private entities;</li> <li>- Use materials which can be reused easily;</li> <li>- List and estimate the volume of waste that can be reused, recycled or re-process (example, wood scraps, soils, none used materials);</li> <li>- Ensure that the quantities of construction materials on site are as accurate as possible, to avoid surpluses that could result in construction waste.</li> </ul>	During construction	EPC Contractor	ESGM
Non-hazardous waste segregation	<ul style="list-style-type: none"> <li>- Provide containers of appropriate size (according to the expected quantity of waste) for the placement of waste in different working areas. The segregation will be carried out as close as possible to the place of production. These shall ensure adequate hygiene and sealing conditions;</li> <li>- Strictly prohibit littering with plastic or other wastes by all project personnel;</li> <li>- Provide different containers for each type of waste that can be reused, recycled or re-processed. Containers will be clearly identified according to their categorization and classification, allowing to clearly identifying its contents;</li> <li>- Waste segregation must be carried out accordingly, ensuring that waste does not exceed the top of containers;</li> <li>- Maintain containers clean and always closed;</li> <li>- All produced waste will be sorted according to its type. Waste segregation will be initially done by workers;</li> <li>- Produced waste will be removed daily and temporary stored in Temporary Store Facilities until transported to final destination.</li> </ul>	During construction	EPC Contractor	ESGM

Waste management actions	Description	Implementation Schedule	Responsibility for Implementation	Supervision
Temporary storage facilities for non-hazardous waste	<ul style="list-style-type: none"> <li>- Non-hazardous waste must be temporarily stored, prior to final destination, at only one designated area. This area must be duly delimited and signed ("Waste Storage Area"). The area must be roofed, properly ventilated and have impermeable surface floor. Waste temporary storage areas need to be secured, so that they do not create health and safety hazards to people;</li> <li>- Inert waste may be stored in the open without the need for a waterproofing floor in a designated and delimited area;</li> <li>- Location of the Waste Temporary Store Facilities must be at least (50 m) away from water courses and ground depressions;</li> <li>- Maintain a good organization of space and cleaning of waste storage areas;</li> <li>- Waste materials that can be reused by the community, such as removed soil and stones, cut wood and other building materials could be made available for pick up in an orderly fashion and with proper safety arrangements.</li> </ul>	During construction	EPC Contractor	ESGM
Non-hazardous waste final destination	<ul style="list-style-type: none"> <li>- The transport of waste must be carried out in an appropriate vehicle, capable of containing the waste, and in good operating condition. These vehicles must be easily washable;</li> <li>- Transfer operations of waste containers must be carried out safely: without compromising its segregation, not damaging containers, without causing leaks or spills and originating dust;</li> <li>- The final destination and transport of waste are the responsibility of the producing entity;</li> <li>- The final destination and transport of waste must be agreed and authorized by the municipal/district authorities. The necessary licenses must be obtained;</li> <li>- Prohibit the burial or dump of any type waste in soil, water resources (lakes, rivers, etc.) or sea;</li> <li>- Prohibit the burn of waste (including vegetation);</li> <li>- Non-hazardous waste will be removed on a weekly basis;</li> <li>- The Proponent and the Contractor will agree on and document the final disposal site for the waste ensuring that it meets national and IFC requirements, and will keep records of the delivery of the waste at such facilities.</li> </ul>	During construction	EPC Contractor	ESGM

Waste management actions	Description	Implementation Schedule	Responsibility for Implementation	Supervision
Hazardous waste segregation	<ul style="list-style-type: none"> <li>- Provide containers for segregation of hazardous waste. These must be hermetically sealed (ensuring that waste does not exceed the top of containers) and have an appropriate size. Containers will be made of appropriate material so that they are not damaged by their content and that damaging or dangerous substances are formed. They shall ensure adequate hygiene and sealing;</li> <li>- Provide different containers for each type of hazardous waste to be produced. The containers will be clearly identified and include the symbols defined in Decree no. 83/2014;</li> <li>- Hazardous waste will not be mixed with other types of waste;</li> <li>- Containers will be placed on wooden pallets or plastic pails;</li> <li>- Maintain containers clean and always closed;</li> <li>- All produced waste will be sorted according to type (defined in the list of characteristics of Annex III of Decree no. 83/2014) and placed in the corresponding container.</li> </ul>	During construction	EPC Contractor	ESGM
Temporary Storage Facilities for Hazardous waste	<ul style="list-style-type: none"> <li>- Hazardous waste will not be stored at the work fronts, and must be transported daily to Temporary Storage Facilities built by the Contractor for this purpose or hired through a certified service provider;</li> <li>- Hazardous waste must be temporarily stored, prior to final destination, at only one designated area. This area must be duly delimited and signed ("Hazardous Waste Storage Area") and with restricted access. The area must be roofed, properly ventilated and have impermeable surface floor;</li> <li>- Location of the Waste Temporary Store Facilities must be at least (50 m) away from water courses and ground depressions;</li> <li>- No smoking will be allowed in the vicinity of hazardous waste storage area. Place appropriate symbolic signage (No smoking, No naked light and danger);</li> <li>- Provide extinguishers near the waste storage areas;</li> <li>- Maintain a good organization of space and cleaning of waste storage areas.</li> </ul>	During construction	EPC Contractor	ESGM

Waste management actions	Description	Implementation Schedule	Responsibility for Implementation	Supervision
Transport of Hazardous Waste	<ul style="list-style-type: none"> <li>- The transport of hazardous waste, within the facilities of the producing entity up to the storage location, will be made resorting to appropriate equipment or vehicles capable of containing the waste and in good operating conditions. These vehicles must be easily washable. The transport vehicle will be dully identified with signs for the transportation of hazard material;</li> <li>- Hazardous waste must be transported (internal transportation) in containers. The transport must have steel clamps for securing the containers and guarantee safe transport;</li> <li>- Any holder of hazardous waste that does not personally carry out the elimination operations, shall give this work to a private collecting service that will carry out the operations, provided it is duly licensed by MTA to carry out these activities;</li> <li>- The transportation of hazardous waste transport outside the facilities of the producing entity can only be made by an entity licensed by MTA and will comply with the basic rules and procedures defined in Decree No. 83/2014;</li> <li>- When the hazardous waste is collected, a manifest, in four copies, will be completed, indicating the quantities, quality and destination of the collected waste (according to Decree No. 83/2014, appendix VI); one copy is kept by the waste generating entity, another copy is kept by the waste transporting entity, the third copy is kept by the entity receiving the product and the fourth copy is sent to MTA;</li> <li>- The crossing of borders with hazardous waste shall comply with the provisions of the Basel Convention and with the instructions of MTA;</li> <li>- Provide the workers responsible for the handling of hazardous waste with adequate PPE (work wear, gloves, boots and masks).</li> </ul>	During construction	EPC Contractor	ESGM
Hazardous Waste Final Destination	<ul style="list-style-type: none"> <li>- The final disposal of hazardous waste will be made at an infrastructure licensed by MTA for storage, treatment and/or final disposal of hazardous waste. The nearest such infrastructure is the Mavoco Industrial Landfill, located in Boane District, Maputo Province;</li> <li>- Whenever possible, batteries and tires will be returned to the supplier.</li> </ul>	During construction	EPC Contractor	ESGM

Waste management actions	Description	Implementation Schedule	Responsibility for Implementation	Supervision
Workers training	<ul style="list-style-type: none"> <li>- Workers must be briefed on the need to reduce the production of waste as much as possible. The use of disposable products (such as plates or plastic or paper cups, products with excessive packaging) will be limited as much as possible, and the use of reusable products will be promoted;</li> <li>- Workers must be trained on the classification, correct sorting and handling of waste;</li> <li>- Workers responsible for hazardous waste handling must be trained on the classification, correct sorting, handling and transport of hazardous waste. Workers must be briefed on the use of individual protection equipment.</li> </ul>	During construction	EPC Contractor	ESGM

### 6.4.5 Follow-up Actions

Table 6.15 summarizes the follow-up and/or systematic and/or periodic verification actions proposed for waste management.

**Table 6.15 – Waste management follow-up and/or systematic and/or periodic verification actions**

Follow-up and/or verification action	Description
Inspection of the waste storage areas	<ul style="list-style-type: none"> <li>- Perform daily visual inspections of the hazardous and non-hazardous waste storage areas, to verify if the existing containers are adequate to the volume of waste produced, the correct waste sorting and conditioning is being carried out, that there are no spills and contamination and that the waste has been properly removed;</li> <li>- Verify the integrity of the containers and other environmental control systems/equipment.</li> </ul>
Inspection of working areas	<ul style="list-style-type: none"> <li>- Perform daily visual inspections of work areas to verify the organization and cleanliness of the site.</li> </ul>
Verification of final disposal sites	<ul style="list-style-type: none"> <li>- Undertake biannual due diligence visits to the final disposal sites (when managed by a third party service provider) to confirm that final elimination is compliant with applicable national standards and IFC EHS guidelines.</li> </ul>

### 6.4.6 Corrective Actions

Table 6.16 summarizes the corrective actions and their implementation schedule.

**Table 6.16 – Waste Management Plan - corrective actions, description and implementation schedule**

Corrective Actions	Description	Implementation Schedule
Spill mitigation actions	<ul style="list-style-type: none"> <li>- Removal of substances accumulated in the spill containment trays or basins;</li> <li>- Repair or change the damaged container that leaks.</li> </ul>	When applicable
Response to complaints	<ul style="list-style-type: none"> <li>- In response to workers or community complaints about odours or pests proliferation, increase the frequency of waste collection.</li> </ul>	When applicable
Corrective action for improper waste storage	<ul style="list-style-type: none"> <li>- Provide or increase the quantities of proper containers in the storage areas where the increase of wastes being produced are evident;</li> <li>- Increase the frequency of waste collection.</li> </ul>	When applicable

Corrective Actions	Description	Implementation Schedule
Corrective action for littering and illegal dumping	- Increase awareness about waste management.	When applicable

## 6.4.7 Performance and Reporting

### 6.4.7.1 Performance indicators

The following table lists the performance indicators to be monitored for the Waste Management Plan.

**Table 6.17 – Performance indicators for Waste Management Plan**

Indicator	Target	Trend
Weekly volume of waste produced, by type (hazardous and non-hazardous)	Volumes will be recorded. No target is applicable (as volumes will depend on activity).	Volume of waste per workday decreases quarterly (showing efforts to reduce waste production)
Weekly volume of waste transported to final deposition	Equal to weekly volume of waste produced.	n.a.
Number of improper waste management procedures detected	< 5 per quarter	Number of events decreases quarterly
Number of adopted corrective actions in response to detection of improper waste management procedures	Equal to number of improper waste management procedures detected	n.a.

**Note:** n.a. – not applicable.

The performance indicators results will be determined weekly and compiled in quarterly reports, as indicated in the following section.

### 6.4.7.2 Reports

The following table summarizes the documental records that will be kept to control the execution of the waste management plan. These documents will be prepared, archived and maintained by the C-HSEM, in order to document the results of the plan's implementation. Records of relevant events and performance indicators shall be kept as appropriate and a quarterly Performance Report will be prepared and submitted to the ESGM, reporting on the recorded events and performance indicators.

**Table 6.18 – Record documents for the Waste Management Plan**

Document Title	Document Type	Frequency of Record or Report
Weekly volume of waste produced, by type	Record	Weekly
Weekly volume of waste by category transported to final deposition	Record	Weekly
Weekly volume of waste recycled or reused	Record	Monthly

Document Title	Document Type	Frequency of Record or Report
Record improper waste management procedures detected and remediation actions undertaken	Record	Weekly
Performance Report	Report	Quarterly

## 6.5 Biodiversity Management Program

### 6.5.1 Justification and Objectives

The construction and operation of the Project will result in some biodiversity impacts, on vegetation and habitat, and on wildlife, particularly birds. Monitoring and management actions for these biodiversity components are required, to continuously evaluate the Project's impacts and the efficacy of the proposed mitigation. The BMP will establish baseline values for the managed/monitored activities, implementation schedule, and responsibility for carrying out the monitoring and corrective actions, supervision responsibilities, budget estimates, and source of funding.

### 6.5.2 Monitoring and Management Actions and Implementation Schedule

Table 6.19 lists:

- The scope of the BMP, which includes: (a) invasive species; (b) deforestation rate and wildlife poaching activities, the biodiversity monitoring and management actions; and (c) birds and bats fatality monitoring;
- Brief description of the actions to be implemented;
- Implementation schedule;
- Responsibilities for implementation of management and monitoring program; and
- Supervising agency(ies)

For each activity in **Table 6.19**, the BMP will identify:

- Baseline values (including direct and indirect/induced impacts);
- Monitoring indicators (including direct impact of the transmission infrastructure constructed, as well as indirect/induced impacts of the right of way, access roads, and other ancillary infrastructure);
- List of potential corrective actions and their triggers;
- Estimated costs / indicative budget; and
- Source of funding.

Details on the monitoring methodology are provided in the following sections.



**Table 6.19 – Biodiversity monitoring and management actions, description and implementation schedule**

Monitoring and Management Actions	Description	Implementation Schedule	Responsibility for Implementation	Supervision
Invasive flora species monitoring and management	<ul style="list-style-type: none"> <li>- Monitor the presence and expansion of invasive flora species along the RoW, access road, and borrow pit areas.</li> <li>- In case of detection of invasive species they will be removed.</li> </ul>	Annually during construction (15 months duration) and annually during the first five years of operation	EPC Contractor (construction) EDM (operation) to be carried out by Independent Invasive flora species Monitoring and Management Consultant financed by EDM	ESGM
Deforestation rate and the extent of wildlife poaching monitoring and management – including corrective actions of impacts on natural and critical natural habitat, on both flora and fauna	<ul style="list-style-type: none"> <li>- Establish the baseline for present deforestation rates and wildlife poaching activities prior to the start of clearing the Right-of-Way;</li> <li>- Monitor the direct and indirect / induced impacts on natural and critical natural habitat, on both flora and fauna, 5 km on both sides of the RoW: deforestation and poaching monitoring and development of corrective actions;</li> <li>- Register the presence of people in and near the RoW and the actions taken by local authorities to prevent illegal logging and poaching activities. These impacts should be assessed through ground monitoring, as well as the use of aerial photographs and Google Earth;</li> <li>- In case problems are detected that cause significant negative impacts on natural and critical natural habitat, on flora and fauna, mitigation measures will be developed and implemented, including reforestation or targeted protection and anti-poaching activities, financed by EDM.</li> </ul>	<p>Annually during construction (15 months duration) and during the first five years of operation.</p> <p>Annually during the next 5 years of operation.</p>	EPC Contractor (construction) EDM (operation) to be carried out by Independent Biodiversity Monitoring and Management Consultant financed by EDM	ESGM
Birds and bats fatality monitoring	<ul style="list-style-type: none"> <li>- Monitor bird and fruit bat fatalities due to power line collisions and (if any) electrocutions.</li> </ul>	Operation (during the first five years of operation; the sampling frequency depends on the specific activity – see section 0)	EDM (operation) to be carried out by Independent Birds and Bat Monitoring and Management Consultant financed by EDM	ESGM

**Code of Conduct.** In addition to all other issues included in the Code of Conduct, the BMP should specify or cross-reference all the biodiversity-related environmental rules that all contractors and project workers will be expected to follow, along with the required induction training prior to beginning work and the penalties for non-compliance.

**Implementation Arrangements.** For each planned activity, the BMP will indicate the (i) expected implementation schedule (during construction and operation); (ii) institutional responsibilities for implementation (Proponent, EDM, ESGM, Contractor, and/or collaborating governmental entity or NGO); and (iii) indicative budget and expected source of funds for each key BMP activity during construction and operation (funding could be from some combination of IDA or other project funds, EDM's internal resources, partner organizations, etc.).

### 6.5.3 Monitoring Methodology

#### *Invasive species*

The invasive flora species monitoring plan will start with the construction phase and at that time patches or individuals of invasive flora species will be identified and referenced via GPS. The identified patches/individuals will be removed as possible and their potential regrowth will be monitored biannually during construction and annually during operation phases (at least during the first 5 years), or until no patches are detected.

If new locations of flora invasive species are detected along the corridor, access roads or borrow pit areas during maintenance, those will be monitored, and removed or controlled as well.

The expansion of the monitored invasive species will be evaluated and if needed new measures to control them will be proposed.

#### *Birds and bats mortality*

Biodiversity monitoring and adaptive management shall cover bird and fruit bat collisions with transmission lines and also any bird electrocutions (although these should be avoided through appropriate tower design selection). Bird and fruit bat fatality monitoring should follow scientific protocols (small echo-locating bat species tend not to collide with wires, but large fruit bats do).

Birds and bat fatalities due to collision and possibly electrocution will be monitored during the operation phase (at least during the first 5 years and then re-evaluated as to the need to continue the program). This monitoring will be carried out by a qualified Consultant team to be contracted by EDM and led by an experienced specialist.

Wetlands, areas around rivers and water bodies, and selected woodland areas will be inspected for bird and bat mortality. Inspection will be done under the line cable and towers on foot by trained observers. This task will be done regularly, according to a schedule to be specified by the monitoring team, covering all seasons of the year as accessibility conditions permit. Any birds or bats found dead will be removed and collected for further identification and mortality cause determination (as needed), with the specific locality referenced with GPS.

The Consultant team shall define and follow a scientifically valid monitoring protocol that will define specific search dates, localities, and procedures. Analysis of data and findings will take into account and, as needed correct for, factors such as limited searcher efficiency (not all bird carcasses that may be present will be found) and the removal by scavengers or decomposition of some carcasses.

#### 6.5.4 Corrective Actions

The following table presents the main corrective actions.

**Table 6.20 – Corrective actions, description and implementation schedule**

Corrective Actions	Description	Implementation Schedule
Act on expansion of invasive flora species	- If new patches of invasive species are detected, or if an expansion of the known patches is observed, threatening to invade natural or critical habitats, actions to control and remove these patches will be implemented after being properly evaluated.	Whenever necessary
Act on high levels of impacts on natural and critical natural habitat, flora and fauna	- If the monitoring of impacts on natural and critical natural habitats and on flora and fauna indicate that they are becoming high (double the deforestation and poaching rates prior to opening up the corridor and construction of the access roads) control measures will need to be taken to mitigate these impacts, such as reforestation or targeted protection and anti-poaching measures.	Whenever necessary
Act on high levels of bird and bat mortality	- If the monitoring of birds and bats fatalities detect problem areas (with any fatalities of vultures or other threatened species, or relatively high mortality of more common species, the monitoring Consultant shall propose to EDM additional measures (such as increased or adjusted BFD use) to further reduce collisions and/or electrocutions.	Whenever necessary

#### 6.5.5 Performance and Reporting

##### *Performance indicators*

The following table lists the performance indicators to be monitored:

**Table 6.21 – Performance indicators for Biodiversity Management Program**

Indicator	Target	Trend
Number and extent of invasive flora species patches	Zero increase from pre-project conditions.	Both number of patches and area occupied by invasive species decrease between successive monitoring periods.
Deforestation of natural and critical natural habitat areas and wildlife poaching activities	Deforestation and impacts on natural and critical natural habitat and wildlife poaching activities should not significantly exceed (by double or more) the pre-project levels.	Deforestation impacts on natural and critical natural habitat and wildlife poaching stabilized after the application of additional mitigation measures.
Bird and fruit bat collision (or electrocution) fatalities	For threatened species such as raptors, the target for fatalities should be zero. For more common species, the target should be minimally low (to be specified by the Consultant for particular species groups).	Fatality rate decreases in monitored segments, after application of additional corrective measures.

The performance indicators results will be determined and compiled in quarterly reports, as indicated in the following section.

## Reports

The following table summarizes the documental records that will be kept, to control the execution of this monitoring and management program.

**Table 6.22 – Record documents for the Biodiversity Management Program**

Document Title	Document Type	Frequency of Report
Invasive species monitoring report	Report	Semi-annually (twice per year) during construction phase; annually (once per year) during operation phase
Baseline Report. Monitoring Report and Management Report of impacts on natural and critical natural habitat, on both flora and fauna (deforestation rates and wildlife poaching activities)	Report	Semi-annually
Bird and bat mortality monitoring report	Report	Quarterly

## 6.6 Stakeholder Engagement Program

### 6.6.1 Objectives

The construction of the Project could induce nuisances and impacts to surrounding communities, due to influx of workers, noise and dust emissions, increased traffic, disturbance of daily patterns of life, etc. These factors can be effectively controlled through the required mitigation measures and the establishment of effective communication channels between the Contractor / Proponent / EDM and the local populations, to ensure that they are aware of the work to be undertaken, to consult them on how to manage relevant Project – community interactions and to timely flag and address any source of community discontent.

The aim of stakeholder engagement is to ensure that the local communities are well informed of the planned and ongoing activities, including mitigation measures, and to prevent any social conflicts that may disturb the social dynamics of the local populations and hinder or prevent the execution of the planned work.

This Stakeholder Engagement Program applies to both the construction and operation phases but is more intense during the construction phase. The Proponent will develop a full project-specific **Stakeholder Engagement Plan (SEP)** that aligns with IFC Performance Standard 1 for construction. This SEP will form the template for the SEP that EDM later prepares for operations. The SEP for the construction of the transmission line will try to mirror the SEP for the wind power plant where possible for consistence, and will include a similar Grievance Redress Mechanism. Note that the SEP will include a mapping of affected and interested stakeholders, in addition to setting out how these groups will be engaged.

## 6.6.2 Scope and Responsibilities

The Stakeholder Engagement Program is applicable to all construction activities and will also include the relevant information for the operational phase, including which activities will be allowed or restricted by the Proponent's / EDM in the Project's right-of-way. Proponent / EDM will extend the communication with local communities to the operational phase, through the Stakeholder Engagement Plan referred above.

Both Proponent / EDM and the EPC Contractor will have responsibilities in terms of communication. The SEP(s) will be developed by Proponent / EDM, and most of the communication efforts will be developed by the Proponent / EDM, depending on the project phase. The EPC Contractor will also have dedicated staff responsible for daily communication with local communities throughout the construction phase, although these activities will be coordinated with the Proponent / EDM.

## 6.6.3 Actions and Implementation Schedule

Table 6.23 presents the main required actions for the implementation of the Communication Plan.

**Table 6.23 – Communication actions, description and implementation schedule**

Actions	Description	Implementation Schedule	Responsibility
Engage with provincial and district authorities and stakeholders	<ul style="list-style-type: none"> <li>- The provincial governments will be informed of the planned activities prior to starting the works;</li> <li>- Before the start of the activities on a specific District, meetings with the District Administration, as well as other relevant stakeholders, will be scheduled to advise of the proposed activities and to identify the local authorities (Administrative Post or neighbourhood chiefs) of the areas where construction activities will be carried out;</li> </ul>	Planning phase	Proponent's CLO
Engage with local authorities	<ul style="list-style-type: none"> <li>- Before starting work on a specific administrative unit (administrative post, locality), initial meetings will be held with the local authority in order to present the program of the construction activities, identify any potential social conflict and identify potential strategies to engage the community in the project. One of the issues that will be discussed in these initial meetings is the <b>Local Recruitment and Working Conditions Plan</b> developed by the Contractor;</li> </ul>	Planning phase	Proponent's CLO / EPC Contractor
	<ul style="list-style-type: none"> <li>- The Contractor will appoint a staff member to be the focal point of contact with the local authorities, during the construction phase (this will preferably be a qualified CLO);</li> </ul>	Planning phase	EPC Contractor
	<ul style="list-style-type: none"> <li>- During the execution of works, the Contractor will establish and maintain daily contact with the local authorities. This will help identify any population grievance or complaint and timely flag any potential social disturbance or conflict;</li> <li>- Any specific complaints and conflicts and their resolution will be reported to the Proponent and recorded as part of the GRM, and if unresolved referred to the Proponent for resolution, in accordance with the Project GRM (see section 6.6.5);</li> <li>- Interact with the local administration and the police to implement control mechanisms in public places to prevent crime in accordance with the <b>Security Management Plan</b>.</li> </ul>	During construction	Proponent's CLO / EPC Contractor

Actions	Description	Implementation Schedule	Responsibility
Inform and engage with local communities	<ul style="list-style-type: none"> <li>- The Contractor will appoint a liaison officer to be the focal point of contact with the local communities, during the construction phase (this will preferably be a qualified CLO, but can also be the HSEM or his field representative);</li> <li>- Inhabitants of local communities nearby the construction fronts will be previously informed by the Contractor regarding the upcoming construction activities, including information on the planned start of activities, their nature, location and duration;</li> <li>- This communication will also include information regarding the project nature and goals, jobs available and hiring procedures (<b>Local Recruitment and Working Conditions Plan</b>), skills transfer programs, adopted code of conduct for workers, and non-discrimination policies and opportunities for women;</li> <li>- The communication will also include information regarding the <b>Emergency Response Plan</b>, namely the potential emergency scenarios that may occur and what to do if a community member detects an emergency, including emergency communication protocols and contact number;</li> <li>- The Contractor will ensure constant communication with the local population, clarifying and keeping the public informed about the various actions and potential impacts related to construction;</li> </ul>	Before starting construction work in any given area	Proponent's CLO / EPC Contractor
Inform and engage with local communities	<ul style="list-style-type: none"> <li>- Develop a policy of interaction between the local community, employees, local and regional suppliers, and migrants to reduce the differences between the different groups.</li> <li>- Support implementation of the community awareness campaigns on community health and safety including the workers' code of conduct and Project's GRM.</li> </ul>	Before starting construction work in any given area	Proponent's CLO / EPC Contractor
Consult local communities	<ul style="list-style-type: none"> <li>- Use the same information meetings named above to consult local communities on how to avoid affecting sensitive areas and receptors and to harmonize construction and community activities, to the extent possible. This can include, for example, the community's views and preferences in what regards access road routes, traffic management procedures, location of any support infrastructure, communication channels, interactions with workforce, or any other issue of relevance in terms of community / Project interaction. Integrate community insights and requests into construction management procedures.</li> <li>- Discuss access to employment and any other potential benefits that EDM might provide as part of its overall plans for the community or other corporate social programs.</li> </ul>	Before starting construction work in any given area	Proponent's CLO / Contractor
Establish and implement Project GRM	<ul style="list-style-type: none"> <li>- A grievance redress mechanism (GRM) will be established by the Proponent / EDM whereby individuals or groups can submit complaints or concerns related to any Project impact or activity and receive a response. This includes any claim of any uncompensated loss of built structures, crops or other socioeconomic asset. This mechanism will be communicated to the local authorities and local communities prior to commencement of construction. Additional details on this are provided in section 6.6.5 of this EMP.</li> </ul>	Before starting construction work	Proponent's CLO / Contractor

## 6.6.4 Performance and Reporting

### 6.6.4.1 Performance indicators

The following table lists the performance indicators to be monitored:

**Table 6.24 – Performance indicators for the Communication Plan**

Indicator	Target	Trend
Events planned / held	100 %	n.a.
Number of participants	n.a. <sup>(1)</sup>	Number of participants does not decrease between successive engagement actions with the same target audience
Complaints received / resolved within 30 days	100 %	n.a.
Incident reports (number)	n.a.	Number of incident reports per quarter decreases over time
Incident reports (follow-up)	100%	n.a.

**Notes:** (1) – the number of participants will vary too greatly, depending on type and location of engagement, to establish a target number.

### 6.6.4.2 Reporting

Records will be kept of all communication actions undertaken, and any grievance or complaint received, namely:

- Meetings held with district / municipal authorities;
- Meetings held with local authorities;
- Meetings held with communities;
- Complaints or grievances from local populations, and grievance resolution;
- Incident reports (any incident involving communities).

These reports will be prepared, archived and maintained by the HSEM, the ESGM/CLO and EDM, where applicable, in order to document the results of the plan's implementation. Records of relevant events will be made following the occurrence and periodic Performance Reports will be prepared, quarterly during construction and commissioning and annually after the first year of operations, reporting on the recorded events and communication results.

Any work stoppage, or incident involving security forces will be reported with a full explanation of the reasons and how it was resolved and any follow up actions.

## 6.6.5 Project Grievance Redress Mechanism

### 6.6.5.1 Introduction

All employees are required to read and understand the GM and its procedures and processes. A thorough understanding of the relevant sections of the GM by staff form part of the overall implementation of the operations Integrated Management System and processes. The Operations Managers are responsible for ensuring that their staff have read and understood the GM.

This procedure aims to address external grievances and issues associated with the facility, future expansion projects or construction projects through a transparent and impartial process.

The grievances redress mechanism procedure will enable any grievances and issues that may arise from the community surrounding the Namaacha wind farm to be properly recorded and addressed before grievances escalate. This procedure does not apply to commercial grievances and issues or employee grievances. These are dealt with by the operations Human Resources.

The grievance and issues redress mechanism (GM) allows stakeholders to submit complaints and comments at no cost, without retribution or preventing recourse to a legal process.

#### **6.6.5.2 Key Principles of the GM**

The key principles of an effective GM are:

- Culturally appropriate: Tailored to the local language (Portuguese)
- Fair: A fair and impartial approach will be taken when managing grievances
- Accessible: Accessible to all settlements and stakeholder groups within the project area
- Inclusive of vulnerable groups: Available to those less likely to have the means to voice their concerns or opinions within the Mozambique context (e.g., women, elderly, children, etc.)
- Reliable: The Developer will respond to grievances within an agreed timeframe to manage expectations
- Publicised: The Developer will publicise the GM through engagement activities and advertisements to ensure that stakeholders are aware of and understand the process
- Logged: Grievances and issues will be logged and tracked
- Confidential: Grievances and issues will remain confidential and anonymous
- Respect judicial and civil rights: A grievant may at any time stop participating in the project grievance procedure and pursue other judicial, administrative, civil, or traditional remedies

#### **6.6.5.3 Communication Plan of the GM**

At the outset, the project will disclose / communicate the GM to the local communities in the appropriate language via different methods such as:

- Pre-construction community meeting
- Project noticeboard
- Project webpage
- Pre-construction printed leaflets / notices posted in the community
- Noticeboard at municipality offices.

#### **6.6.5.4 Overview of the GM Process**

The company's approach to GM follows a two-tiered process. Tier 1 is the initial process where the company and the grievant are in direct consultation. If no mutually satisfactory resolution to the grievance is found, the grievance procedure will move to the Tier 2 level. The Tier 2 process involves a third party, where the participants agree on the process, the parties involved, and the remedies available.



The GM will include the steps listed below and elaborated in subsequent sections.

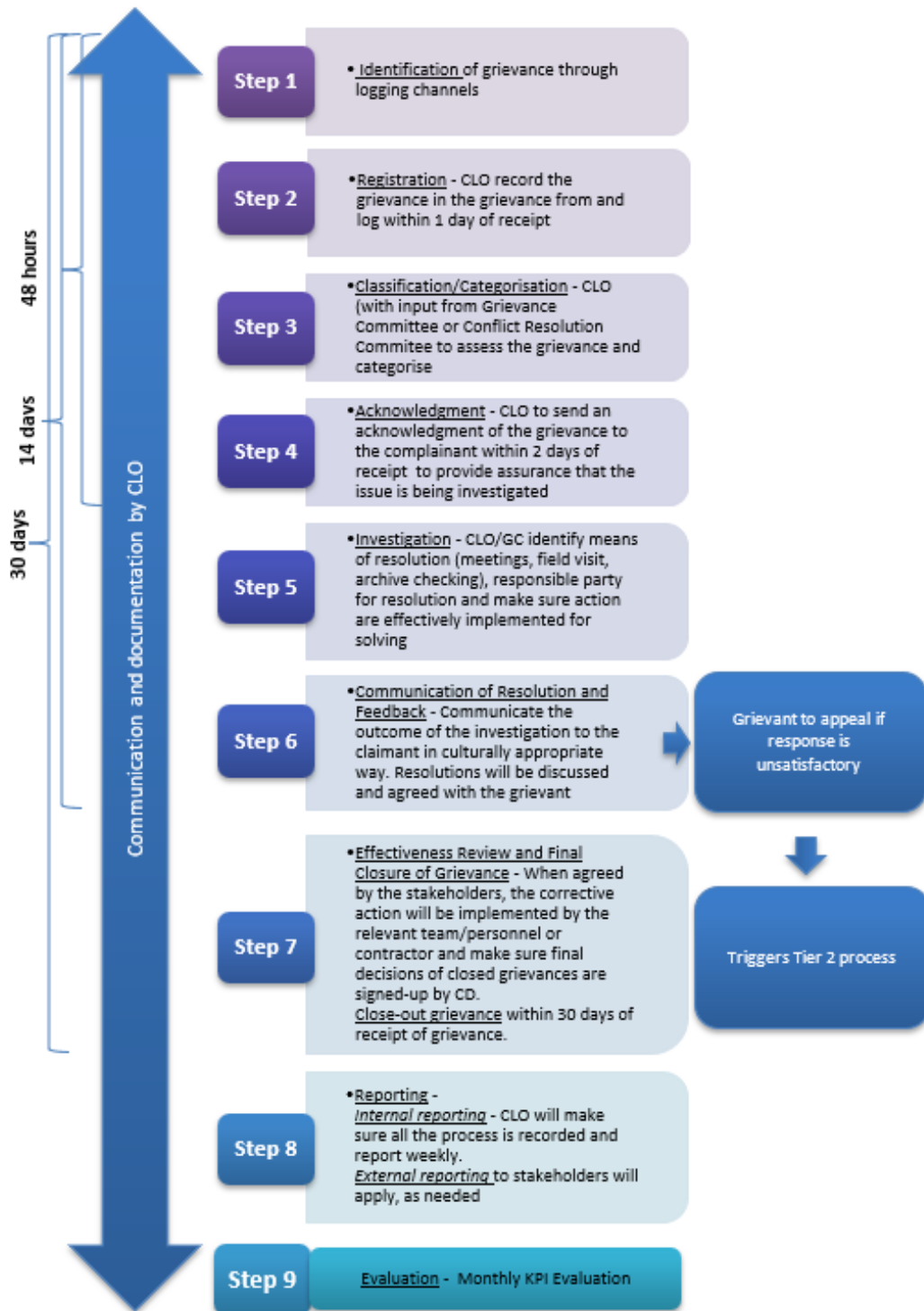


Figure 6.1 – Grievance and Issues Redress and Management Process

### 6.6.5.5 Tier 1 of the GM Process

In Tier 1 of the process, the underlying assumption is that the grievance will be resolved to the satisfaction of all parties, without the intervention of third parties. However, a grievant may at any time stop participating in the grievance procedure and pursue other remedies, without prejudice. Tier 1 includes the following steps:

1. Submission of grievance and issues/Grievance and issues logging
2. Registering grievances
3. Screening and classification
4. Acknowledgement
5. Investigation and consultation
6. Communication of resolution and feedback
7. Effectiveness review and final closure of grievances and issues
8. Reporting
9. Evaluation of quality and process

#### Step 1 – Submission of grievances and issues / logging grievances

The following options will be available to stakeholders for submitting grievances to the project:

- Face to face with CLO (CLO will hold regular consultation meetings)
- Complete the form via the project website
- Verbally to CLO via phone or text
- Verbally to the Site Manager or Contractor staff in the field
- Grievance register posted at the facility entrance
- Hand-deliver via sealed mailbox at project office (site)<sup>4</sup>

All grievances and issues received directly by the CLO/SED Manager or via another route will be collated and handled centrally, actioned, and closed out. The CLO will lead this process.

#### Step 2 - Registering grievances

Grievance and issues (received verbally or in written format) will be formally registered by the CLO/SED Manager using the project Grievance Form (APPENDIX D), ensuring that contact details are provided with the preferred method and language of communication. Besides grievances and issues, requests and suggestions<sup>5</sup>, and social near misses<sup>6</sup> can also be registered. A clear description is required to be provided of the incident or grievance and issues.

---

<sup>4</sup> At each location a note will be provided indicating that grievances will be collected on a weekly basis and the contact number for the CLO/SED Manager (for urgent grievances).

<sup>5</sup> Request or suggestion – any other request or suggestion received from the community different from grievances and issues or concerns, or suggestions or ideas to improve (for example a request for support/donation).

<sup>6</sup> Social near-miss – is an event that had the potential, under different conditions and environments, to have escalated or caused a major social or medium social incident.

### Step 3 – Screening and classification

Once recorded, each grievance and issue will be reviewed, assessed and classified into one of the following categories:

- Level 3 - Major Social Incident or Critical Priority Complaint: potential for significant breach of the applicable legislation, company policies, and / or negative media attention. Safety and security of the facility property, employees and stakeholders (e.g. abuse by security force).
- Level 2 - Medium Social Incident or Medium Priority Complaint: widespread and / or ongoing complaint, this can be an environmental issue. It is widespread in nature, probably affecting more than one person, group or village. It has the potential that, if not addressed, it may escalate into a major social incident. (e.g. noise, vibration and dust during construction).
- Minor Social Incident or Minimum Priority Complaint – level 1: a local, isolated, one-off complaint that could be addressed with little effort. They are small in nature and do not threaten the prevailing situation. The complaint is registered only. Usually, they are generated and motivated by individual interests.

The CLO/SED Manager will then assign a type to each grievance as per the following categories:

- Compensation grievances and issues
- Impact on livelihood/income
- Environmental concern
- Injury to employees and stakeholders
- Property damage
- Security forces abuse
- Employee/subcontractor bad behaviour
- Non-fulfilment of commitments
- Cultural heritage concerns
- Others

### Step 4 – Acknowledgement

Upon receipt of the grievance at the originating point, the receiving party has a maximum of 7 days to forward the respective grievance and issues to the CLO/SED Manager. Within 48 hours of receiving the grievance / issue from the entry point, the CLO/SED Manager will acknowledge to the complainant that the grievance has been received and formally registered. The complaint will then enter the GM process.

This will likely be through a phone call, in person visit or written format as determined most appropriately based on local context. Where possible, information will be provided to the complainant on the next course of action and an indicative timeframe for resolution. The CLO/SED Manager will track the grievance investigation and resolution progress and respond in writing as appropriate to the complainant. Irrespective of the manner in which the acknowledgement was made, it should be logged in the GM database. The method of communicating, date and time must be captured as well. The purpose is to have sufficient information to service proof of acknowledgement if a dispute emerges later.

### Step 5 – Investigation and consultation

The CLO/SED Manager, in consultation with the CEN's engineer / construction contractor and other relevant persons, will:

- Evaluate the legitimacy of the complaint. Non-legitimate complaints could include: complaints which obviously are not related to the project, criminal activity not related to the project, labour related grievances (refer to workers' grievance mechanism), contractual disputes (use redress methods in contracts), issues related to government policy or procedures (the complainant should be directed to the relevant routes).
- Identify required action to resolve the grievance / issue and the responsible person/party. If unable to deal with the grievance / issue directly, they will assign it to the appropriate company/project employee or team or Head of Department/ contractor for resolution. The identified individual or team will assist with the grievance / issue redress process.
- If required, support identifying an appropriate investigation team with the right skills to review the issue raised.
- Decide whether it is project-related or whether it is more appropriately addressed by a third party (e.g. relevant authority, other company).
- Support the investigation, including (where appropriate) performing a field visit, holding a consultation, and archive checking with the concerned person and company representatives.
- Investigate whether the incident leading to the grievance / issue is a singular occurrence or likely to reoccur.
- Identify activities, procedures, equipment and training to address and prevent reoccurrence.
- Make sure that any request to a head of a unit, which could help to resolve the issue, is correctly delegated to them.
- Remain responsible for tracking grievances and issues and ensuring they are adequately addressed.

### Step 6 - Communication of resolution and feedback

The CLO/SED Manager will communicate the outcome of the investigation to the complainant and request feedback (if possible) on the resolution. They will ensure all grievances and issues are responded within 14 days of being acknowledged. All grievances and issues of a level 3 – critical priority will be responded to within 72 hours. Responses shall be in writing though a verbal response will also be provided where appropriate. If the complainant disagrees, an internal appeal process can be initiated.

Note: If the Tier 1 process does not resolve the grievance to the grievant's or the company's satisfaction or if broader third party consultation is necessary, the grievance procedure may enter the Tier 2 process.

### Step 7 – Effectiveness review and final closure of grievances and issues

Implement the corrective action as per the resolution action plan. Note that if there are deviations, delays or unexpected events that will influence the implementation and schedule of the resolution, the grievant must be informed as a matter of urgency.

The CLO/SED Manager and the responsible person/party identified for resolution will ensure that the corrective actions recommended are effectively implemented efficiently and timely. The CLO will inform stakeholders of the progress of implemented corrective actions. For all level 3 grievances, when no further attention is required, the SED Manager, the Site Manager, or an assigned senior employee will close the grievance. The closed out date will be recorded in the company integrated electronic grievances and issues database. The project will aim to do this within 30 days of receiving a grievance. A summary of all grievances will be regularly reported to the CEO/senior management. The project will guarantee anonymity in all external reporting.

### **Step 8 – Reporting**

The SED Manager will ensure that internal reporting rules are set defining report frequency to monitor performance, monitoring indicators, methods and responsibilities. External reporting will be issued as per contractual requirements. All reports will be prepared using pre-defined templates.

### **Step 9 – Evaluation of quality and process**

The SED Manager will ensure clear rules for evaluating the quality of the grievances and issues redress mechanism, and compliance with the process are set. This will include frequency (weekly, monthly, quarterly, bi-yearly or yearly), evaluation indicators, methods, and responsibilities.

The GM process may be revised if so required, based on the evaluation outcomes. Any such revisions would be subject to consultation with Affected Communities and PAPs.

#### **6.6.5.6 Tier 2 of the GM Process**

If the Tier 1 interaction leads to an unsuccessful outcome or broader consultation is required, the GM may enter the Tier 2 process. This would usually be triggered prior to the effectiveness review and final closure. As mentioned above, the grievant may at any time cease to participate in the grievance process and pursue other avenues of redress, without prejudice. If a grievant chooses to cease to participate, any further costs and arrangements are for the account of the grievant. In such a case, the grievant will be recorded as no longer part of the GM process, logged and closed.

Tier 2 includes the following steps:

1. Agree to Initiate the Tier 2 process.
2. Develop a Tier 2 roadmap.
3. Implement the Tier 2 process.
4. Address the outcome of the Tier 2 process.

#### **Step 1 - Agree to Initiate the Tier 2 process**

The grievant and the company must formally agree to pursue the Tier 2 process. A third party should be neutral, well-respected and acceptable to the grievant and the company. Third parties include public defenders, legal advisers, local or international NGOs or technical experts. For Tier 2 proceedings, the company's legal team must be consulted.

## Step 2 - Develop a Tier 2 roadmap

When implementing the level 2 approach, the grievant, company and third party will jointly develop a roadmap with associated timelines, venues and procedures. Participants will determine what the process will look like. Any procedure deemed acceptable by the parties can be used in this process, including facilitation, mediation, arbitration, or resolution by a third party.

## Step 3 - Implement the Tier 2 process

The Tier 2 centric procedure will be implemented according to the road map. The process must be documented, transparent, and inclusive.

## Step 4 – Address the outcomes of the Tier 2 process

Tier 2 should result in a decision. If the outcome is acceptable to both the grievant and the company, and all further actions have been successfully completed, the CLO/SED Manager and the grievant will sign a grievance resolution form. This action will close the grievance and should be logged as such.

The grievant or the Company may choose not to accept the outcomes of the Tier 2 approach. If such a situation arises, the parties may seek other remedies, including judicial intervention. If this is the case, the company will terminate the grievance procedure and log this action as terminated.

## 6.7 Community Health and Safety Management Program

### 6.7.1 Objectives

The construction of the Namaacha – Boane 66kv OHTL Project could result in the increase of community health and safety hazards, due to increased light, noise and dust emissions, increased traffic, workforce mobilization, population influx and security personnel. Management of these risks will require implementation of the mitigation measures proposed in the EIS regarding these issues, which will be compiled in a **Community Health and Safety Management Program**. This section sets out the framework for what this Plan shall include.

Note that management of community health risks will also be supported by the implementation of other plans mentioned in this EMP, such as the Stakeholder Engagement Plan and GRM, as well as the Emergency Response Plan.

## 6.7.2 Scope and Responsibilities

The Proponents are the ultimate responsible for the implementation of all mitigation and management measures in order to minimize community health and safety risks and impacts to acceptable levels. Note that much of the mitigation will involve a strong participation of the Contractor, through the development of additional management plans and the management of day-to-day activities in the field, as detailed here. However, the Proponents will continuously guide and supervise the Contractor, in all issues that are related to engagement with communities and minimization of impacts on their health and safety.

## 6.7.3 Proposed Actions and Implementation Schedule

Table 6.25 presents the main actions for the implementation of the **Community Health and Safety Management Program**.

**Table 6.25 – Community Health and Safety Management Program actions, description and implementation schedule**

Actions	Description	Implementation Schedule	Responsibility	Supervision
Minimize hazard risk to communities from Project traffic	<ul style="list-style-type: none"> <li>- The Contractor will develop, and submit for the Proponent approval, a <b>Traffic and Transportation Management Plan</b>, detailing the management procedures and mitigation measures to minimize traffic related hazard risks to communities. The Plan will include the mitigation provided below:               <ul style="list-style-type: none"> <li>o Circulation of construction heavy vehicles will be limited to pre-approved construction routes. These will be defined in order to avoid crossing residential areas, whenever feasible;</li> <li>o Speed limits will be set for construction heavy vehicles, for all construction circuits. This speed limit will not exceed 30 km/h in critical segments, such as when near residential areas, and never more than 80 km/h on paved roads;</li> <li>o Inform drivers of the set speed limits and enforce them as appropriate;</li> <li>o Install temporary official traffic signs on local roads around the work fronts before and during the execution of the works together with local transit authorities;</li> <li>o Consult with community on traffic restrictions and schedule, provide alternative connectivity where needed, and conduct regular driver and community traffic safety awareness programs;</li> <li>o Use manned traffic control in key sensitive areas and crossings especially near any places where people in general and children in particular congregate;</li> <li>o Manage traffic and machinery to avoid accidents involving domestic animals and cattle. Provide for animal crossings and access to watering sites, if needed.</li> <li>o Reroute traffic or limit access if needed, in coordination with communities and local authorities.</li> </ul> </li> </ul>	Planning Phase	EPC Contractor	Proponent

Actions	Description	Implementation Schedule	Responsibility	Supervision
Minimise noise nuisance on communities	<ul style="list-style-type: none"> <li>- Construction activities, in particular the noisier ones, will be limited to the daytime period (between 07:00 and 22:00) and to working week days, avoiding working during the night-time and on weekends, whenever near residential areas;</li> <li>- The contractor will avoid placing fixed equipment (such as cranes or compressors) in proximity to sensitive receptors;</li> <li>- Use of portable screens during substations construction if situated near inhabited places, where possible;</li> <li>- If noise complaints are received from local communities in the morning or evening periods, despite compliance with the previous measures, and if the following investigation confirms the noise impact, then further reduce the work schedule in those periods. In such cases, the work schedule will be defined in a participatory manner, through consultation with affected communities;</li> <li>- Any noise complaint will be addressed and resolved through the Project's <b>GRM</b>. Any noise complaint will be investigated and resolved through adequate mitigation, to be defined case by case, but following best practices in terms of noise mitigation, i.e., first acting on noise source (by stopping the activity or using less noisy technologies or methods), then on the noise propagation path (by installing temporary noise screens or similar action) and then, and only if no other option is available, on the noise receptor (such as noise insulation of buildings or temporary lodging, in extreme cases).</li> </ul>	During Construction	EPC Contractor	Proponent
Ensure good practices in labour management and minimize risks of social conflicts with workforce	<ul style="list-style-type: none"> <li>- The Contractor will develop and implement a <b>Local Recruitment and Working Conditions Plan</b>, which will include the following principles:               <ul style="list-style-type: none"> <li>o Create mechanisms to ensure that the recruitment and hiring procedures are conducted in a transparent and just manner, are coordinated with the community leaders and District Administration, maximize local employment including women and young workers and transfer technical skills to the local labour force;</li> <li>o Forbid workers from hunting, fishing or buying bush meat. Inform workers of these restrictions in the induction sessions and enforce and monitor them appropriately, including through the Code of Conduct;</li> <li>o Give priority to hire local workers, provided applicants have the necessary skills;</li> <li>o Employment opportunities will be adequately advertised, so as not to limit application opportunities;</li> <li>o The process of contracting staff will be transparent and follow pre-established and accepted criteria and a process coordinated with local leaders that aims to maximize opportunities for the local workforce;</li> <li>o Avoid hiring at the gate – establish local and regional recruitment centers and provide pick up points for applicants from communities;</li> <li>o Ensure respect for local labour laws and worker rights, and together with the labour policy, <b>Health and Safety Management Plan</b>, <b>Code of Conduct</b> and <b>Worker's GRM</b>, ensure safe and fair working conditions.</li> </ul> </li> </ul>	Planning and During Construction	EPC Contractor	Proponent



Actions	Description	Implementation Schedule	Responsibility	Supervision
Minimize risks of social conflicts with workforce	<ul style="list-style-type: none"> <li>- The Contractor will have a contractually binding policy and <b>Code of Conduct</b> for all workers that includes, among other things, zero tolerance to child and forced labour, non-discrimination provisions regarding women and other minorities, and environmental good practice requirements. The <b>Code of Conduct</b> (to be explained to and signed by each worker and reinforced through training) will include a statement that workers are expected to keep and promote good standards of social interaction with the local communities and avoid any gender-based violence or sexual abuse and exploitation, particularly sexual interaction with minors, as well as follow good environmental practices in all project areas.</li> <li>- Elements to cover in the <b>Code of Conduct</b> (CoC) include, without limitations:               <ul style="list-style-type: none"> <li>o Respect for local residents and customs;</li> <li>o Non-Discrimination (for example on the basis of family status, ethnicity, race, gender, religion, language, marital status, birth, age, disability, or political conviction);</li> <li>o Compliance with applicable laws, rules, and regulations of the jurisdiction;</li> <li>o Zero tolerance of bribery or corruption;</li> <li>o Zero tolerance of illegal activities by Contractor personnel, including prostitution, illegal sale or purchase of alcohol, sale, purchase or consumption of drugs, illegal gambling or fighting;</li> <li>o Policy and sanctions against drunkenness and a no alcohol and drugs policy during working time or at times that will affect the ability to work or within accommodation camps, or acquired from outside the camp while accommodated in the camp;</li> <li>o A program for drug and alcohol abuse prevention and random testing that is equivalent in scope and objectives to the policies prescribed in the code of conduct;</li> <li>o Policy including sanctions against sexual harassment (for example to prohibit use of language or behaviour, in particular towards women or children, that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate);</li> <li>o Compliance with applicable health and safety requirements (including wearing prescribed personal protective equipment, preventing avoidable accidents and a duty to report conditions or practices that pose a safety hazard or threaten the environment);</li> <li>o Following good environmental practices, including strict avoidance within project areas of any hunting or fishing, bushmeat purchase, wildlife capture, unauthorized vegetation cutting or burning, free-roaming pets (which could conflict with wildlife), and littering with plastic or other non-food wastes.</li> </ul> </li> </ul>	Planning and During Construction	EPC Contractor	Proponent

Actions	Description	Implementation Schedule	Responsibility	Supervision
Minimize risks of social conflicts with workforce	<ul style="list-style-type: none"> <li>○ Policy and sanctions against violence or exploitation, including of a sexual nature (for example the prohibition of the exchange of money, employment, goods, or services for sex, including sexual favours or other forms of humiliating, degrading or exploitative behaviour);</li> <li>○ Protection of children (including prohibitions against abuse, defilement, or otherwise unacceptable behaviour with children, limiting interactions with children, and ensuring their safety in project areas);</li> <li>○ Policy and sanctions against sexual relations with anyone under the age of 18 (except if married prior to employment);</li> <li>○ Description of disciplinary measures for infringement of the code and company rules. If workers are found to be in contravention of the CoC, which Contractor will explain to them and require them to sign at the commencement of their contract, workers must face proportionate disciplinary procedures;</li> </ul> <p>- Failure to keep by these standards will be stated in the contracts as grounds for contract termination. Inform all hired workers of these restrictions and the possible consequences of breaking them.</p> <p>- The Contractor will further be expected to:</p> <ul style="list-style-type: none"> <li>○ Publicize the CoC in settlements potentially affected by the construction camps, as part of the community relations plan. This will help ensure that the local residents are aware of the expected behaviour of the construction staff;</li> <li>○ Provide entertainment facilities for workers at the construction accommodation camp as well as for operational workers, and establish clear rules for conduct during leisure time as well as the need to remain within the camp boundaries during leisure time;</li> <li>○ Provide appropriate sporting facilities, including organized sporting activities for workers at the permanent accommodation camp;</li> <li>○ Provide schedule and transportation that allows workers to visit their families or to have leisure time in urban centers at reasonable intervals.</li> </ul> <p>- The Contractor will require its subcontractors to subscribe and adhere to this code and will diligently supervise its implementation at all levels, including engaging the community in confidentially and actively identifying any inappropriate behaviour.</p>	Planning and During Construction	EPC Contractor	Proponent

Actions	Description	Implementation Schedule	Responsibility	Supervision
GBVH prevention and response framework	<ul style="list-style-type: none"> <li>- The Proponent and the Contractor will work together to continuously assess risks and identify and implement prevention, response and referral processes with respect to any cases involving Sexual Exploitation and Abuse / Gender Based Violence (SEA/GBV). This will focus on: (i) training of personnel, (ii) community and worker awareness, (iii) making available safe and confidential channels of communication and complaints, and (iv) a referral system and mechanism for survivors of GBV/SEA.</li> <li>- Globeleq has developed a GBVH Plan template that sets out the necessary framework that will be used to address GBV/SEA issues that may arise during construction. This Plan will be customised to be Project-specific by the EPC Contractor (subject to review and approval by the Proponents) prior to construction.</li> <li>- The approved Project-specific GBVH Plan will then be implement throughout the construction phase by the EPC Contractor.</li> <li>- Reporting on the Framework implementation will be done on a monthly basis.</li> </ul>	Planning and During Construction	EPC Contractor	Proponent
Minimize community security hazards due to interaction with security personnel	<ul style="list-style-type: none"> <li>- Contractor will develop a <b>Security Management Plan</b>, detailing the security arrangements to be deployed at camps, material storage and construction sites, or any location with Project presence. This plan will be compliant with IFC's PS 4, and with the Voluntary Principles on Security and Human Rights, and will be submitted for EDM approval, prior to start of construction;</li> <li>- This plan will include mandatory training for all security personnel, in what regards human rights, proportionate force use and adherence Co contractor's code of conduct;</li> <li>- It will be noted that the use of police or military security personnel is not expected. Given the Project nature, security will almost certainly be supplied by duly licensed security firms using civil personnel only. In any event, will the Project have the need to engage with police security personnel, at any stage, EDM will make an effort to engage with the authorities, so that the any engagement with the communities is in compliance with the Voluntary Principles on Security and Human Rights.</li> </ul>	Planning / During Construction	EPC Contractor	Proponent
Minimize workforce and community health risks	<ul style="list-style-type: none"> <li>- The Contractor will develop a policy and management plan to reduce the transmission of STIs, including HIV / AIDS. This strategy will:               <ul style="list-style-type: none"> <li>o Make provision for awareness, counselling and testing for all Project personnel, including voluntary testing for STDs and HIV/AIDS as part of any health screening program (workers will not be denied employment or discriminated against in any way based on their HIV status);</li> <li>o Provide guidance and counselling to workers with HIV/AIDS to access treatment through existing health facilities or NGO campaigns or programs;</li> <li>o Ensure there is access to free condoms at all worker sites and accommodation;</li> <li>o Ensure that all Project personnel are given specific HIV and STD prevention training;</li> <li>o Undertake information, education and communication campaigns around safe sexual practices and transmission of STDs and HIV/AIDS as well as condom distribution at stopping locations on key transport routes targeting commercial sex workers and truck drivers;</li> <li>o Support public health or NGO initiatives to reduce STD transmission including working through schools, women's and youth groups;</li> </ul> </li> </ul>	During Construction	EPC Contractor	Proponent

Actions	Description	Implementation Schedule	Responsibility	Supervision
	<ul style="list-style-type: none"> <li>○ The Contractor will encourage and allow specialized expatriate labour, or specialized labour mobilized from other provinces, to move with their families;</li> <li>○ The Contractor will provide non-local workers with a schedule and transportation that avoids limiting off-time activities at nearby communities;</li> <li>○ Conduct community awareness campaigns in communities crossed by the line and especially in proximity of camps and work fronts.</li> </ul>			

## 6.8 Cultural Heritage Chance Finds Procedure

### 6.8.1 Justification and Objectives

The Project's construction will require vegetation clearance of the RoW and earthmoving activities in the tower sites and substations. These activities have the potential to impact on archaeological sites or elements occurring in the construction areas. Even though no archaeological sites have been identified within the Project RoW, these surveys are based on surface indications alone, and it is therefore possible that sites or items of heritage significance will be found during construction work.

The "chance finds" procedure covers the actions to be taken from the discovery of a heritage site or item, to its investigation and assessment by a trained archaeologist or other appropriately qualified person, so as to avoid and/or reduce project risks on cultural heritage, whilst considering international best practice.

### 6.8.2 Legal Framework

The "chance finds" procedure is intended to ensure compliance with relevant provisions of the Cultural Heritage Law (Law No. 10/88), that defines places or locations with archaeological or anthropologic interest as material cultural assets.

The procedure also aims to achieve compliance with best practice international guidelines, in particular IFC Performance Standard 8 (Cultural Heritage), which requires the implementation of a chance finds procedure, to outline what will happen if previously unknown heritage resources, particularly archaeological resources, are encountered during project construction or operation.

### 6.8.3 Chance Find Procedure

Should a heritage site or archaeological site be uncovered or discovered during the construction phase of the project, the actions detailed in **Table 6.26** will be applied.

**Table 6.26 – Chance finds procedure actions and implementation schedule**

Action	Responsibility
- If a heritage site or archaeological site is uncovered or discovered during the construction, work will be stopped immediately and ECO or his field representative must be notified of the discovery;	Person identifying archaeological or heritage material
- Identify the site with flag tape and determine GPS position if possible; - Determine whether work can proceed without damage to findings; - Determine and mark exclusion boundary. - Assign qualified specialist (archaeologist) for site assessment of the chance find.	C-HSEM
- Inspect site and assess scientific and cultural importance of the findings; - If findings are of scientific or cultural importance report findings to the National Directorate Cultural Heritage; - Define appropriate mitigation measures, depending on relevance of findings. These can include protection in site, excavation and them removal or simple removal from site, as may be relevant; - Request written permission from National Directorate Cultural Heritage to remove findings from work area, or to implement other relevant mitigation measures; - Recovery, packaging and labelling of findings for transfer to museum, if relevant.	Qualified Specialist (Archaeologist)

## 6.9 Emergency Response Program

### 6.9.1 Objectives

The main objective of the **Emergency Response Program (ERP)** is the systemization of the procedures to be adopted, so as to minimize the effects of possible accidents or incidents that could occur, thus managing available resources in the most adequate manner. This document is considered an essential prevention tool, having in mind:

- The identification of potential emergency situations that may arise from the Project's construction and operation activities;
- The communication process of the emergency in case of occurrence;
- The creation of Risk Scenarios; and
- Action procedures in case of accidents or emergencies;
- Reporting on emergencies: causal analysis, actions taken and lessons and preventive measures taken as follow up including dissemination.

This section provides guidelines, to guide the Contractor to further develop a detailed **Emergency Response Plan (ERP)** for the construction phase, to identify and account for all Project related risks. The Contractor will submit this ERP for Proponent approval. In what regards the operational phase, further to the procedures listed below, Proponent will also apply the already existing emergency response protocols and procedures for high voltage transmission lines and substations.

## 6.9.2 Emergency Communication Process

An emergency can be detected by any Project worker or community member. After the emergency has been detected, the C-HSEM will be immediately notified, either by emergency telephone or radio. Following response, the C-HSEM will register any detected emergency in a register and report it to project management, for further analysis and follow-up.

### 6.9.2.1 Emergency detection by workers

Workers will receive basic and mandatory training in the inspection and supervision of the systems they operate, in order to be able to detect any anomalies, such as possible spills, traces of fire, emergency prevention procedures, etc. The immediate notification of an emergency will be made by telephone and emergency radio of the enterprise.

### 6.9.2.2 Emergency detection by community members

Further to workers, the ERP will also allow for the detection of emergency by community members. To the effect, communities will be informed, through the communication plan included in the ERP, of potential emergency risks and of what to do and how to communicate to contractor and Proponent. Emergency contact numbers will be disclosed to the communities, in particular to the local leaderships.

### 6.9.2.3 Communication systems

The efficient management of an incident depends on good communications. Thus, the Project will ensure the following systems:

- VHF digital radios;
- Cell phones.

A list of cell phone numbers must be prepared, including relevant emergency contacts. These lists will be kept next to all telephones on the Project facilities, in order to assist in case of need and be shared with community leaders.

## 6.9.3 Emergency Scenarios

This chapter considers the response procedures to the more common emergency scenarios, in order to identify the intervening persons and define the respective specific action patterns in case an emergency occurs. These actions enable an efficient combat of the accident and minimize the respective consequences, to ensure the physical integrity of all persons working in the site, environmental protection, safety of goods and the functioning of equipment, and avoidance or minimization of any injury or damage to communities and their assets.

Thus, the following response procedures are presented:


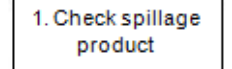
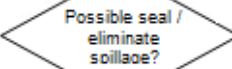
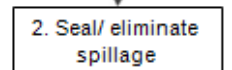
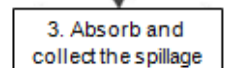
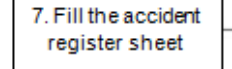
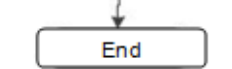
- Procedure for the spillage of hazardous products;
- Procedure to Fight Fires;
- Procedure to Assist Victims.

The Contractor will identify any additional emergency scenarios that might apply to their activities, and include them in the ERP, as needed.

### 6.9.3.1 Procedure for the Spillage of Hazardous Products

Various hazardous products, such as oils and lubricants, will be used during the construction and operational activities. The following emergency procedure will be followed in the event of spillage of hazardous products and substances. The application of the following procedures requires the ready availability of spill kits in the construction camps and fronts, during construction, and in the substations, during operation.

**Table 6.27 – Procedure for spillages**

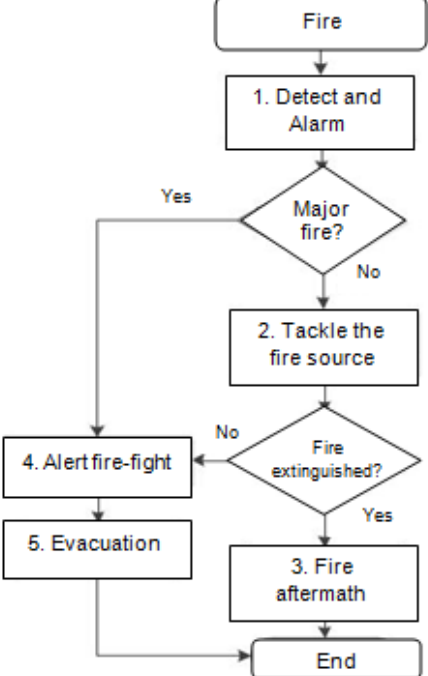
Flow diagram	Description	Responsibilities
	1. Check and confirm which product is spilling If necessary, remove ignition sources, inflammable and oxidizing materials	Any employee
	2. Seal or eliminate the spill, always applying the necessary safety measures If necessary, isolate and sign location and prohibit access	Any employee
	3. Absorb and collect the spilled product to an appropriate container in order to eliminate it: - If a spill occurs on a permeable surface (e.g. soil), a spill kit must be used to immediately reduce the potential spread of the spill; - If a spill occurs on an impermeable surface such as cement or concrete, the surface spill must be contained using oil absorbent materials. Proceed according to the product's safety data sheet and intervention card, and use the measures recommended for cleaning the spill (even in the case of small spills)	Any employee
	4. Notify competent authorities	Any employee
	5. Try to seal the spill	Any employee
	6. Await competent authorities' actions, don't abandon the location and adopt a preventive attitude regarding the possible effects from the spill	C-HSEM or Site Director / Team leader
	7. Fill out the accident register sheet.	C-HSEM



### 6.9.3.2 Firefighting procedures

This procedure applies to all situations in which a fire is detected in the site, as well as to accidents and incidents that could lead to the breakout of fire, taking into consideration the nature of the constructive conditions or maintenance work, or even the actions of external agent.

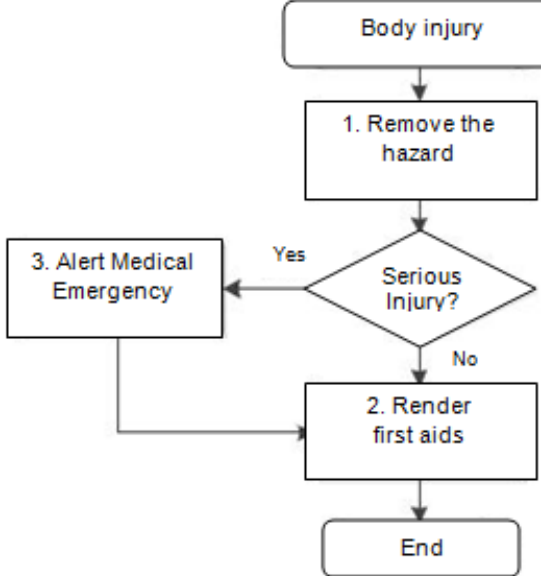
**Table 6.28 – Firefighting procedures**

Flow diagram	Description	Responsibilities
 <pre> graph TD     Fire[Fire] --&gt; Detect[1. Detect and Alarm]     Detect --&gt; Major{Major fire?}     Major -- Yes --&gt; Alert[4. Alert fire-fight]     Major -- No --&gt; Tackle[2. Tackle the fire source]     Tackle --&gt; Extinguished{Fire extinguished?}     Extinguished -- No --&gt; Alert     Extinguished -- Yes --&gt; Aftermath[3. Fire aftermath]     Alert --&gt; Evacuation[5. Evacuation]     Aftermath --&gt; End[End]     Evacuation --&gt; End             </pre>	1. Once fire is detected disseminate alarm system Suspend activities	Any employee
	2. Tackle the fire source immediately with an adequate fire extinguisher	Any employee
	3. Take care of the aftermath of the fire	Any employee
	4. Alert the fire-fighters, informing them of the fire's location	C-HSEM or Site Director / Team leader
	5. Evacuate the workers, in safety, to meeting point.	Site Director / Team leader

### 6.9.3.3 Procedure for assisting victims

This procedure applies to any situation involving victims during the construction activities, be they workers or other people. Thus, it applies to various risk situations, such as confined explosions, fires, falling over equipment, traffic accidents, etc.

**Table 6.29 – Procedure for assisting victims**

Flow diagram	Description	Responsibilities
 <pre> graph TD     A[Body injury] --&gt; B[1. Remove the hazard]     B --&gt; C{Serious Injury?}     C -- Yes --&gt; D[3. Alert Medical Emergency]     C -- No --&gt; E[2. Render first aids]     D --&gt; E     E --&gt; F[End]         </pre>	<p>1. Immediately suspend the operation Remove the hazardous element away from the victim or vice-versa, to avoid a new accident or aggravation of victim's condition</p>	Any employee
	<p>2. Render first aid, checking if there is:</p> <ul style="list-style-type: none"> <li>- Asphyxia</li> <li>- Shock</li> <li>- Haemorrhage</li> <li>- Poisoning</li> </ul> <p>Calm the victim by talking with him/her; Control breathing and constantly verify the pulse;</p>	First aider
	<p>3. Alert Medical Emergency, informing them calmly about the location of the accident, number and condition of the victims</p>	Site Director / Team leader

## 7 Environmental Monitoring and Reporting

This section outlines the environmental assessment and improvement processes associated with this EMP which constitutes environmental monitoring, inspections, audits, corrective action, and improvement. These activities form an integral part of implementing the EMP, and are necessary to:

- verify and document the implementation of the mitigation measures identified in the EMP;
- monitor and document the effectiveness of the mitigation measures and assessed impacts;
- demonstrate compliance with applicable legal and other requirements;
- evaluate the effectiveness of the EMP; and
- highlight areas in need of improvement to drive continuous improvement for all EMP activities.

This section also outlines the reporting and notification associated with implementation of the EMP. During construction, the EPC Contractor will be responsible to ensure that internal reporting and notifications are carried out as per EMP/HSE Management Plan. External reporting to Authorities and stakeholders will be managed and carried out by the Project Proponent. In the operation phase the Monitoring and Reporting will be EDM's responsibility.

### 7.1 Environmental Monitoring

Environmental monitoring during construction and operation phase will be carried out in different layers of entities through:

- Site inspection programs by EPC Contractors / Subcontractors
- Audit programs, coordinated by project proponent, which include independent audits by independent external auditors.
- Sampling and measurements, coordinated by the project proponent or EPC contractors / EDM to monitor the conditions of site and define effectiveness of implemented mitigation measures. Depending on the object of monitoring, this may involve site survey with sample collections for laboratory or in-situ measurements, and/or stakeholder engagement to gather factual data. Scope of this survey will be defined based on the operational scope and applicable regulations and permits.

### 7.1.1 Inspection

Scope of environmental inspection is governed by the scope of contract of each EPC contractor / subcontractor. EPC Contractor/subcontractor is responsible to inspect its construction site on regular basis to ensure that mitigation measures are implemented as per EIA/EMP documents. The EPC Contractor will be required to implement field-based inspection programmes that demonstrate their implementation of – and, in some instances, the effectiveness of the mitigation measures. The Project Proponents will, in turn, inspect the contractors' documents to verify that they have implemented the required programs.

Inspection programs should cover wider scope, not only environment or social matters but also occupational health and safety, housekeeping, and compliance issues.

Inspection programs, findings, and status of close-out shall be documented and reported to contractor site management.

### 7.1.2 Auditing

Auditing is considered to be a more structured approach to inspect and verify the site conditions and compliance with mitigation measures described in the EMP. The Project Proponent will organise for programmed audits to EPC contractors and/or subcontractors throughout the Project's construction. Also, EDM will organize independent audits by an independent external consultant throughout the project's operations. This may include environment certification audits by certifying institutions.

For internal audits, they will be carried out internally by the Project Proponents and by the Project Lenders' Environmental and Social Consultants (LESC) to ensure compliance with EMP requirements, regulatory requirements and compliance with management systems, standards, policies, and procedures.

Where applicable, periodic environmental audits by Government's Authorities are required to be established by the Regulation on Environmental Audit Process, Decree 25/2011 of June 15th. The Audit report shall be submitted to MTA (AQUA).

Audits will be performed by qualified and trained staff, and results will be described in a report that will determine the severity of non-compliances, as well as the recommended remedial action.

Regular checks and audits will be undertaken by the project proponent, who carries out periodic audits of operation contractors / subcontractors and will be responsible for monitoring, surveillance and decision-making on all operational Health, Safety and Environment (HSE) matters. In addition to assessing operational aspects and monitoring, checks should assess compliance with agreed objectives and targets, and the effectiveness of the EMP and its implementation. The EMP will therefore be subject to ongoing review and update to ensure that it remains appropriate to all aspects of the project.

All findings should be reviewed by the relevant project team and, where corrective actions are deemed necessary, specific actions (with designated responsibility and timing) should be developed and aimed at achieving continuous improvement in performance. These shall be documented.

Regular feedback meetings should be scheduled with stakeholders to provide feedback on performance and results of monitoring activities for the duration of the proposed project.

### **7.1.3 Site Survey and Measurements**

Measurements involve mobilization of trained personnel and equipment to collect samples from strategic locations and analysis the samples for pre-defined parameters to validate the effectiveness of mitigation measures. Site survey and measurements may involve stakeholder engagement to collect factual site data on social matters.

## **7.2 Corrective Actions and Improvement**

Tracking of corrective actions is one of the tools to facilitate progress and continual improvements. As part of the EMP, the Project will implement a formal environmental and social tracking system that will include the details of all environmental and social non-conformances, identify the corrective actions required, assign actions/timings to responsible parties, and indicate the status of the actions required. This will ensure a coordinated approach between the Project and its contractors, and drive changes for continuous improvement. Status of corrective action close-out will be reviewed and reported to the project proponent and Contractor's project management on monthly basis during monthly HSE management meeting.

## **7.3 Incident Notification and Reporting**

Any environmental or social incident must be investigated and immediately reported to the project proponent. Depending on the severity of incident, investigation or board of enquiry team will be mobilized to investigate the root cause of the incidents and propose corrective actions.

the project proponent will ensure that all environmental and social incidents are appropriately documented that the relevant parties are notified, and that reporting requirements around the incident are met. Environmental and social incidents may include spills of hazardous materials into environment, community incidents, or major non-compliance to regulations or permit conditions.

## 7.4 Statutory Notifications and Reporting

The project proponent, EPC contractors and EDM will comply with all statutory notification and reporting requirements. This section will be developed based on the applicable regulatory requirements and permits which will elaborate:

- Scope of reporting;
- Schedule of reporting;
- To whom the report will be distributed and in what format;
- Report archive requirement.