10 ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLANS

This section, together with Appendices J and K, is equivalent to Sections xi and xii, environmental and social management plan and environmental and social monitoring plan, of the legislative structure. If in doubt, please refer to Table 1.5-1 Environmental Impact Statement Structure on page 1-5.

10.1 Introduction

This section describes how the management plans and associated mitigation measures identified in this environmental and social impact assessment (ESIA) will be implemented and monitored. This section has been prepared in accordance with the requirements of the:

- Environmental Management Act, 2004
- Tanzania Environmental Impact Assessment and Audit Regulations, 2005
- Environmental Impact Assessment Guidelines for Onshore and Offshore Oil and Gas Developments (Ministry of Energy and Minerals and the National Environment Management Council [NEMC] 2016)
- Environmental Impact Assessment Training Manual in Tanzania (NEMC 2005)
- International Finance Corporation Performance Standard 1.

The project has taken every effort, informed by technical experience and industry knowledge, to evaluate all potential impacts and identify appropriate mitigation measures which have been incorporated into relevant management plans. Should unforeseen impacts arise during the implementation of the project, the project will undertake the necessary assessments, develop adequate mitigation measures and inform NEMC.

In accordance with the Tanzania Environmental Impact Assessment and Audit Regulations, 2005, an environmental and social management plan (ESMP) and an environmental and social monitoring plan (ESMoP) have been developed. Normally, the ESMP and ESMoP would be presented in the main body of an ESIA; however, owing to the physical size of the ESMP and ESMoP, and to facilitate ease of use, the ESMP and the ESMoP are presented as Appendices J and K, respectively.

A suite of construction phase management plans will be prepared before construction activities begin and a suite of operational phase management plans will be prepared before operational activities begin. These management plans, described in Section 10.7, will support implementation of the ESMP and ESMoP. Appendix E5 presents cover sheets and tables of content for each management plan.

The commitments register (Appendix E4) lists the management plans and their associated mitigation measures. The commitments will inform the management

plans which, once drafted, will control, manage and monitor the environmental and social impacts identified in this ESIA.

Stakeholder consultation has been ongoing and will continue during all project phases with lead agencies, local leaders and communities. The aim of continuous stakeholder consultation is to provide ongoing project information and receive feedback regarding the effectiveness of project mitigation. Received feedback will inform responsive and adaptive management of environmental and social impacts.

This section includes:

- health, safety, security, society and environment charter
- objectives and targets
- reporting system
- ESMP and ESMoP matrices reference
- roles and responsibilities
- supporting management plans
- supporting subplans
- training needs and capacity building
- management of change.

10.2 Health, Safety, Security, Society and Environment Charter

The project ESMP and ESMoP is guided by the Total East Africa Midstream (TEAM) BV Health, Safety, Security, Society and Environment (H3SE) Charter which has the following ten principles, and which TEAM:

1. Holds safety, security, health, respect for the environment, customer satisfaction and listening to all stakeholders by way of an open dialogue, as paramount priorities.
2. Complies with all applicable laws and regulations wherever it conducts its business and supplements them with specific requirements and commitments when necessary.
3. Promotes among its employees a shared culture of which the core components are professionalism, the rigorous compliance and application of regulations, skills management, incident feedback and continuous learning. This approach relies on the vigilance and commitment of all.
4. Expects each and every team member, at all levels, to be aware of their role and personal responsibility in the practice of their duties. Individuals must demonstrate the strictest discipline in preventing accidents and deliberate damage and in protecting health, the environment and product and service quality while addressing stakeholder expectations. Rigor and exemplarity in these fields are important criteria in evaluating the performance of each member of personnel, in particular for those in positions of responsibility.
5. Favours the selection of industrial and business partners on the basis of their ability to apply policies similar to its own concerning health, safety, security, the environment, quality and societal measures.

6. Implements, for all its operations, appropriate management policies regarding health, safety, security, the environment, quality, societal commitment and a periodic risk assessment of relevant policies and measures. Any development of a project or launch of a product is undertaken upon full lifecycle risk assessment.
7. Applies appropriate health, safety, environmental, quality and societal commitment management systems, which undergo regular assessment involving measurement of performance setting milestones, formulating relevant action plans and instituting suitable control procedures.
8. Implements incident response plans and means of intervention designed to face different types of events it may encounter. Such measures are periodically updated and reviewed during exercises.
9. Is committed to managing its energy consumption, emissions in natural environments (water, air and soils), production of final waste, use of natural resources and impact on biodiversity. It develops new processes, products and customer services to enhance energy efficiency and reduce its environmental footprint.
10. Adopts a constructive attitude toward health, safety, security, the environment and quality, based on transparency and an open dialogue with stakeholders and outside parties. Through its societal commitment, TEAM is particularly keen on contributing to the sustainable development of neighbouring communities, with a focus on environment, human, economic and social matters. It conducts its operations in such a way as to responsibly ensure security, in compliance with the Voluntary Principles on Security and Human Rights.

10.3 Objectives and Targets

A project objective is to design, construct and operate a pipeline and its aboveground installations that do not present risk, injury or harm to personnel, host communities and their supporting ecosystem services.

The ESMoP in Appendix K presents monitoring parameters and proposed performance indicators and targets that will steer environment and social performance toward continuous improvement.

10.4 Reporting System

A comprehensive reporting system will be developed including:

- internal reporting of environmental and social performance
- external reporting to government relating to:
  - permitting and licensing requirements, e.g., notification before starting an activity
  - monitoring results in accordance with the terms and conditions of any licences or consents
  - annual environmental and social compliance audits
  - environmental and social incidents as required by legal requirements.

10.5 Environmental and Social Management Plan and Environmental and Social Monitoring Plan Matrices

The ESMP (Appendix J) and ESMoP (Appendix K) matrices reflect the findings of the ESIA and are based on the detailed impact assessment tables presented in Appendices E2 and E3 and summarised in Section 8.

Typically, it is not a single mitigation that reduces an impact but the application of several mitigations that all contribute to the management of an impact. The key mitigation measures presented in this section, and the associated management plan and other measures that are included in Section 10.7 and Appendix E4, have been collectively used to assess residual impacts and to determine their significance.

The ESMP and ESMoP have been developed so that an impact can be monitored using an appropriate monitoring parameter that will, by default, provide information about potential secondary impacts. For example, monitoring of “contamination of surface water” will, by default, address potential impacts to aquatic biodiversity and ecosystem services associated with surface water, thus simplifying the monitoring programme while maximising information and control of impacts.

Monitoring parameters and performance indicators are included in the ESMoP.

Four different ESMP and ESMoP matrices have been developed, namely:

- construction generic impacts
- construction location-specific impacts
- operational generic impacts
- operational location-specific impacts.

10.6 Roles and Responsibilities

Table 10.6-1 outlines the roles and responsibilities of parties implementing management plans and associated mitigation measures and, the ESMP and ESMoP.

Table 10.6-1 Roles and Responsibilities

Role	Responsibilities
The project	Defining the minimum content of the ESMP and ESMoP (see Section 10.7) Ensuring implementation and monitoring of the ESMP and ESMoP, and that the negative impacts are adequately mitigated and positive impacts are enhanced Allocation of adequate means within the project organisation for implementation of the plans and mitigation measures Ensuring that all contractors set up their management systems with consideration of the ESIA findings Approval of contractors' ESMP Ensuring compliance with the project commitments Notifying NEMC in the case of changes to the design or activities, which can result in changes to the ESIA findings Preventing pollution and actions that will harm or may cause harm to the environment Preparing for emergencies Notifying the relevant authorities in case of emergencies Ensuring continuous stakeholder engagements throughout the project lifetime Providing resources for adequate environmental and social training and awareness of its employees Ensuring adequate financing for implementation of the ESMP to ensure compliance and desired outcomes The implementation of some management plans and mitigation measures will depend not solely on the project but also on other parties including government agencies and third parties operating in the project area of influence.
Project representative	Informing the H3SE team on changes in the design Ensuring development and approval of detailed management plans by respective contractors Performing periodic audits of contractor's activities jointly with the H3SE team Reporting on the implementation of management plans and any nonconformances

Table 10.6-1 Roles and Responsibilities

Role	Responsibilities
Project H3SE team	Ensuring detailed management plans are consistent with Section 10.7 Ensuring implementation of the management plans including impacts monitoring Ensuring update of the H3SE Management System and ESMP: on a periodic basis or in case of important changes to the impacts or mitigation measures Advising contractors on the ESIA findings Monitoring project activities on site, ensuring adherence to the management plans and reporting nonconformances Planning and undertaking stakeholder engagement throughout the project lifetime Performing audits of site activities and reporting accordingly Reporting any significant environmental incidents to the responsible authorities as may be required Analysing incidents to prevent re-occurrence Assessing design changes for further notification to NEMC, where it may result in changes to the ESIA findings Monitoring project related grievances according to grievance management procedure Undertaking regular environment and social reporting Providing environmental and social training and awareness to the employees
Project responsible on site for safety and environment (RSES) The RSES is a delegate of the project on site, and all personnel working on that site are answerable to the RSES on H3SE matters.	Ensuring H3SE leadership on site (training, site committees, managing site action plans). Ensuring risk assessment of project activities and management of risks on site. Implementing the emergency preparedness system and managing on-site command posts in case of emergency

Table 10.6-1 Roles and Responsibilities

Role	Responsibilities
Contractor on behalf of project	Developing detailed management plans consistent with Section 10.7 and the requirements of the ESMP and project requirements relative to the scope of work Ensuring work conducted is done within the framework of the contractor's management plans, Tanzanian legislation and good international industry practice Ensuring that contractors' and subcontractors' employees are aware about the contents of the management plans relative to the scope of work and their roles and responsibilities in its implementation Ensuring that all subcontractors have a copy of, and are fully conversant with, the contents of the management plans and associated roles and responsibilities Providing regular reports to project representatives on implementation of contractor's management plans and nonconformances Participating in monitoring compliance and impacts upon the surrounding environment through independent audits or led by the project, implement corrective mitigation measures where required Appointing persons responsible on site for health, safety, security, social and environment Informing project representatives on incidents or complaints from stakeholders Addressing concerns raised from the activities including activities-related grievances according to grievance management procedure Implementing the emergency response on site

10.7 Management Plans

This section describes the management plans that will be drafted to support the implementation of the ESMP and ESMoP. Minimum content of these management plans are the mitigation commitments developed throughout the ESIA and used in Sections 8 and 9 and Appendices E2 and E3 (to facilitate impact evaluation and calculate the significance ranking of residual impacts). The commitments are presented in Appendix E4.

The management plans are applicable during construction and operation, except for the decommissioning plan.

Where applicable, separate subplans will be drafted for construction and operations that account for the activities and anticipated potential impacts.

Management plans will be revised annually as a minimum or more frequently as required in response to project evolution, lessons learnt or adaptive management.

The project will be responsible for the content, drafting, implementation and revisions of the management plans described in this section.

A separate suite of management plans will be drafted for:

- terrestrial construction
- terrestrial operations
- marine construction
- marine operations.

An overview of each management plan is described in Sections 10.7.1 for terrestrial and 10.7.2 for marine. The project will prepare management plans for the relevant phase of the project that include, but are not limited to, this minimum content in support of the implementation of the ESMP and ESMoP.

10.7.1 Terrestrial Management Plans

10.7.1.1 MP01: Biodiversity Management Plan

The biodiversity management plan will define the approach to reduce impacts on terrestrial and marine biodiversity and will address:

- pre-construction surveys and pre-clearance surveys
- biodiversity action plan
- construction biodiversity considerations, such as signage, reducing habitat disturbance, habitat and species protection and a biosecurity plan
- mitigation measures to be applied immediately before the onset of construction, such as translocation plan for flora and fauna and immediate pre-clearance checks.

10.7.1.2 MP02: Pollution Prevention Plan

The pollution prevention plan will define the approach to prevent pollution and will specify minimum requirements for:

- good international industry practice that will be used in project activities to attenuate impacts resulting from noise, light, dust, nuisances and other sources of pollution
- blast management
- energy management, including sources of emissions and project emission limits
- selection, safe management, use and disposal of chemicals
- handling and disposal of contaminated soil (from chance finds as well as potential project incidents)
- watercourse crossings addressing matters such as fuel and chemical handling and storage, surface run-off into watercourses at crossing points and management of potential project-related sediment loading of the watercourse
- management of washwater from vehicles and concrete delivery trucks
- planned maintenance of facilities and equipment.

10.7.1.3 MP03: Waste Management Plan

The waste management plan will define the approach to reduce potential waste related impacts and will address:

- development of a waste management hierarchy
- identification and classification of project waste streams
- requirements for waste collection, segregation, treatment, storage and transportation
- final disposal options
- waste management documentation to show compliance with duty of care.

10.7.1.4 MP04: Natural Resource Management Plan

The natural resource management plan will define the approach to manage natural resource use and will address:

- aggregates management (sourcing, storage, use, reuse and disposal)
- water management including potable water and sharing community resources
- timber management.

10.7.1.5 MP05: Soil Management Plan

The soil management plan will define the approach to soil management and temporary erosion control and will address:

- construction planning surveys and assessments
- soil handling, including topsoil stripping and segregation of soil types during temporary soil storage
- disturbance of contaminated land
- temporary erosion control.

10.7.1.6 MP06: Cultural Heritage Management Plan

The cultural heritage management plan will define the approach to the identification, assessment and mitigation of potential impacts on tangible and intangible cultural heritage and will address:

- pre-construction surveys and assessments avoidance or preservation of known archaeological or cultural heritage assets
- chance finds procedure for tangible and intangible cultural heritage
- interface meetings.

10.7.1.7 MP07: Reinstatement Plan

The reinstatement plan will define the approach to manage reinstatement incorporating permanent erosion control and biorestoration, and will address:

- permanent erosion control
- biorestoration, revegetation and reseeding
- site reinstatement, including decommissioning of temporary work sites and facilities

- watercourse and wetland crossings reinstatement including vegetation removal and bank stabilisation
- the procedure to identify where location-specific reinstatement plans are required as per the findings of the ESIA
- exit surveys documenting site condition on construction completion.

10.7.1.8 MP08: Stakeholder Engagement Plan

The stakeholder engagement plan will define the approach to maintain a social licence to operate[1] among project-affected communities and will address:

- effective messaging including construction safety awareness, communicable diseases, employment opportunities and limitations, expectation management and grievance procedure
- activities of community liaison officers
- information sharing
- community relations training
- initiatives to establish good community relations
- the grievance procedure.

10.7.1.9 MP09: Resettlement Action Plan

The resettlement action plan will define the approach for addressing physical or economic displacement of project-affected persons (PAPs) and will detail:

- the applicable national and international laws, policies and standards that will govern the resettlement programme and land acquisition process
- the methods of identifying PAPs
- resettlement, valuation and compensation mechanism for planned activities and accidental damage
- livelihood restoration process for land and water-based livelihoods
- stakeholder engagement and participation.

10.7.1.10 MP10: Labour Management Plan

The labour management plan (LMP) will define the approach to ensure recruitment practices and working conditions comply with legal requirements and project standards.

The LMP will:

- comply with international labour standards, national labour laws and regulations concerning transparency, accountability, anticorruption and human rights
- recognise workers' right to trade union representations and organise collective bargaining
- provide suitable working conditions including rest facilities and breaks
- provide a mechanism for compliance with the International Labour Organisation Maternity Protection Convention (2000)

[1] A social licence to operate exists when a project has ongoing approval or acceptance with the local community and other stakeholders.

- respect workers' rights to privacy including data protection requirements.

The LMP will include:

- recruitment policies and process including guidance for local recruitment
- provision for local content, development of local enterprise and capacity development
- location and operation of recruitment centres
- labour contracts, including workers' rights and conduct, camp rules and workers' grievance procedure
- disciplinary procedures
- a retrenchment plan to manage retrenchment at the end of the construction phase
- workforce environmental and social training and awareness programmes, and local skills development
- training to ensure workforce have the skills to perform their responsibilities.

10.7.1.11 MP11: Project Induced In-Migration Management Plan

The project induced in-migration management plan will define the approach to prevent project induced in-migration and manage associated impacts and will address:

- measures to avoid or limit consequences associated with the in-migration of people into project areas
- measures to manage planned and unplanned in-migration and the indirect impacts of this on biodiversity and host communities.

10.7.1.12 MP12: Procurement and Supply Chain Management Plan

The procurement and supply chain management plan will define the approach to supply chain management including environmental, social and quality considerations, maximise the purchase of local goods and services, and will address:

- procurement and supply standards
- local content policy for local business and community development
- third-party vendors of services, materials and products
- third-party aggregate extraction and batching facilities
- capacity development
- ring-fencing contracts
- workers' rights compliance.

10.7.1.13 MP13: Infrastructure and Utilities Management Plan

The infrastructure and utilities management plan will define the approach to monitor the use of, or accidental damage to, infrastructure and utilities, define the process of corrective action and will address:

- crossing schedule and planning
- use of public roads and associated infrastructure

- utilities and service integrity
- irrigation and drainage systems
- flood control
- buildings.

10.7.1.14 MP14: Community Health, Safety and Security Plan

The community health, safety and security plan will define the approach to manage community health, safety and security matters and will address:

- community health including the management of sexual and communicable diseases and vector control plan
- construction activity awareness and community safety
- community security.

10.7.1.15 MP15: Occupational Health, Safety and Security Plan

The occupational health, safety and security plan (OHSSP) will define the management of workforce occupational health, safety and security and will address:

- camp workforce health and wellbeing
- drug and alcohol policy
- camp facilities, including health clinics and potable water provision
- workforce fitness for work, sexual and communicable diseases prevention plan, vaccine preventable diseases management plan and vector control plan
- pest control and appropriate measures to reduce workforce interactions with wildlife (e.g., reptile control at camp-sites)
- safe procedure should unexploded ordnance be encountered during construction or operation activities.

10.7.1.16 MP16: Transport and Road Safety Management Plan

The transport and road safety management plan will guide project logistics and support community and driver road safety during project related transportation activities and will address:

- definition of project transport routes
- local road upgrades
- notification of over-sized loads
- journey management including convoys and scheduling of traffic movements
- suitable diversions routes during temporary closure of roads
- safety-awareness education for local communities
- signage of hazards.

10.7.1.17 MP18: Emergency Preparedness and Response Plan

The emergency preparedness and response plan will define the approach to emergency preparedness and response and will address:

- emergency risk analysis, emergency preparedness and response planning and the definition of the relationships with contractors' emergency response plans

- incident management, including spill response planning, location of emergency response equipment and personal protective equipment (PPE), material recovery and remediation techniques
- the type and content of emergency response exercises and the minimum personnel participation in these exercises
- the location of emergency response equipment; minimum equipment and PPE at these locations
- roles and responsibilities and specify communication and notification requirements (according to tier 1, 2,3 thresholds).

10.7.1.18 MP19: Monitoring and Reporting Plan

The monitoring and reporting plan will define the approach to ensure that:

- monitoring, inspections and audits are undertaken in a systematic way
- the implementation of the environmental and social mitigation measures is monitored
- data on environmental and social conformance is gathered
- investigation of nonconforming monitoring results
- internal and external reporting requirements are met.

The monitoring approach for potential impacts is described in the ESMoP matrix (Appendix K), with monitoring parameter(s), target criteria and monitoring frequency. The plan will address:

- a monitoring programme identifying monitoring locations (based on sensitive valued environmental and social components and receptors) and monitoring methodologies
- environmental and social inspections and audit programme
- noncompliance management
- monitoring results tracking system
- responsibilities for reporting, content, level of detail and format of reports and reporting deadlines
- internal and external notifications and reporting.

10.7.1.19 MP20: Decommissioning Plan

The decommissioning plan will define the decommissioning of operation[2] infrastructure at the end of the life of the project and will:

- identify applicable laws and standards that will guide the decommissioning process
- define a schedule during the project life for developing a decommissioning process, including financing arrangements
- outline the approvals process for decommissioning
- define the environmental and social evaluation process.

[2] Decommissioning of construction phase infrastructure will be addressed in the reinstatement plan (see Section 10.7.1.7).

10.7.2 Marine Management Plans

This section addresses the marine aspects of the management plans.

10.7.2.1 MP01 Biodiversity Management Plan

The biodiversity management plan will define the approach to reduce impacts on biodiversity and will address:

- pre-construction surveys to inform the preparation of the biodiversity action plan and pre-clearance surveys
- construction biodiversity considerations such as signage, marine mammal observation, reducing habitat disturbance, habitat and species protection and biosecurity plan.

10.7.2.2 MP02: Pollution Prevention Plan

The pollution prevention plan will define the approach to prevent pollution and will specify the minimum requirements for:

- good international industry practice that will be used in project activities to attenuate impacts resulting from noise (above and underwater), light, nuisances and other sources of pollution
- energy management including sources of emissions and project emission limits
- selection, safe management, use and disposal of chemicals
- management of vessel's bilge water and ballast water
- control of suspended sediment and sedimentation including sediment release control, scour management and demobilisation surveys
- planned maintenance of vessels, facilities and equipment.

Prevention of pollution from the project vessels will be in accordance with the requirements of the marine pollution (MARPOL) convention where applicable.

The plan is applicable during the construction and operation phase.

10.7.2.3 MP03: Waste Management Plan

The waste management plan will define the approach to reduce potential waste related impacts originating from the project vessels and offshore activities and will address:

- development of a waste management hierarchy
- identification and classification of project waste streams
- requirements for waste collection, segregation, treatment and storage
- final disposal options (offshore, on board and onshore as appropriate)
- waste management documentation to show compliance with duty of care.

Waste management on board the project vessels will be in accordance with the requirements of the MARPOL convention where applicable.

10.7.2.4 MP04: Natural Resource Management Plan

The natural resource management plan will define the approach to managing natural resource use and will address aggregates management (sourcing, storage, use, reuse and disposal).

10.7.2.5 MP06: Cultural Heritage Management Plan

The cultural heritage management plan will define the approach to the identification, assessment and mitigation of potential impacts on tangible and intangible cultural heritage and will address:

- chance finds procedure for tangible and intangible cultural heritage
- interface meetings.

10.7.2.6 MP07: Reinstatement Plan

The reinstatement plan will define the approach to manage reinstatement incorporating permanent scour control and biorestoration, and will address:

- permanent scour control measures
- site reinstatement including decommissioning of temporary structures
- exit surveys upon construction completion.

10.7.2.7 MP08: Stakeholder Engagement Plan

The stakeholder engagement plan will define the approach to maintain a social licence to operate[3] among project-affected communities and will address:

- effective messaging including construction safety awareness, communicable diseases, expectation management and grievance procedure
- activities of community liaison officers
- information sharing
- community relations training
- initiatives to establish good community relations
- the grievance procedure.

The plan is applicable during the construction and operation phase.

10.7.2.8 MP09: Resettlement Action Plan

The resettlement action plan will define the approach for addressing physical or economic displacement of PAPs and will detail:

- the applicable national and international laws, policies and standards that will govern the resettlement programme and the land acquisition process
- the modalities of identifying PAPs
- establishment of the marine exclusion zone (MEZ)
- resettlement and livelihood restoration process for marine-based livelihoods

[3] A social licence to operate exists when a project has ongoing approval or acceptance within the local community and other stakeholders.

- the compensation mechanism for planned activities and accidental damage
- stakeholder engagement and participation.

10.7.2.9 MP10: Labour Management Plan

The LMP will define the approach to ensure recruitment practices and working conditions comply with legal requirements and project standards.

The LMP will:

- comply with international labour standards, national labour laws and regulations concerning transparency, accountability, anticorruption and human rights
- recognise workers' right to trade unions and organise collective bargaining
- providing suitable working conditions including rest facilities and breaks
- provide a mechanism for compliance with the International Labour Organisation Maternity Protection Convention (2000)
- respect workers' rights to privacy including data protection requirements.

The LMP will detail:

- provision for local content, development of local enterprise and capacity development
- labour contracts, including workers' rights and conduct, vessel rules and workers' grievance procedure
- disciplinary procedures
- workforce environmental and social training and awareness programmes and local skills development.

10.7.2.10 MP12: Procurement and Supply Chain Management Plan

The procurement and supply chain management plan will define the approach to supply chain management including environmental, social and quality considerations, maximise the purchase of local goods and services, and will address:

- procurement and supply standards
- local content policy for local business and community development
- third-party vendors of services, materials and products
- third-party aggregate extraction and batching facilities
- capacity development
- ring-fencing contracts.

10.7.2.11 MP13: Infrastructure and Utilities Management Plan

The infrastructure and utilities management plan will define the approach to addressing the potential accidental damage to subsea infrastructure and utilities if encountered.

10.7.2.12 MP14: Community Health, Safety and Security Plan

The community health, safety and security plan will define approach to manage community health, safety and security matters and will address:

- community health including sexual and communicable diseases prevention plan, vaccine preventable diseases management plan and vector control plan
- safety-awareness education for local communities and Tanga bay users (e.g., with regard to the MEZ), project vessels navigation, underwater noise effects on swimmers and divers
- community security.

10.7.2.13 MP15: Occupational Health, Safety and Security Plan

The OHSSP will define the management of workforce occupational health, safety and security and will address:

- workforce health and wellbeing
- drug and alcohol policy
- shipboard facilities including potable water provision
- workforce fitness for work, sexual and communicable diseases prevention plan, vaccine preventable diseases management plan and vector control plan
- safe procedure should unexploded ordnance be encountered during construction or operation activities.

10.7.2.14 MP17: Vessel Management Plan

The vessel management plan will guide project logistics and support navigation safety during project related transportation and construction activities and will address:

- definition of project navigation lanes
- notification to mariners
- scheduling of vessel movements
- vessel anchoring and lighting
- signage of hazards.

10.7.2.15 MP18: Emergency Preparedness and Response Plan

The emergency preparedness and response plan will define the approach to emergency preparedness and response and will address:

- emergency risk analysis, emergency preparedness and response planning and definition of the relationships with contractors' emergency response plans
- incident management including spill response planning, location of emergency response equipment and PPE, cleanup and remediation techniques
- the type and content of emergency response exercises and the minimum personnel participation in these exercises
- the location of emergency response equipment, minimum equipment and PPE at these locations
- roles and responsibilities and specify communication and notification requirements (according to tier 1, 2 and 3 thresholds).

Emergency preparedness and response on board the project vessels will be in accordance with the requirements of the MARPOL convention where applicable.

The plan is applicable during the construction and operation phase.

10.7.2.16 MP19: Monitoring and Reporting Plan

The monitoring and reporting plan will define the approach to ensure that:

- monitoring, inspections and audits are undertaken in a systematic way
- the implementation of the environmental and social mitigation measures is monitored
- data on environmental and social conformance is gathered
- investigation of nonconforming monitoring results
- internal and external reporting requirements are met.

The monitoring approach for potential impacts are described in the ESMoP matrix (Appendix K), with monitoring parameter(s), target criteria and monitoring frequency. The plan will address:

- a monitoring programme identifying monitoring locations (based on sensitive valued environmental and social components and receptors) and methodologies
- environmental and social inspections and audit programme
- nonconformance management
- monitoring results tracking system
- responsibilities for reporting, content, level of detail and format of reports and reporting deadlines
- internal and external notifications and reporting.

10.7.2.17 MP20: Decommissioning Plan

The decommissioning plan will define the decommissioning of operation[4] infrastructure at the end of the life of the project and will:

- identify applicable laws and standards that will guide the decommissioning process
- define a schedule during the project life for developing a decommissioning process, including financing arrangements
- outline the approvals process for decommissioning.

10.8 Supporting Subplans

The management plans described in Sections 10.7.1 and 10.7.2 define the minimum requirements based on the findings of the ESIA.

There will be a requirement for other, more specialised supporting subplans to be developed including, but not limited to:

[4] Decommissioning of construction phase infrastructure will be addressed in the reinstatement plan (see Section 10.7.1.7).

- location-specific biodiversity management plans specifying features and species for retention and protection, translocation and biorestoration requirements
- plans for erosion and sediment control and reinstatement for areas of fragile, sensitive or thin topsoil, side slopes or narrow ridges and at watercourse crossings
- OHSSP subplans addressing, among other things, substance misuse, malaria (and vector controls) and communicable diseases.

The subplans, as with all the primary management plans, will be revised annually or more frequently if required, in response to project evolution, new information or adaptive management.

10.9 Training Needs and Capacity Building

10.9.1 Training Needs

An environmental and social training programme will be implemented and include a system for assessing the competence and training needs of personnel.

The environmental and social training programme will include:

- induction training – both worksite induction and construction camp induction
- worker awareness training, including:
  - toolbox talks to be conducted as a minimum before any new work activity or work at a new site and to include site-specific requirements such as sensitive vegetation, features of biodiversity and cultural heritage value to be protected
  - workers' rights and grievance procedure
  - health awareness
- financial literacy
- skills training to:
  - ensure competent and safe performance of duties, appropriate to the work being performed
  - training that optimises skills development for local personnel.

10.9.2 Capacity Building

The LMP, the procurement and supply chain management plan and local content plan will identify priorities for capacity development and measures to increase the capacity of the project workforce, contractors and subcontractors. Capacity development priorities include:

- waste management
- safe driving
- handling of chemicals
- rules of engagement for security personnel
- basic health and safety training
- first aid training.

10.10 Management of Change

Changes to the project may occur after preparation and submission of this ESIA. A management of change procedure will be implemented, which includes:

- environmental and social appraisal of the change including the identification of new or revised mitigation measures
- health and safety evaluation
- consultation with engineering and H3SE disciplines
- consultation with NEMC on the need for amendments to the ESIA permit
- management of change approval process.

Following management of change approval, changes to the ESMP, ESMoP and supporting management plans will be implemented.