

# ENVIRONMENTAL MANAGEMENT PLAN FOR FUEL BUNKERING OPERATIONS IN THE NAMIBIA EXCLUSIVE ECONOMIC ZONE (EEZ)

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## **1 INTRODUCTION**

### **1.1 Background**

The proponent, VMS Investments Holdings (Pty) Ltd, intends to provide bunkering services within the Namibia Exclusive Economic Zone (EEZ). The Government of Namibia has enforced companies to develop a Marine Spill Contingency plan as part of its commitment to protecting our valuable coastal and marine resources from the threat of marine pollution incidents.

The plan has been developed to reflect the essential steps necessary to initiate, conduct and terminate an emergency spill response on, or into the navigable waters of Namibia, on the adjoining shorelines, the waters of the contiguous zone or into waters of the exclusive economic zone.

In the event of a marine pollution incident, the proponent is required to follow the procedures laid down in this plan.

### **1.2 Geographical Scope**

The geographical scope of the project area, referred to hereafter as the plan area, is located along the coastline from the Walvis Bay area. The coordinates of the site are **14.509916667, -22.935733183**.



Figure 1 Locality of the bunkering site in relation to the Walvis Bay area.



Figure 2 Satellite image of the bunkering site area.



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## 2 ENVIRONMENTAL MANAGEMENT PLAN

An EMP provides management options to ensure impacts of an activity are minimised. It is thus a tool used to take pro-active action by addressing potential problems before they occur. This should limit the corrective measures needed, although additional mitigation measures may be included where necessary. The environmental management measures are provided in the descriptions below. These management measures should be adhered to during the various phases of bunkering. This section of the report can act as a stand-alone document. All personnel taking part in exploration should be made aware of the contents of this section, so as to plan and execute exploration in an environmentally sound manner.

The objectives of the EMP are:

- To include all possible activities of bunkering;
- To prescribe the best practicable control methods to lessen the environmental impacts associated with bunkering;
- To monitor and audit the performance of personnel in applying such controls; and
- To ensure that appropriate environmental training is provided to responsible personnel.

### 2.1 Planning Phase

During the phases of planning for vessel commissioning, operations and decommissioning of the vessel, it is the responsibility of Proponent to ensure they are and remain compliant with all legal requirements. The Proponent must also ensure that all required management measures are in place prior to and during all phases, to ensure potential impacts and risks are minimised. The following actions are recommended for the planning phase and should continue during various other phases of the project:

- Ensure that all necessary permits from the various ministries, local authorities and any other bodies that govern the project are in place and valid.
- Ensure all appointed contractors and employees enter into an agreement which includes the EMP. Ensure that the contents of the EMP are understood

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by the contractors, subcontractors, employees and all personnel involved with the project.

- Make provisions to have a Health, Safety and Environmental Coordinator to implement the EMP and oversee occupational health and safety as well as general environmental related compliance.
- Make provisions to have a community liaison officer who will handle complaints and community input, and through whom, where reasonable, monitoring data can be requested. Communicate the contact details of the community liaison officer to interested and affected parties when the project is initiated.
- Among others, have the EMP, emergency response plans, health safety and environmental manuals, spill containment, spill clean-up, and firefighting equipment and materials required for emergencies available.
- Ensure adequate insurance cover for incidents are in place.
- Establish and / or maintain a reporting system to report on aspects of commissioning activities, operations and decommissioning as outlined in the EMP.
- Prepare and submit environmental monitoring reports as per the conditions of the ECC.
- Appoint a specialist environmental consultant to update the EIA and EMP and apply for renewal of the ECC prior to expiry.

## 2.2 Employment

Diversification of business activities may see a small increase in skilled and professional labour for onshore and offshore activities. Bunkering vessels however often have foreign crews who are trained in bunkering activities. Due to the serious risk of pollution and health and safety of crew at sea, it is paramount that only suitably qualified and experienced employees are employed for specialised tasks. Indirect support for local contractors, such as local ship service, maintenance and repair contractors, will however aid in sustaining and increasing employment of the local workforce. This already materialises during the planning phase when consultants are employed to, for example, ensure compliance to all national legislation.

**2.2.1 Desired outcome:**

Provision of employment, preferably to Namibian citizens where the necessary skills are available.

**2.2.2 Actions**

- Employment of suitably qualified and experienced Namibians where possible.

**2.2.3 Responsible Body:**

- Proponent

**2.2.4 Data Sources and Monitoring:**

- Bi-annual summary report based on employee records.

## **2.3 Skills, Technology and Development**

Due to the specialised nature of bunkering and vessel operations, unskilled labourers are not typically used. Some employees will however still benefit from training and gaining of experience during commissioning and operations of the bunkering barge. New vessel and bunkering technology may be employed to increase safety and reduce the probability of incidents. Development of people and technology are key to economic development.

### **2.3.1 Desired Outcome:**

To see an increase in skills of local Namibians, as well as development and technology advancements in associated industries.

### **2.3.2 Actions**

- If the skills exist locally, contractors and employees must first be sourced in Namibia. Deviations from this practise must be justified.
- Skills development and improvement programs to be made available as identified during performance assessments of employees.

### **2.3.3 Responsible Body:**

- Proponent
- Contractors

### **2.3.4 Data Sources and Monitoring:**

- Record should be kept of training provided.
- Ensure that all training is certified or managerial reference provided (proof provided to the employees) inclusive of training attendance, completion and implementation.
- Bi-annual summary report based on records kept.



## **2.4 Revenue Generation**

The Proponent is a Namibian registered company who will generate revenue through the sale of fuel. By ensuring continued and secure supply of fuel to marine traffic, operating in the EEZ of Namibia, sustainability and profitability of operations in the EEZ, is increased. Increased and sustainable economic activities in the EEZ contributes to GDP through various channels. The availability and ease of access of the fuel contributes to the marketability of shipping in Namibia. Operations also support and contribute to the sustainability of Namibian vessels operating in the EEZ, in the fishing, mining or shipping industries. The provision of services which are classified as taxable supplies, contributes directly to Namibia.

### **2.4.1 Desired outcome:**

Contribution to national treasury and general economic development.

### **2.4.2 Actions**

- Adhere to various legislative requirements pertaining to payment of wages, taxes, levies, etc. Fair and consistent business practices will ensure an overall positive boost to the economy.
- Priority must be given to preventing oil spills through strict operational controls. If a spill does occur, a rapid and effective response will be essential to minimise impacts on the marine ecosystem and dependent industries.

### **2.4.3 Responsible Body:**

- Proponent

### **2.4.4 Data Sources and Monitoring:**

- Namibian legislation

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## 2.5 Demographic Profile and Community Health

Impacts related to the demographic profile and community health relate to the influx of people (foreigners and Namibians) to Namibia and specifically the coastal towns, and the potential social ills and deviant behaviour that often accompany such events. This includes the spread of communicable diseases such as HIV/AIDS and increased criminal activities. Additional employment opportunities also mean more spending power which can lead to increased misuse of alcohol and drugs.

Due to the limited crew on bunkering vessels (between 10 and 20) and crew predominantly remaining on board the vessel, it is not foreseen that the influx of people will create a significant or permanent change in the demographic profile of the local community, or result in significant instances of socially deviant behaviour. The potential impact is further minimised as employment will be sourced locally as far as possible.

Positive impacts will relate to employees and contractors increased economic resilience and improved livelihoods.

### 2.5.1 Desired Outcome:

To prevent the in-migration and growth in informal settlements, prevent the spread of communicable disease and prevent / discourage socially deviant behaviour.

### 2.5.2 Actions:

- Employ local people from the area where possible, deviations from this practise should be justified appropriately.
- Adhere to all municipal by-laws relating to environmental health which includes, but is not limited to, sanitation requirements for workers on site.
- Appointment of reputable contractors.

### Mitigation:

- Educational programmes for employees (especially truck drivers) on HIV/AIDs and general upliftment of employees' social status.

### 2.5.3 Responsible Body:

- Proponent

#### **2.5.4 Data Sources and Monitoring:**

- Facility inspection sheet for all areas which may present environmental health risks, kept on file.
- Bi-annual summary report based on educational programmes and training conducted.
- Bi-annual report and review of employee demographics.

### **2.6 Health, Safety and Security**

Various activities associated with the operational phase is reliant on human labour and therefore exposes workers to health and safety risks. Activities such as the operation of machinery and handling of hazardous chemicals (inhalation and carcinogenic effect of some petroleum products), poses the main risks to employees. Working at sea increases potential risks to employees which may be realised during rough sea conditions. The Namibian coast is characterised by very cold water and rough conditions. Falling overboard and being exposed to cold water will quickly result in hypothermia which may rapidly become fatal. Security risks are primarily associated with unauthorised access to bunkering vessels, which may include theft, sabotage, or piracy. Risks are heightened by the offshore operating environment, where unauthorised persons could attempt to board the vessel and interfere with bunkering operations or steal valuable fuel cargo.

#### **2.6.1 Desired Outcome:**

To prevent injury, health impacts and theft.

#### **2.6.2 Actions**

##### **Prevention:**

- All Health and Safety standards specified in the Labour Act and various maritime procedures and protocols should be complied with.
- Clearly label dangerous and restricted areas on the vessel as well as dangerous equipment and products.
- Ensure material safety data sheets for all related materials are kept on board.
- Provide all employees with required and adequate personal protective equipment (PPE).
- Ensure that all personnel receive adequate training on operation of equipment / handling of hazardous substances.

- Implementation of maintenance register for all equipment.
- Controlled access to the vessel, restricted entry to the bridge and fuel manifolds, and clear security watchkeeping protocols.
- Maintain adequate vessel lighting, CCTV, alarms, and communication systems as part of standard onboard procedures

**Mitigation:**

- Selected personnel should be trained in first aid and first aid kits must be available. The contact details of all emergency services and related protocol must be readily available for sea rescue for in the event of serious injury.
- Implement and maintain an integrated health and safety management system, to act as a monitoring and mitigating tool.
- Security procedures and proper security measures must be in place to protect workers, including adherence to the ISPS Code, piracy awareness training, and regular security drills.

**2.6.3 Responsible Body:**

- Proponent
- Contractors

**2.6.4 Data Sources and Monitoring:**

- Labour Act and relevant maritime procedures and protocols.
- Audit results (Health and Safety ISO certificates)
- Any incidents must be recorded with action taken to prevent future occurrences.
- A bi-annual report should be compiled of all incidents reported. The report should contain dates when training was conducted and when safety equipment and structures were inspected and maintained.

**2.7 Bunkering Services**

The operations of the Proponent will aid in securing fuel supply to marine traffic operating within the EEZ of Namibia. Continued and secure fuel supply supports petroleum, mining, fishing and similar vessels that do not make regular calls to a port.



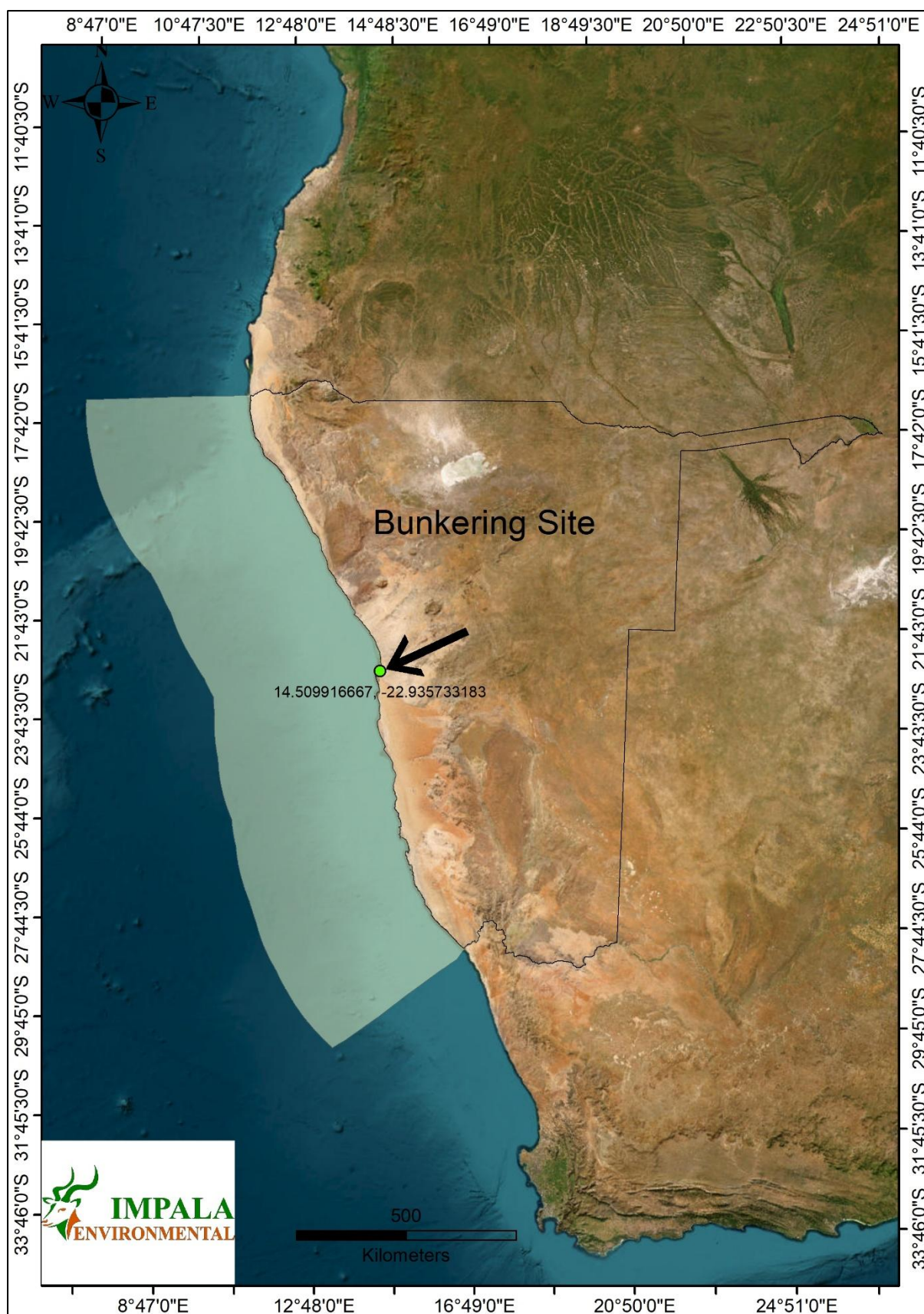


Figure 3 Namibia's Exclusive Economic Zone (EEZ) in relation to the site area.

**2.7.1 Desired Outcome:**

Ensure a secure and reliable supply of fuel remains available for seafaring traffic.

**2.7.2 Actions****Enhancement:**

- Ensure compliance to the petroleum regulations of Namibia as well as all marine related standards of operation related to petroleum.
- Proper fuel management to ensure constant supply.
- Record supply problems and take corrective actions.

**2.7.3 Responsible Body:**

- Proponent

**2.7.4 Data Sources and Monitoring:**

- Record supply problems and corrective actions taken.

## **2.8 Air Quality Related Impacts**

In terms of air quality, hydrocarbon vapours will normally be released during delivery of bunker fuel to tanks, as liquid displaces the gaseous mixture in the tanks. This will be released through vent pipes on the tanks. The air quality impact will be limited to the bunkering vessel and the receiving vessel. Prolonged exposure of workers to such vapours may have carcinogenic effects. Exhaust emissions from the bunkering vessel engines contribute to greenhouse gases and other pollutants, including nitrogen oxides, sulphur oxides, and particulate matter.

### **2.8.1 Desired Outcome:**

To prevent health impacts related to fuel vapours

### **2.8.2 Actions**

#### **Prevention:**

- Vent pipes must be placed in such a manner as to prevent impact on potential receptors. These include ignitions sources and confined spaces were normally frequented by workers.
- Regular maintenance of vessel engines must be conducted to ensure efficient combustion and minimise exhaust emissions.
- Only high-quality, low-sulphur MGO should be used and supplied, in line with MARPOL Annex VI requirements.

#### **Mitigation:**

- Employees should be coached on the dangers of fuel vapours.
- In the event of accidental over-exposure, immediate medical response protocols must be followed, and protective equipment must be used.

### **2.8.3 Responsible Body:**

- Proponent
- Contractors

### **2.8.4 Data Sources and Monitoring:**

- Any complaints received from workers regarding dust or fuel vapours should be recorded with notes on action taken.
- All information and reporting to be included in a bi-annual report.

## **2.9 Fire**

Hydrocarbons are volatile under certain conditions and their vapours in specific concentrations are flammable. The primary causes of such accidents may include human error, technical failures and inadequate maintenance. If precautions are not taken to prevent their ignition, fires and subsequent safety risks may become more probable.

### **2.9.1 Desired Outcome:**

To prevent property damage, possible injury and impacts caused by uncontrolled fires.

### **2.9.2 Actions:**

#### **Prevention:**

- A holistic fire protection and prevention plan must be in use and regularly revised. This plan must include an emergency response plan, firefighting plan and spill recovery plan.
- All personnel have to be educated on responsible fire prevention measures.
- Fire-fighting training to be provided to staff.
- Regular inspections must be carried out to inspect and test fire-fighting equipment.
- Firefighting equipment must be readily accessible in all operational areas.
- Fire prevention considerations specifically applicable to engine rooms include fire doors, fire pumps, and emergency fuel-flow stopping devices.
- Various international occupational health and safety performances should be consulted for specific regulations. The latest version of the Emergency Response Guidebook, material safety data sheets (MSDS) for the various products stored or used on board the vessel, and various petroleum and shipping related procedures and protocols should be consulted.

#### **Mitigation:**

- In case of a fire, the firefighting plan must be initiated immediately and all emergency procedures must be performed as practiced during training.

### **2.9.3 Responsible Body:**

- Proponent
- Contractors



#### **2.9.4 Data Sources and Monitoring:**

- Emergency Response Guidebook, material safety data sheets (MSDS) for the various products stored or used on board the vessel, and various petroleum and shipping related procedures and protocols.
- A register of all incidents must be maintained. This should include measures taken to ensure that such incidents do not repeat themselves.
- A bi-annual report should be compiled of all incidents reported. The report should contain dates when fire drills were conducted and when fire equipment was tested and training given.

#### **2.10 Noise and Vibration**

Noise generated during operations will mainly originate from bunkering vessel engines, pumps, and auxiliary equipment such as generators and compressors. Additional intermittent noise may result from radio communication, crew activity, and mechanical handling equipment on board.

In addition to noise, vibration from engines and heavy equipment may also occur. Such vibration is expected to be localised to the bunkering vessel and receiving vessel.

As the bunkering activities will take place offshore within Namibia's EEZ, no direct noise or vibration impacts are expected on coastal communities or residential areas. The distance from shore ensures that operational noise and vibration do not contribute to cumulative levels in port areas or populated coastal zones.

Temporary increases in noise and vibration may occur during vessel manoeuvring, refuelling, or maintenance, but these are expected to be localised and short in duration.

##### **2.10.1 Desired Outcome:**

To prevent any nuisance, hearing loss due to noise, and discomfort from vibration generated.

##### **2.10.2 Actions**

###### **Prevention:**

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- The Health and Safety Regulations of the Labour Act and World Health Organization (WHO) guideline on maximum noise levels prevent hearing impairment for workers on the vessel should be followed during the and operational phases.
  - Measures should also be applied to reduce vibration exposure from engines and machinery, including equipment design considerations and proper maintenance.

**Mitigation:**

- Hearing protectors as standard PPE for workers in situations with elevated noise levels.
- Maintain noise generating activities onboard the vessel as far as possible.
- All machinery must be regularly serviced to ensure minimal noise and vibration production.

**2.10.3 Responsible Body:**

- Proponent
- Contractors

**2.10.4 Data Sources and Monitoring:**

- Health and Safety Regulations of the Labour Act and WHO Guidelines.
- Maintain complaints register.
- Bi-annual report on complaints and actions taken to address complaints and prevent future occurrences.

**2.11 Waste production**

Activities on board the bunker barge will create various types of waste. These include oils and greases from maintenance activities, sewerage, kitchen waste from the galleys and plastics and paper from packaging and administration activities. Waste entering the ocean (accidentally or purposefully discarded) can remain there for long periods of time or come ashore and litter the beaches. Hazardous waste may be generated through the handling of hydrocarbon products, such as used oil, filters, and chemical residues. If an oil spill occurs and absorbent materials (e.g. pads, booms, or rags) are deployed, these contaminated absorbents must also be

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treated as hazardous waste and disposed of at a suitably licensed hazardous waste facility.

#### **2.11.1 Desired Outcome:**

To reduce the amount of waste produced, and prevent pollution and littering.

#### **2.11.2 Actions**

##### **Prevention:**

- Adhere to International Convention for the Prevention of Pollution from Ships (MARPOL) requirements related to waste and sewerage handling and or discharge.
- Waste reduction measures should be implemented and all waste that can be re-used / recycled must be kept separate.
- Ensure adequate temporary waste storage facilities are available.
- Ensure waste cannot be blown away by wind.
- Biodegradable sewerage waste may be dumped in the ocean according to accepted maritime standards. The sewage waste discharge from the ship is regulated under MARPOL Annex IV. The regulation states that: – Every ship of 400 GT and above which is engaged in international voyages, and carrying minimum 15 persons on board must be equipped with either a sewage holding tank of appropriate capacity or an approved sewage Treatment Plant (STP) or both. The sewage discharge from the ship is allowed if it has an approved sewage treatment plant, which can treat the raw sewage and discharge comminuted and disinfected sewage. With this arrangement, the discharge is allowed at a distance of more than 3 nautical miles from the nearest land when the ship is proceeding with a speed of 4 knots and above.
- The support vessel that supplies crew changes should be used to remove all other forms of waste which when brought to land can be dumped at the local landfill.

##### **Mitigation:**

- Employ and maintain spill control measures for accidental hydrocarbon pollution according to industry requirements.

#### **2.11.3 Responsible Body:**

- Proponent

- Contractors

#### **2.11.4 Data Sources and Monitoring:**

- National Marine Pollution Contingency Plan and relevant maritime procedures (e.g. MARPOL).
- A register of hazardous waste disposal should be kept. This should include type of waste, volume as well as disposal method/facility.
- Any complaints received regarding waste should be recorded with notes on action taken.
- Spill control structure should be regularly inspected.
- All information and reporting to be included in a bi-annual report.

### **2.12 Ship Traffic and Collision**

The Proponent operates along the west coast of Africa and mainly within the Namibian EEZ. Collisions between the Proponent's vessel and other vessels in the area may occur.

#### **2.12.1 Desired Outcome:**

To prevent collisions between vessels operating in the area.

#### **2.12.2 Actions**

##### **Prevention:**

- Appoint only suitably qualified and experienced personnel versed in the details of, among others, the Convention on the International Regulations for Preventing Collisions at Sea (COLREGs).
- Ensure all safety and communications equipment on the vessel is regularly inspected and maintained in working order at all times. Relevant crew must also be trained in the use of this equipment, including emergency equipment and procedures to follow when normal systems fail.

#### **2.12.3 Responsible Body:**

- Proponent
- Contractors

#### **2.12.4 Data Sources and Monitoring:**

- COLREGs and other industry standards and regulations.
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## **2.13 Surface Water Contamination and Related Ecological Impacts**

Accidental spillages might occur during, not only from the transfer of MGO, but also from the vessels own fuel tanks and contaminated bilge water. Failure of pipes and hoses can result in hydrocarbon spills. Hydrocarbons can affect plants and animals in the marine ecosystem. Especially the heavier fuel oils settles on beaches and can affect birds and other organisms. It also settles on ocean floors and can impact on benthic (bottom dwelling) organisms. Oil impacts algae, disrupts major food chains and decreases the yield of edible crustaceans. It also coats birds impairing their flight or reducing the insulating property of their feathers, thus making the birds more vulnerable to cold. Oil endangers fish hatcheries in coastal waters and contaminates the flesh of commercially valuable fish within the EEZ. Oil spills can harm marine mammals such as seals, whales and dolphins.

### **2.13.1 Desired Outcome:**

To prevent the contamination of the marine environment.

### **2.13.2 Actions**

#### **Prevention:**

- Develop an emergency response plan for any accidental spill and ensure contact details of all emergency response teams and the Directorate of Maritime Affairs are readily available.
- Ensuring all staff are properly trained reduces the potential for impact.
- Tanks must be fitted with alarms to warn and prevent overfilling.
- Agreed quantities and pumping rates for bunker fuel transfer to the vessels must be confirmed and communicated properly, to eliminate spillage. Tanks must be inspected before the transfer of fuel commences.
- Fuel transfer may only be initiated when environmental conditions (e.g. Wind speed and wave heights) are within parameters that allows the safe transfer of fuel to minimise risks of spills.
- Pipes, hoses must be thoroughly inspected before starting with bunker fuel supply activities.
- Since accidental spills are always possible, recovery vessels, oil fences, and treatment chemicals must be prepared with a view to minimising dispersal and spills on the surface of the sea.

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- Attempts to mitigate the human error factor would include the engineering of specific technologies that will work even in the event of human error.
  - Impact on the coastal areas can be mitigated through operating preferably more than 20 km off land, so as to reduce the risk of oil being washed onto beaches.
  - The Ministry of Work and, Transport, Directorate of Maritime Affairs, has been designated as the national responsible authority with regard to Oil Spill preparedness, response and cooperation for the Republic of Namibia. The National Marine Pollution Contingency Plan provides a framework for national response to an oil spill. The Plan involves a command structure under which the National Response Team would rapidly respond to any incident with appropriate mechanisms of mobilizing resources in the event of a spill, and even international resources in the event of a major oil spill. This plan is guided by international norms and practices. The plan outlines the responsibilities for initiating and coordinating the necessary actions to affect protection and clean-up operations.
  - Fuel transfers may not be conducted near any of Namibia's islands and within the NIMPA. Until such time as the NIMPA regulations may outline regulations on where bunkering may occur with respect to the NIMPA, the buffer zones and guidelines proposed in the 2012 EIA prepared by Botha & Hooks for a similar project are to be applied as interim best-practice guidance. These are (Figure 2-1):
    - A 100 km buffer around the islands, isles and rocks in the NIMPA should not be used for bunkering operations.
    - From Conception Bay to Just North of Cape Cross a controlled bunker fuelling buffer zone of 40 km as per the [previous] National Oil Spill Contingency Plan is advised. The greatest risk is during extreme weather conditions (i.e. northwest winds causing southward moving surface current).
    - Whenever the wind direction is towards the land, fuelling should be conducted more than 40 km away from the shoreline.
    - Fuelling along the coastline inside the controlled bunkering zone more than 100 km south of the NIMPA should take place only with special permission from the Directorate of Maritime Affairs.
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- Extra care should be taken whenever fuelling south of Cape Cross and especially so when fuelling closer to the NIMPA areas, when extreme wind conditions prevail or are predicted.
- Any fuelling within these controlled bunkering zones must have special permission from the Directorate of Maritime Affairs. Onshore wind conditions and rough seas will indicate to the Master of the vessel that no fuelling be carried out even if special permission was granted to fuel closer to the coast. It is important to note that special permission to fuel closer to the coast should not be given for the coastline where the NIMPA exist.

**Mitigation:**

- Initiate the emergency response plan without delay.

**2.13.3 Responsible Body:**

- Proponent
- Contractors

**2.13.4 Data Sources and Monitoring:**

- National Marine Pollution Contingency Plan, MSDS and related maritime standards.
- Report all spills, no matter how small, to the Directorate of Maritime Affairs and other relevant authorities.
- A report should be compiled bi-annually of all spills or leakages reported. The report should contain the following information: date and duration of spill, product spilled, volume of spill, remedial action taken, and a copy of documentation in which spill was reported.

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### 3 DECOMMISSIONING AND REHABILITATION

Decommissioning, as pertaining to bunkering operations, will entail selling or scrapping the bunkering barge. Decommissioning is not anticipated during the validity of the ECC. However, the potential process has been considered should operations cease in the future. If decommissioning occurs, it will involve the withdrawal of all bunkering activities within Namibia's EEZ, including the safe demobilisation and removal of the bunkering vessel. All residual MGO, lubricants, and operational consumables will be offloaded and disposed of in compliance with applicable national and international regulations. At the time of decommissioning, the EMP must be reviewed and updated to address site-specific conditions and ensure that all mitigation measures are implemented effectively and in line with statutory requirements.

### 4 ENVIRONMENTAL MANAGEMENT SYSTEM

The Proponent operates under the overarching environmental management system (EMS) of the TotalEnergies Group, which is aligned with the internationally recognised ISO 14001 standard. This EMS is an integral component of the company's HSEQ framework and applies to all operational activities, including marine bunkering services within Namibia's EEZ. At the heart of an EMS is the concept of continual improvement of environmental performance with resulting increases in operational efficiency, financial savings and reduction in environmental, health and safety risks. An effective EMS would need to include the following elements:

- A stated environmental policy which sets the desired level of environmental performance;
- An environmental legal register;
- An institutional structure which sets out the responsibility, authority, lines of communication and resources needed to implement the EMS;
- Identification of environmental, safety and health training needs;
- An environmental program(s) stipulating environmental objectives and targets to be met, and work instructions and controls to be applied in order to achieve compliance with the environmental policy;

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- Periodic (internal and external) audits and reviews of environmental performance and the effectiveness of the EMS; and □ The EMP.

## 5 CONCLUSION

The EMP should be used as an on-site reference document during exploration. Parties responsible for transgressing of the EMP should be held accountable according to the Proponent's standard procedures for handling of misdemeanours. The Proponent should use an in-house health, safety, security and environment management system, or similar, in conjunction with the EMP. All personnel and contractors must be taught the contents of these documents.

Should the MME and Directorate of Environmental Affairs (DEA) in the MEFT find that the impacts and related mitigation measures, which have been proposed in this report, are acceptable, the necessary authorisations and ECC may be granted to the Proponent. The ECC issued, based on this document, will render it a legally binding document which should be adhered to.