# EMBWINDA FISHING (PTY) LTD

# **ENVIRONMENTAL MANAGEMENT PLAN**

**Above-Ground Diesel Storage Tank – Walvis Bay Facility** 



# **Document Control Table**

Version	Date	Update Description	Prepared By	Reviewed By	Approved By
1.0	27 March 2025	Initial EMP issued for the 600 000L Above-Ground Diesel Storage Tank – Walvis Bay Facility	E. Ashipala (EES)	Health and Safety Manager (Signature:	

Note: This Environmental Management Plan (EMP) is the property of Embwinda Fishing (Pty) Ltd and will be reviewed at least once every three (3) years, or in response to regulatory updates or significant operational changes. The EMP shall be maintained as a live document to ensure continuous improvement in environmental performance and compliance.

## **Executive Summary**

This Environmental Management Plan (EMP) has been prepared for Embwinda Fishing (Pty) Ltd's above-ground diesel storage tank facility located in Walvis Bay, Namibia. The purpose of the EMP is to ensure legal compliance, promote environmental sustainability, and guide operational practices related to the storage and handling of diesel fuel. It outlines potential environmental and safety risks, applicable legal frameworks, mitigation strategies, emergency response procedures, monitoring requirements, and closure procedures. The EMP is a live document subject to revision every three years or upon any significant change to site operations, in line with regulatory obligations in line with Environmental Management Act, 2007.

## Proponent

Embwinda Fishing (Pty) Ltd

## **Project Name**

Operation of Above-Ground Diesel Storage Tank (600,000 litres capacity)

## **Location, Coordinates**

Ben Amathila Avenue, Walvis Bay, Erongo Region, Namibia Latitude: -22.9308, Longitude: 14.5165

# **Intended Use**

Fuel supply for internal fleet (fishing vessels and marine operations)

# **Regulatory Authority**

Ministry Of Environmental, Forestry and Tourism, (MEFT) Listed Activity 9.4 – The storage and handling of a dangerous good, including petrol, diesel, LPG, or paraffin, in containers with a combined capacity of more than 30 m<sup>3</sup> at any one location.

## Consultant

Earth Environmental Services cc 10 Schutzen street, CBD, Windhoek, <u>emerita@earth-es.com.na/</u> <u>emerita.ashipala@gmail.com</u>

## TABLE OF CONTENTS

Executive	Executive Summary0		
1.	Intr	oduction1	
2.	Site	Description and Tank Specifications	
3.	Leg	al and Regulatory Framework	
4.	Key	r Environmental and Operational Risks7	
4.1.	Gro	undwater Contamination Risk7	
4.2.	Cor	rosion from Coastal Conditions7	
4.3.	Fog	and High Humidity7	
4.4.	Sou	th-westerly Winds7	
4.5.	Pro	ximity to Residential Areas	
5.	Env	vironmental Management Strategy	
5.1.	Env	rironmental Management Principles8	
5.2.	Site	Management Strategies	
5.3.	Role	es and Responsibilities for Environmental Management	
6.	Training and Awareness Programme		
6.1.	Trai	ining Program Structure	
6.2.	Trai	ining Implementation and Frequency13	
7.	Мо	nitoring, Compliance and Reporting	
7.1.	Mor	nitoring Framework	
7.2.	Rep	porting Responsibilities	
7.3.	MM	E Compliance and Reporting Requirements	
8.	Miti	igation Measures	
9.	Em	ergency Response Plan	
10.	Clo	sure and Decommissioning	
Appendix	Α	Tank Calibration Report (SCMS Africa)	
Appendix	В	Summary of Emergency Response	
Appendix	С	Site Photographs	
Appendix	D	Technical Drawings / Layout Map	

## LIST OF FIGURES

Figure 1: The geographic location of Embwinda Fishing (Pty) Ltd within the Walvis Bay municipal	
area in the Erongo Region of Namibia. ESRI, OpenStreetMap, Google Earth	. 3
Figure 2: Overview of the storage and distribution system, existing driveways, gravel surfaces, and	
nearby buildings	. 4

## LIST OF TABLES

Table 1: Technical Specifications of the tank	1
Table 2: Key legislative and regulatory applicable to the project	5
Table 3: Roles and Responsibilities for Environmental Management	11
Table 4: Site-Specific Training Program	13
Table 5: Training Implementation and Frequency	13
Table 6: Monitoring Framework	14
Table 7: Reporting Responsibilities	15
Table 8: MME Monitoring and Reporting Requirements for Consumer Installations	15
Table 9: EMP Mitigation Measures for the Operational Phase	17

## 1. Introduction

Embwinda Fishing (Pty) Ltd (hereinafter referred to as the proponent) is one of the leading companies in Namibia's fishing industry, specialising in the harvesting, processing, and distribution of seafood. As part of its fish processing operations, the proponent stores diesel primarily for use by its operating vessels. The proponent is seeking an Environmental Clearance Certificate (ECC) for the continued use of a 600,000-litre above-ground diesel storage tank located at its Walvis Bay facility in the Erongo Region. This application is made in compliance with the Environmental Management Act, 2007, as the activity falls under Listed Activity 9.4 - the storage of dangerous goods exceeding 30 cubic meters.

To support the ECC application, this Environmental Management Plan (EMP) has been developed to provide mitigation, monitoring, and compliance measures.

## 2. Site Description and Tank Specifications

Embwinda Fishing (Pty) Ltd operates an above-ground diesel storage tank within its fish processing facility located on Ben Amathila Avenue, Walvis Bay, in the Erongo Region. The facility is located along the Atlantic coastline, within the developed municipal boundaries of Walvis Bay. It lies in close proximity to major port infrastructure and residential areas, including the suburbs of Kuisebmond and Narraville (see Figure 1).

The tank is used primarily to store diesel for fuelling the company's fishing vessels and marine equipment. Technical specifications of the tank are summarised in Table 1. Additional calibration details can be found in Appendix A, and site photographs are provided in Appendix C.

Parameter	Specification
Tank Type	Above-ground Vertical Storage Tank
Roof Type	Fixed roof
Nominal Capacity	600,000 litres
Calibrated Capacity	515,896 litres
Dead Stock Volume	4541 litres
Maximum Safe Liquid Height	6,401 mm
Gauge (Dip) Height	6,740 mm
Nominal Shell Height	6,501 mm

Figure 2 and Appendix D illustrates the existing layout and infrastructure associated with the aboveground bulk diesel storage tank. Key components include:

- Bund Area containing the diesel storage tank, located near the Product Pump Station and a designated spill slab.
- Existing underground pipeline connecting the storage area to the jetty for fuel transfer operations.
- Surrounding infrastructure such as existing buildings, driveways, and gravel-surfaced operational areas.
- The site is enclosed by an existing boundary wall and accessible via Ben Amathila Street through a security main gate.
- Supporting utility lines and operational areas are maintained on concrete surfaces to support vehicular movement and prevent soil degradation.



Figure 1: The geographic location of Embwinda Fishing (Pty) Ltd within the Walvis Bay municipal area in the Erongo Region of Namibia. ESRI, OpenStreetMap, Google Earth



Figure 2: Overview of the storage and distribution system, existing driveways, gravel surfaces, and nearby buildings.

# 3. Legal and Regulatory Framework

The following are the key legislative and regulatory frameworks that govern the operation of the diesel storage tank:

Legislation	Description	Permit Required
Petroleum Products and Energy Act, 1990 (Act No. 13 of 1990)	This Act governs the import, export, storage, distribution, and marketing of petroleum products in Namibia. It aims to ensure the efficient and safe supply of petroleum products while protecting the environment and public health.	
Petroleum Products Regulations, 2000	These regulations provide detailed requirements for the licensing of petroleum product operations, including consumer installations. They outline the application procedures, safety standards, and operational guidelines to prevent accidents and environmental contamination.	Consumer Installation Certificate
SANS Standards (South African National Standards)	Namibia often adopts SANS standards for technical specifications related to petroleum product handling, storage, and infrastructure. These standards ensure that facilities are designed and operated safely and efficiently. Compliance with relevant SANS standards (e.g., SANS 10131, 10089) is required to ensure the safe design, installation, and operation of petroleum storage facilities.	Compliance with Relevant SANS Standards

Table 2: Key legislative and regulatory applicable to the project.

Legislation	Description	Permit Required
	Local municipalities have specific	
	regulations and zoning requirements that	
Local Authority	govern land use, building codes, and	Building Permits and
Regulations and Town	safety standards within their jurisdictions.	Zoning Approvals
Planning Schemes	These regulations ensure that	
	developments are compatible with local	
	land use plans and community safety.	
	This Act regulates labor practices in	
	Namibia, ensuring fair labor standards,	
Labour Act. 2007 (Act	occupational health and safety, and the	Compliance with
No. 11 of 2007)	protection of workers' rights. It mandates	Occupational Health and
	employers to provide safe working	Safety
	environments and adhere to prescribed	
	labor standards.	
Hazardous	This ordinance controls the handling,	
Substances	storage, and disposal of hazardous	Registration and
Ordinance, 1974	substances to prevent harm to human	Compliance with Safety
(Ordinance No. 14 of	health and the environment. It classifies	Measures
1974)	hazardous substances and prescribes	
7	safety measures for their management.	
	This Act regulates road traffic and	
	transport services in Namibia, including	
Road Traffic and	the transportation of hazardous materials	Permits for
Transport Act, 1999	such as fuel. It sets out requirements for	Transportation of
(Act No. 22 of 1999)	vehicle standards, driver qualifications,	Hazardous Goods
	and safety procedures to ensure safe	
	transport operations.	

## 4. Key Environmental and Operational Risks

This section outlines the most relevant environmental and operational risks associated with the storage and handling of fuel at the site.

## 4.1. Groundwater Contamination Risk

The facility is located above the shallow Walvis Bay Aquifer, and the surrounding soil is sandy and highly permeable. This increases vulnerability to fuel leakage or spill infiltration, posing a risk to groundwater quality.

## 4.2. Corrosion from Coastal Conditions

The tank is exposed to humid, salt-laden air, typical of Namibia's coastal environment. This accelerates corrosion of metal infrastructure, which may compromise tank integrity if not regularly inspected and coated.

## 4.3. Fog and High Humidity

Frequent fog events contribute to surface moisture, which increases the rate of external corrosion. While rainfall is minimal, this persistent humidity is an operational maintenance concern.

## 4.4. South-westerly Winds

Seasonal winds can spread vapours and dust, increasing the need for vapour control, signage stability, and fire prevention measures.

## 4.5. Proximity to Residential Areas

Emwinda Fishing is situated within the industrial area of Walvis Bay. The site is strategically positioned near infrastructure such as the Walvis Bay Port and several other fish processing facilities. The area is designated for industrial and marine-related operations, making it well suited for activities such as diesel storage, logistics, and fishing operations. Nearby residential areas include approximately 3.44 kilometers from Narraville and 2.01 kilometers from Kuisebmond.

## 5. Environmental Management Strategy

This section outlines the strategic approach Embwinda Fishing (Pty) Ltd adopts to ensure environmentally responsible operation of its diesel storage tank facility. The strategy is based on legal compliance, risk mitigation, and continual environmental performance improvement.

#### 5.1. Environmental Management Principles

The following principles guide environmental performance at the site.

- **Accountability:** Senior management is responsible for environmental compliance, while all personnel are accountable for safe and responsible fuel handling.
- Legal Compliance: Ensure compliance to the Environmental Management Act (No. 7 of 2007), Petroleum Products and Energy Act (1990), and other applicable Namibian laws.
- **Pollution Prevention:** Infrastructure includes bunded containment, impermeable flooring, and emergency spill response systems.
- **Continual Improvement:** Environmental practices are periodically reviewed and updated based on performance, audits, or regulatory changes.
- **Stakeholder Engagement:** Ongoing communication with the Walvis Bay Municipality and community representatives ensures transparency.
- **Financial Provision:** The facility allocates resources for emergency response, environmental monitoring, and maintenance.

#### 5.2. Site Management Strategies

The environmental specifications outlined below apply specifically to the operation, maintenance, and management of the constructed above-ground diesel storage tank.

5.2.1. Legal and Regulatory Compliance

• Comply with the Environmental Management Act (EMA) No. 7 of 2007 and the Petroleum Products and Energy Act, 1990.

- Maintain a valid Environmental Clearance Certificate (ECC) issued by the Ministry of Environment, Forestry, and Tourism (MEFT).
- Ensure compliance with relevant fuel handling, transport, and storage regulations and standards.
- 5.2.2. Land Disturbance and Access Control
  - Confine all movement to existing access roads and developed surfaces to minimise soil disruption and erosion.
  - Restrict maintenance activities to defined operational areas.
- 5.2.3. Waste and Hazardous Material Management
  - Store diesel and other hazardous substances in properly bunded, sealed, and labelled areas to prevent leaks or spills.
  - Prohibit illegal dumping and ensure that all disposal activities are documented.
  - Properly classify, segregate, and dispose of hazardous waste (e.g., used absorbents, filters, contaminated materials) at licensed facilities.
- 5.2.4. Soil and Ground Contamination Prevention
  - Maintain impermeable surfaces and bunding beneath and around the tank to prevent soil contamination.
  - Regularly inspect for leaks, corrosion, or structural damage to infrastructure that could pose environmental impact.
  - Promptly clean and report any fuel spills in accordance with emergency response procedures, guidance in Appendix B.
- 5.2.5. Water Resource Protection
  - Prevent contamination of the Walvis Bay Aquifer by ensuring bunds are watertight and stormwater runoff is diverted from diesel storage areas.
  - Ensure all drainage systems are maintained and monitored.
  - Prohibit any direct discharge of wastewater or hydrocarbons into the environment.
- 5.2.6. Air Quality and Vapour Control
  - Use sealed transfer systems and ensure all tank vents are functional to limit vapour emissions.
  - Maintain fuel transfer equipment to avoid leaks and emissions during refuelling.

- 5.2.7. Corrosion Management and Infrastructure Integrity
  - Apply and maintain protective coatings and cathodic protection to prevent corrosion.
  - Conduct scheduled inspections to assess structural integrity and prevent environmental hazards.
- 5.2.8. Noise Management
  - Restrict fuel deliveries and maintenance operations to daylight hours (06:00 18:00).
  - Regularly service mechanical equipment to minimise operational noise.
  - Provide hearing protection to personnel working in noisy areas, where applicable.
- 5.2.9. Health, Safety and Personal Protective Equipment (PPE)
  - Comply with the Labour Act, 2007 regarding occupational health and safety.
  - Provide and enforce the use of PPE for all personnel handling fuel or operating within the tank area.
  - Conduct regular safety briefings and toolbox talks.
- 5.2.10. Corrosion Protection
  - Apply anti-corrosion coatings and maintain cathodic protection systems to safeguard steel tanks and pipelines.
  - Schedule periodic inspections for early detection of rust or structural degradation
- 5.2.11. Spill Prevention and Pollution Control
  - Keep the site equipped with emergency spill kits, brooms, and absorbents at all times.
  - Ensure all staff are trained in spill prevention and response procedures.
  - Immediately report, contain, and clean up any spill incidents.
  - Inspect all hoses, valves, and tanks regularly for early detection of leaks or faults.

#### 5.2.12. Fire Prevention and Emergency Response

- Maintain a fire emergency response plan.
- Firefighting equipment must be readily available on-site.
- Maintain emergency shutdown systems, functional fire alarms, and visible hazard signage (e.g., "No Smoking", "Flammable Area") around diesel storage areas.
- 5.2.13. Work Stoppage

- The Health and Safety Manager is empowered to order immediate work stoppage if any activity is found to pose a serious threat to the environment, personnel, or infrastructure such as a spill, fire hazard, or non-compliance with environmental specifications.
- Work will remain suspended until the identified issue is resolved, and the activity brought back into full compliance with the EMP.
- All work stoppages must be recorded, and corrective actions documented.

## 5.3. Roles and Responsibilities for Environmental Management

Ensure that staff are trained, competent, and accountable for minimising environmental impacts and maintaining regulatory compliance throughout the project lifecycle. Table 3 outlines the key roles and responsibilities related to environmental management at the project site.

Table 3: Role	s and Responsibilitie	s for Environmental	Management
---------------	-----------------------	---------------------	------------

Role	Responsibilities	
	Holds overall responsibility for environmental compliance at the facility.	
	Appoints and oversees the Health and Safety Manager to ensure on-	
	site adherence to environmental and safety requirements.	
Embwinda Facility Management	Ensures that the EMP is implemented and updated as necessary.	
_	Engages with regulators and stakeholders as required, including the	
	Ministry of Environment, Forestry, and Tourism (MEFT).	
	Reviews reports submitted by the Health and Safety Manager and	
	takes appropriate action on non-compliance.	
	Oversees all health, safety, and environmental activities at the facility.	
	Coordinates with Puma to ensure that all contracted activities comply	
	with the EMP and relevant legislation.	
	Conducts internal audits and ensures all environmental documentation,	
Health and Safety Manager	including the ECC and monitoring records, are maintained.	
	Reports directly to management and ensures that corrective measures	
	are implemented where necessary.	
	Conduct routine site inspections and to ensure environmental and	
	safety compliance.	

pg. 11

Role	Responsibilities
	Maintain key records, including:
	Non-compliance register
	<ul> <li>Weekly fuel reconciliation records</li> </ul>
	Provide environmental awareness training to all personnel on-site.
	Liaise with Puma's operational teams to address on-the-ground
	environmental concerns.
	Responsible for the safe and compliant operation, maintenance, and
	servicing of the storage tank infrastructure.
	Provides all necessary infrastructure, including bunding, drainage
	systems, signage, fire protection, and emergency response equipment.
Puma (Contracted Fuel	Ensures that maintenance work is carried out in compliance with the
Infrastructure and	EMP and South African National Standards (SANS).
Maintenance Provider)	Coordinates with Health and Safety Manager to report incidents,
	maintenance activities, and environmental impacts.
	Trains its staff on environmental and safety procedures relevant to fuel
	handling and emergency response.
	Implements spill prevention measures and provides immediate
	response to any incidents involving fuel leakage or fire.
	Must adhere to EMP conditions and any site-specific environmental
	instructions.
	Participate in on-site Health and Safety Manager inductions and training
Subcontractors (If any,	provided by Puma or Embwinda.
under Puma)	Report environmental incidents or risks immediately to Puma and the
	Health and Safety Manager.
	Follow all operational controls related to fuel handling, waste disposal,
	and emergency response.

## 6. Training and Awareness Programme

Environmental training and awareness programs are essential for ensuring compliance with the EMP and promoting responsible environmental practice. All personnel, including contractors and subcontractors, must be equipped with the necessary knowledge to minimise environmental impacts and adhere to legal and regulatory requirements.

## 6.1. Training Program Structure

Training ensures that all personnel involved in fuel usage, storage, maintenance, and environmental management are competent, aware of risks, and compliant with regulations.

 Table 4: Site-Specific Training Program

Training Component	Description
Induction Training	Mandatory for all new personnel. Covers EMP overview, legal obligations, safety procedure, and emergency contacts.
Hazardous Materials Handling	Safe handling, storage, and disposal of diesel fuel and associated materials.
Spill Prevention and Response	Step-by-step procedures for responding to fuel spills, including use of spill kits and reporting procedure.
Fire Safety and Emergency Response	Training in fire extinguisher use, emergency evacuation, and activation of emergency shutdown systems.
PPE and Worker Safety	Use of appropriate Personal Protective Equipment (PPE) and safe behaviour in diesel storage areas.
Environmental Compliance and Monitoring	Training on non-compliance reporting, record-keeping, and daily environmental checks.
Toolbox Talks	When necessary, site discussions to address specific or emerging environmental and safety concerns.

#### 6.2. Training Implementation and Frequency

Table 5: Training Implementation and Frequency

Training Type	Description	Frequency
Induction Training	Mandatory for all personnel, including Puma staff. Covers EMP overview, site rules, emergency procedures, and environmental responsibilities.	Before work begins on-site

Refresher Training	Supports continued adherence to environmental procedures safety standards, and any revisions to operational procedures or the EMP.	As required
Specialised Training	Conducted following incidents, equipment changes, or updated procedures. Focuses on fuel system operation, maintenance, and spill/fire response.	As required
Toolbox Talks	On-site sessions covering current environmental and safety issues. Puma staff attend when working on-site.	As required

## 7. Monitoring, Compliance and Reporting

Effective monitoring ensures that diesel storage and handling at Embwinda Fishing's Walvis Bay facility remains safe, compliant, and environmentally sound. Regular inspections, reporting, and corrective actions form the core of this environmental management system.

#### 7.1. Monitoring Framework

Table 6: Monitoring Framework

Monitoring Aspect	Description	Frequency
Air Quality and Vapour Emissions	Check vapour control systems, sealed vents, and transfer points.	As Needed
Noise Monitoring	Assess sound from refuelling operations and maintenance.	As Needed
Soil and Ground Contamination	Inspect bunds, floors, and tank fittings for spills or leaks.	Monthly
Hazardous Waste Handling	Check storage of used absorbents, filters, oily waste; ensure labelled, bunded.	Weekly
Emergency Equipment Readiness	Inspect extinguishers, spill kits, alarms, and safety signage.	Monthly
Health and Safety Compliance	Ensure all personnel use PPE; perform toolbox talks.	Ongoing
Infrastructure Integrity	Inspect tank walls, valves, cathodic protection systems.	Quarterly
Training and Awareness	Confirm all personnel are up to date with fire, spill, and safety procedures.	Biannually

## 7.2. Reporting Responsibilities

To maintain transparency and regulatory compliance, all environmental monitoring activities must be documented and reported.

Table 7: Reporting Responsibilities

Report Type	Contents	Submitted To	Frequency
Monthly Compliance Report	Site inspections, waste log, equipment checks, and minor non-conformities.	Internal / File Copy	Monthly
Biannual EMP Compliance Report	Summary of environmental performance and legal compliance.	MEFT	Every 6 Months
Incident Reports	<b>Details of any spills, fires, or</b> safety breaches, and corrective actions.		Within 24 hours of event
Training and Toolbox Logs	ing and Toolbox Attendance, content of briefings, and awareness sessions held.		Ongoing / Biannually
Tank Calibration Records	Confirmation of volume measurements and instrumentation accuracy.	Audit File	As required

## 7.3. MME Compliance and Reporting Requirements

Table 8: MME Monitoring and Reporting Requirements for Consumer Installations

Requirement	Description	Responsible Person	Due Date / Frequency
Annual Throughput Report	Submit volume of diesel stored/used in prior year.	Health and Safety Manager	As stipulated in consumer installation certificate conditions
Tank Inventory Report	Update on tank condition, repairs, or replacements.	Puma Maintenance / Health and Safety Manager	As required

Requirement	Description	Responsible Person	Due Date / Frequency
Dangerous Incident Report	Report any significant leak, fire, or risk to environment or safety.	Health and Safety Manager	Immediately (within 24 hours)
Ad Hoc Data Requests	Provide any site- specific or compliance information requested by MMF	Health and Safety Manager	As required

**Note:** Failure to comply with MME reporting requirements can lead to penalties, including suspension or cancellation of the consumer installation certificate. Always consult the latest MME guidelines to ensure full compliance.

# 8. Mitigation Measures

The following table provides an overview of key environmental aspects associated with diesel storage operations and the corresponding mitigation measures as outlined in the EMP.

Table 9: EMP Mitigation Measures for the Operational Phase

Project Activity	Impact	Management Details	Responsible Persons	Frequency
Troject Activity	impact	(Mitigation Measures)		requeity
		- Ensure bunding and		
		impermeable surfaces in		
	Fuel spill,	place	Duma Health and Safaty	
Fuel Delivery and Refilling	soil/water	- Use spill trays during	Monogor	Per delivery
	contamination	refilling	Manager	
		- Train personnel in spill		
		prevention and containment		
		- Ensure sealed tank vents		
		and transfer systems		
Storage and Handling		- Regular inspection for		
	Vapour release,	corrosion and leaks	Puma, Health and Safety	Monthly
	fire risk	- Maintain fire extinguishers	Manager	Montiny
		and alarms		
		- Install pressure-relief		
		vents		

Project Activity	Impact	Management Details	Responsible Persons	Frequency
i rojoot kolivity	mpaor	(Mitigation Measures)		inequency
		- Segregate and label		
		hazardous waste		
	Hazardaya waata	- Store in bunded areas	Health and Safaty	
Waste Handling		- Dispose through licensed	Meanin and Salety	Weekly
	contamination	facilities	Manager / Puma	
		- Maintain waste tracking		
		records		
		- Maintain access roads		
		- Enforce speed limits	Health and Safaty	
Site Access and Movement	Safety and	- Restrict site access to	Managar Sita	Maakhy
Sile Access and Movement	security	authorised personnel only	Manager, Site	WEEKIY
		- Use low-noise equipment	Supervisor	
		where possible		
		- Implement Emergency		
		Response Plan		
Emorgonov Evento (Spill	Environmental	- Maintain and train	Health and Safety	As may be necessary
Emergency Events (Spill,	and human safety	response staff	Manager / Manager,	
	risks	- Conduct fire and spill drills	Puma	
		- Ensure updated		
		emergency contact list		

Project Activity	Impact	Management Details (Mitigation Measures)	Responsible Persons	Frequency
Tank Integrity Maintenance	Infrastructure failure, leakage	<ul> <li>Perform tank and bund</li> <li>inspections</li> <li>Apply corrosion protection</li> <li>Service valves and</li> <li>pipelines</li> <li>Keep inspection log</li> <li>updated</li> </ul>	Puma, Health and Safety Manager	Quarterly (or as per Puma Maintenance Schedule)
Worker Safety	Injury, exposure to hazardous materials	<ul> <li>Provide appropriate PPE</li> <li>Enforce health and safety</li> <li>procedures</li> <li>Conduct induction and</li> <li>refresher training</li> <li>Display safety signage</li> </ul>	Health and Safety Manager / Manager, Site Supervisor	Ongoing
Environmental Monitoring	Non-compliance with EMP	<ul> <li>Document non-</li> <li>conformances and</li> <li>corrective actions</li> <li>Submit biannual reports to</li> <li>MEFT</li> </ul>	Health and Safety Manager	Biannual
Stormwater Runoff	Contamination of nearby areas	<ul> <li>Grade surfaces away from drainage points</li> <li>Maintain sealed surfaces and bunds</li> <li>Inspect drainage systems</li> </ul>	Health and Safety Manager	Monthly

Project Activity	Impact	Management Details (Mitigation Measures)	Responsible Persons	Frequency
Community Engagement	Local concern or complaints	- Maintain open grievance mechanism	Health and Safety Manager	Ongoing
Emergency Response Readiness	Delay in responding to spills or fires	<ul> <li>Maintain up-to-date</li> <li>Emergency response plan</li> <li>Post emergency contacts</li> <li>and site maps</li> <li>Train all staff in</li> <li>emergency procedures</li> </ul>	Health and Safety Manager / Puma Emergency Lead	Biannual or as required.

## 9. Emergency Response Plan

Embwinda Fishing (Pty) Ltd maintains a comprehensive Emergency Response Plan (ERP) to address potential incidents including diesel spills, fires, equipment failure, and personnel safety risks. The ERP outlines the following:

- Activation of Emergency Procedures
- On-site Roles and Responsibilities
- Evacuation and Communication Procedures
- Firefighting and Spill Containment Measures
- Coordination with Emergency Services
- Post-incident Reporting and Clean-up

All staff are trained in emergency response procedures. Equipment such as spill kits, extinguishers, and shutdown systems are regularly maintained and accessible at key points across the facility.

Refer to appendix B for summary of emergency response plan and HSE8-2 Emergency Preparedness and Response Plan

## 10. Closure and Decommissioning

At the end of the diesel tank's operational life or in the event of relocation, Embwinda will undertake environmentally responsible decommissioning in line with MEFT / MME requirements.

## Steps include:

- i. **Fuel Drainage and Cleaning:** Remove all residual fuel, and clean the tank interior to eliminate sludge or vapours.
- ii. **Dismantling and Equipment Removal:** Safely disconnect pipelines and remove fittings. Transport decommissioned materials to approved waste sites or recycling centres.
- iii. **Spill and Soil Inspection:** Inspect bund areas and surfaces for contamination. Conduct soil or water sampling if any leakage is suspected.
- iv. **Final Reporting:** Submit a Decommissioning Report to MEFT with photographic evidence, inspection results, and confirmation of clean-up actions.
- v. **Long-term Monitoring (if applicable):** If contamination is found, propose ongoing monitoring or remediation as needed.

# 11. Appendices

The following	supporting	information	is	provided	as	anneves.
The following	Supporting	mormation	13	provided	as	annexes.

Appendix	Title	Contents		
Appendix A	Tank Calibration Report	Calibrated volume, dip measurements, safe liquid height		
Appendix B	Summary Emergency Response and Contingency Plan	Roles, equipment, contact list, spill/fire procedures		
Appendix C	Site Photographs	Photos of tank, signage, bunds, fire line, and restricted areas		
Appendix D	Technical Drawings / Layout Map	Storage tank layout, pipeline routing, bund location, entry points		

## Appendix A Tank Calibration Report (SCMS Africa)

Specification	Details
Tank Owner	Embwinda Fishing (Pty) Ltd
Location	Ben Amathila Avenue, Walvis Bay, Namibia
Tank Identification	Tank Embwinda
Tank Type	Vertical, fixed roof
Material of Construction	Mild Steel (4-course, butt-welded, cone-down floor)
Wall Type	Single-walled
Fuel Type Stored	Diesel
Fuel Delivery Method	Tanker Truck
Total Storage Capacity (Nominal)	600,000 litres
Calibrated Usable Volume	515,896 litres
Dead Stock (Unpumpable Volume)	18,997 litres (based on sump profile)
Gauge (Dip) Height	6,501 mm
Maximum Safe Liquid Height (MSFH)	6,401 mm
Nominal Shell Height	6,740 mm
Tank Diameter (Nominal)	6,501 mm
Product Density (@20°C)	825 kg/m³
Temperature Correction Ref.	20°C
Average Monthly Consumption	Reconciled monthly and recorded onsite
Calibration Method	Internal electro-optical distance ranging
Calibration Standards	ISO 7507-1:2003 and ISO 7507-4:2000
Calibration Date	30 October 2019
Certification Date	31 October 2019
Certified By	SCMS Africa (Pty) Ltd
Safety Advisory	Operation above MSFH is not recommended

## Appendix B Summary of Emergency Response

## A Refer to HSE8-2 for a full Emergency Response Plan

This Emergency Response and Contingency Plan (ERP) summarises procedures to ensure a coordinated, effective response to fuel-related emergencies at Embwinda Fishing (Pty) Ltd's diesel storage tank in Walvis Bay. It integrates Embwinda's operational responsibilities with Puma Energy's role as the tank maintenance and fuel supply service provider.

## **B.1 Emergency Scenarios Covered**

- Diesel fuel spills or overflows
- Fire or explosion risks
- Equipment failure (valves, pumps, bund walls)
- Personnel injuries during fuel handling
- Environmental contamination risks
- Security threats or unauthorised access

## **B.2 Roles and Responsibilities**

Role	Responsibilities
Health and Safety Manager	Coordinates overall emergency response; communicates with authorities, incident reporting
	Triggers response procedures, alerts site personnel, documents and tracks incidents
Puma Emergency Lead	Leads technical response (e.g., tank shutoff, spill isolation, fire suppression systems)
Fire Marshals	Manage evacuation and assembly point accountability
All Staff	Follow safety instructions, report hazards, and assist if trained

## **B.3 Emergency Equipment and Location**

- Spill Kits: Located near the tank base and in the dispensing area.
- Fire Extinguishers: Foam and dry chemical extinguishers maintained by Embwinda team and inspected monthly.
- First Aid Kits: Located in the main building and site control point.
- Emergency Shut-off System: Managed by Puma, positioned near the tank inlet valve.
- Warning Signage: Clearly displayed "No Smoking", "Fuel area", "Emergency Exit" signs.

## **B.4 Emergency Communication Procedure**

- 1. Sound alarm or alert nearest personnel immediately.
- 2. Evacuate the area to the designated assembly point.
- 3. Notify key emergency contacts, in order:
  - i. Health and Safety Manager
  - ii. Puma Emergency Response Lead (technical lead)
  - iii. External emergency services (Fire Department, Ambulance)
  - iv. Regulatory authorities (MEFT, MME) if applicable

## **B.5 Spill Response Procedure**

- 1. Stop fuel flow immediately using shut-off systems (Puma/ Health and Safety Manager).
- 2. Contain spill using booms, absorbents from kits.
- 3. Prevent any product from entering stormwater channels.
- 4. Staff must wear PPE and follow safety procedures.
- Spill material must be collected and disposed of via a licensed hazardous waste provider (Puma to coordinate).
- 6. Complete incident report and log actions taken.

## **B.6 Fire Response Procedure**

- 1. Raise alarm and evacuate immediately.
- 2. Puma personnel to activate emergency shutdown system.
- 3. Fire extinguishers may only be used if staff are trained and safe to do so.
- 4. Contact local fire authorities and medical responders.
- 5. Conduct post-incident safety inspection before resuming operations.

#### **B.7 Post-Incident Actions**

- Investigate cause of the incident with joint team (Embwinda and Puma).
- Submit a detailed report to MEFT or MME within 24 hours if applicable.
- Update the ERP or EMP as needed based on lessons learned.
- Conduct retraining if procedural issues are identified.

## **B.8 Emergency Contact List**

Contact	Phone Number
Walvis Bay Fire Department	+264 81 922 / +264 81 122 0888
Emergency Medical Services	Ambulance
	St Gabriel +264 85 955
Health and Safety Manager	Martha Nahole
	+264 81 141 3242   +264 64 273 1548
	Martha.nahole@catofishing.com
Puma Emergency Response Lead	Michael Nambala
	Country Commercial Manager
	+264 81 233 3392   +264 208 6207
	Michael.Nambala@pumaenergy.com

Contact	Phone Number
MEFT (Environmental Affairs)	+264 61 284 2111
MME (Mines & Energy)	+264 61 284 8111

## Appendix C Site Photographs



Refill slab and drainage

Appendix D Technical Drawings / Layout Map

