Environmental Management Plan Operation of the Existing Vivo Energy Swakopmund Service Station, Swakopmund, Erongo Region.

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Nature of Activity of Listed Activity:	Hazardous Substance Treatment, Handling and Storage The storage and handling of a dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic meters at any one location.

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List of Abbreviations and Acronyms

◦C:	Degrees Celcius
AIDS	Acquired Immuno-Deficiency Syndrome
CO_2:	Carbon Dioxide
EA:	Environmental Assessment
EAP:	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer
EIA:	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
HIV	Human Immuno-deficiency Virus
I&APs	Interested and Affected Parties
ISO	International Standards Organisation
MSDS:	Material and Safety Data Sheet
PPE:	Personal Protective Equipment
ULP:	Unleaded Petrol
UST:	Underground Storage Tank

This comprehensive document outlines how Vivo Energy Swakopmund service station aims to minimize environmental impacts while promoting sustainability throughout operations. Aligned with established principles, relevant legislation, and best practices, this EMP adopts an adaptive approach, fostering continuous improvement through ongoing monitoring, evaluation, and stakeholder engagement.

This EMP details mitigation and monitoring measures for various operational aspects and potential risks. These key focus areas include:

- Protecting flora and fauna, respecting social values, and safeguarding cultural heritage.
- Managing traffic and ensuring responsible site access.
- Implementing effective waste management practices.
- Prioritizing health, safety, and security for both guests and staff.
- Preventing and controlling fire hazards.
- Minimizing noise pollution.
- Protecting groundwater, surface water, and soil from contamination.
- Decommissioning.

This EMP serves as a testament to Vivo Energy's commitment to minimizing its environmental footprint and contributing positively to the local community through diligent monitoring and reporting, and adherence to this plan.

1. Introduction

Vivo Energy Namibia (Pty) Ltd is a distinguished entity in the downstream petroleum sector, specializing in the marketing and distribution of refined petroleum products, including liquid fuels and high-performance lubricants. The company has strategically deployed capital towards the establishment and operation of a comprehensive network of retail fuel facilities strategically distributed across Namibia. These facilities are designed to enhance logistical efficiency and operational self-sufficiency, safety and environmental sustainability, ensuring the uninterrupted availability of fuel and lubricants to a diverse clientele, including commercial, industrial, and individual consumers.

1.1 Site and Surrounding Land Use

Vivo Energy Swakopmund Service Station, an existing Vivo Energy Namibia (Pty) Ltd facility is located at -22.677333, 14.531806, within of the boundaries of the Swakopmund Townlands in the Erongo Region. The site is surrounded by predominantly commercial properties: a shopping center to the east, Tren Tyre to the west, a business property to the north, and the Sam Cohen Library to the south. This reflects its integration into a diverse commercial environment.

Figure 1: Locality of the existing Vivo Energy Swakopmund Service Station within Swakopmund Townlads (-22.677333, 14.531806). Source: Google Maps; retrieved on 23/12/2024.

1.2 Onsite infrastructure and Nature of Activity

The Vivo Energy Swakopmund Service Station is equipped with an advanced and integrated infrastructure designed to support fuel retail operations while ensuring compliance with technical, safety, and environmental standards. The facility includes the following components:

1. **Retail and Customer Amenities**:
    - A retail convenience stores with associated ablution facilities for customer service.
2. **Fuel Dispensing and Storage Systems**:
    - Multiple fuel dispensers and high-precision pumps for efficient fuel delivery.
    - Petroleum-grade piping systems for secure and leak-proof fuel transfer.
    - Overhead canopies and a paved forecourt designed for operational durability and user safety.
3. **Monitoring and Control Systems**:
    - Tank monitoring systems integrated with automatic tank gauges for real-time inventory management and leak detection.
    - Flow meters to ensure accurate dispensing of fuel to customers.
4. **Environmental Protection and Pollution Control**:
    - Pollution control manholes to manage accidental spills and containment.
    - A three-chamber oil/water separator pit to separate hydrocarbons from wastewater, mitigating environmental impact.
5. **Lighting and Safety Provisions**:
    - Area lighting systems for enhanced visibility and operational safety during low-light conditions.
    - Fire extinguishers.
6. **Underground Storage Tanks**:
    - Four USTs with a combined total storage capacity of **69m³**, allocated as follows.

Table 1: Summary of onsite Underground storage tanks at Vivo Energy Swakopmund Service Station.

Product	Number of Tanks	Capacity (per tank)	Total Capacity on Site
UPL 95	2	23 m³	46 m³
Diesel 50PPM	1	23m³	23m³

2. Baseline Environmental Legal Register

This section shall outline and briefly discuss the various laws, policies that have been considered in the preparation of this Environmental Management Plan for the continued operation of the existing services station.

Table 2: Summary of Legislation Applicable to the continued operation of the existing Service Station.

LEGISLATION	RELEVANCE
The Constitution of the Republic of Namibia as Amended.	Article 91(c) imposes a duty to prevent the degradation and destruction of ecosystems and to safeguard the beauty and character of Namibia. Complementing this, Article 95(l) emphasizes the maintenance of ecosystems, essential ecological processes, and biological diversity, while promoting the sustainable use of the nation's natural resources. Together, these provisions form a robust legal foundation for environmental conservation and sustainable development.
Environmental Management Act No. 7 of 2007 and Environmental Impact Assessment Regulations, Government Notice 30, 2012.	Sections 2 and 3 of the Environmental Management Act comprehensively define its overarching objectives, the strategic mechanisms for achieving them, and the core principles guiding Environmental Management. Section 2 delineates the Act's purpose and the methodologies for operationalizing its goals, while Section 3 establishes the fundamental environmental management principles that underpin its implementation framework. The Environmental Impact Assessment Regulations on the other hand provide for a framework for the carrying environmental assessments in Namibia.
Local Authorities Act No. 23 of 1992.	The Local Authorities Act prescribes the manner in which a town or municipality should be managed by the Village, Town or Municipal Council. Including provisions that impact businesses within these areas, directly from within the Act, or by manner of by-laws.
Petroleum Products And Energy Act, 1990 Petroleum Products Regulations 2000.	The Petroleum Products Act and its subtending regulations provide for the regulation of the downstream petroleum industry in matters related to but not limited to the licensing of facilities, health safety and environmental considerations.
Labour Act (Act No. 11 of 2007)	The Labour Act provides for Labour Law regulation in Namibia and the protection and safety of employees. Labour Act, 1992: Regulations relating to the health and safety of employees at work (Government Notice No. 156 of 1997), are noteworthy and relevant in this regard.
Hazardous Substances Ordinance (No. 14 of 1974)	The Ordinance applies to the manufacture, sale, use, disposal and dumping of hazardous substances, as well as their import and export and is administered by the Minister of Health and Social Welfare. Its serves to prevent hazardous substances from causing injury, ill-health or the death of human beings.
Nature Conservation Ordinance (No. 4 of 1975)	The purpose of this legislation is to amongst others to consolidate and amend the laws relating to the conservation of nature; the establishment of game parks and nature reserves; the control of problem animals; and to provide for matters incidental thereto.
Water Resources Management Act (Act No. 11 of 2013)	The Water Resources Management Act aims to provide for the management, protection, development, use and conservation of water resources; to provide for the regulation and monitoring of water services and to provide for incidental matters.

National Heritage Act (Act No. 27 of 2004)	The National Heritage Act aims to provide for the protection and conservation of places and objects of heritage significance and the registration of such places and objects; to establish a National Heritage Council; to establish a National Heritage Register; and to provide for incidental matters.
Public and Environmental Health Act (Act No. 1 of 2015)	The Public and Environmental Health Act aims to provide a framework for a structured uniform public and environmental health system in Namibia; and to provide for incidental matters.

3. Environmental Management Plan (EMP)

The Environmental Management Plan

This Environmental Management Plan (EMP) is a site-specific plan developed to ensure that the proponent complies with environmental commitments, standards and regulations. The EMP essentially links environmental impacts identified and project activities into environmental actions to be taken to mitigate identified impacts.

Limitations of the EMP

This Environmental Management Plan (EMP) has been developed with the following assumptions and constraints:

I. The content of this EMP is based on the information provided by the proponent. Any changes or deviations from the shared details may affect the accuracy or applicability of certain components of the plan.

II. Ecolab Environmental disclaims responsibility for any unforeseen outcomes or environmental consequences arising from modifications to the existing infrastructure or any deviation from the project specifications.

Overall EMP Responsibility

Roles and responsibilities in the implementation of the existing Service Station are displayed bellow in Table 3:

Table 3: Responsibilities of roles players in the EMP.

Role Player	Obligation
Proponent	The Proponent is to ensure that mitigation recommendations within the EMP are adhered to, as far as reasonably practical. By checking that all approvals, licenses and permits as required by legislation are obtained before specific activities are carried out. Oversee the implementation of the EMP. Develop and document an Environmental Management System. Perform environmental compliance (internal) audits and follow-up on corrective actions from incidents to ensure compliance. Furthermore, **the Proponent should be vigilant of emergent impacts/risks not identified in the EMP**. This role can be fulfilled by existing staff within the operations organogram, i.e HSEQ Officer/Coordinator or Manager.
EAP	Compilation of EMP. May be involved in external environmental audits.

4. Operational Phase: EMP

This section shall discuss all operational phase impacts identified that need to be monitored and audited, as well as augmented to continuous training and implementation with an integrated management system, i.e ISO.

Table 4: Proposed mitigation and monitoring measures for Environmental impacts, aspects and risks during operation of the existing Service Station.

ENVIRONMENTAL IMPACT	MANAGEMENT ACTIONS	MONITORING REQUIREMENTS	RESPONSIBILITY
FLORA AND FAUNA	- Implement controlled vegetation clearance with permits where applicable. - Minimize tree removal, especially protected species, and prohibit wildlife poaching through contractual obligations. - Avoid introduction of non-native plants unless authorized. - Educate staff on biodiversity conservation and enforce rules against wildlife feeding or harvesting. - Engage with authorities for problematic wildlife management.	- Monitor flora and wildlife interaction incidences, document corrective actions, and audit compliance with biodiversity protocols.	Proponent
CULTURAL HERITAGE	- Conduct cultural heritage impact assessments before site development/expansion where applicable. - Establish protocols for immediate action and authority engagement upon discovery of artifacts. - Train staff on respecting and preserving cultural heritage.	- Maintain detailed logs of cultural heritage findings and resolutions, and inform the appropriate authorities for guidance.	Proponent
LIGHT POLLUTION	- Minimize artificial lighting to reduce impacts on wildlife and sky visibility. - Use motion sensors and downward-facing fixtures to prevent unnecessary illumination where applicable.	- Perform periodic reviews of lighting systems to ensure ecological compliance (i.e energy management systems). - Maintain records of assessments and adjustments made to mitigate light pollution.	Proponent

	- Conduct assessments of lighting impacts on nocturnal species.		
WASTE MANAGEMENT	- Implement segregation and disposal systems for hazardous and domestic waste in accordance with the appropriate measures determined by the relevant local and national authorities. - Provide wind-protected storage facilities and adhere to regulations for waste handling. - Prevent scavenging through secure containment and authorized removal contractors. - Ensure ablution facilities are connected to proper treatment systems. - Encourage waste minimization and recycling through staff training and infrastructure improvement.	- Conduct monthly waste audits and track disposal records and detailed statistics. - Submit biannual waste compliance reports to relevant authorities and ensure adherence to local and national regulations.	Proponent
GENERAL FACILITY MANAGEMENT	- Conduct regular audits of compliance for waste, emissions, and operational safety. - Maintain clear and updated signage for environmental policies, water conservation, and emergency procedures. - Engage third-party experts to review environmental management performance where applicable.	- Document and monitor audit findings and corrective actions. - Submit biannual compliance and performance reports to regulatory agencies. - Maintain logs of all training and awareness programs conducted on-site.	Proponent
OIL PRODUCT SPILLAGE	- Develop a Spill Prevention and Response Plan to address accidental spills effectively. - Equip all areas with readily accessible spill kits containing absorbents, neutralizers, and cleanup tools where aplicable. - Train staff on spill containment and cleanup procedures, including immediate reporting protocols.	- Conduct regular inspections of all storage and dispensing equipment for potential leaks or vulnerabilities. - Document all spill incidents, including the volume of the spill, cleanup measures taken, and environmental impact. - Submit quarterly reports on spill prevention and	Proponent

	- Implement secondary containment measures, such as bunding around storage tanks and pipelines, to prevent spillage from spreading in accordance with relevant standards and legislation. - Regularly inspect and maintain fuel dispensing equipment and storage tanks to minimize the risk of leakage of product and vapours. - Establish procedures for the safe transport and handling of oil products.	response effectiveness to regulatory authorities as appropriate.	
SITE ACCESS, TRAFFIC, AND SECURITY	- Establish clear access control points with signage and security personnel to manage entry and exit effectively. - Implement a traffic management plan to minimize congestion, particularly during peak operational hours or deliveries. - Install surveillance systems, such as cameras, to monitor site access and ensure security. - Coordinate with local authorities for road modifications or traffic flow adjustments if necessary. - Restrict access to hazardous or high-risk areas using fencing, barriers, or warning signage. - Conduct regular patrols to ensure the security of assets and infrastructure. - Secure high-value equipment and goods to deter theft and discourage criminal activity. Where possible, cash kept on site should be at a minimum to avoid loss through robbery and theft. Security procedures and proper security measures must be in place to protect workers and clients, especially during cash in transit activities.	- Conduct monthly inspections of access points and security infrastructure. - Document any incidents related to traffic or security breaches and corrective measures taken.	Proponent

HEALTH, SAFETY & SECURITY	The proponent must adhere to the Labour Act 11 of 2007, particularly Chapter 4 on workplace health and safety, and all applicable national legislation. This ensures a legally compliant and safe environment for employees and clients/guests. **HIV/AIDS:** Managing Communicable diseases at the work place is a duty that the that the proponent should manage through peer education, distribution of condoms and regular toolbox talks as part of a broader work wellness program. **Personal Protective Equipment (PPE):** Provide employees with necessary and adequate PPE based on their job functions and potential risks. **Maintenance and Compliance:** Implement a maintenance register for all equipment, fuel storage, and hazardous substance storage areas to ensure regular upkeep and prevent safety risks. Establish and adhere to industry-specific health and safety procedures in the kitchen and food preparation areas to guarantee food safety and hygiene. Key personnel should be trained in first aid and a first aid kit must be available on site. The contact details of all emergency services must be readily available.	Weekly/Monthly review of Monitoring should be done through Incidents / Non-conformities reported as well as corrective action taken should be documented in a report for auditing purposes.	Proponent

FIRE	**Comprehensive Plan:** Develop and implement a holistic fire protection and prevention plan, covering: i. **Evacuation procedures and signage**: Ensure clear and well-understood protocols for safe and efficient evacuation in case of fire. ii. **Emergency response plan:** Outline actions for rapid containment and extinguishment of fires, including designated roles and responsibilities for staff. iii. **Firefighting plan:** Specify procedures for using firefighting equipment and strategies for different fire types. **Provide comprehensive training for all personnel on:** 1. **Safe operational procedures:** Minimize fire hazards through proper practices in daily operations. 2. **Firefighting:** Equip staff with the knowledge and skills to use firefighting equipment effectively. 3. **Fire prevention:** Foster a culture of fire safety through awareness and responsible practices. 4. **Responsible housekeeping:** Maintain a clean and clutter-free environment to reduce fire risks. **Flammable Material Management:** Store all flammable chemicals strictly according to MSDS guidelines as well as local and national legislation and international best	Weekly/Monthly review of Monitoring should be done through Incidents / Non-conformities reported as well as corrective action taken should be documented in a report for auditing purposes.	Proponent

	practices. Immediately address any spills or leaks to prevent potential ignition sources. **Regular Maintenance:** Conduct regular inspections and maintenance of the site, electrical systems, and mechanical equipment to identify and address potential fire hazards promptly. **Firefighting Equipment and Housekeeping:** Maintain firefighting equipment in proper working order and readily accessible locations. Promote good housekeeping throughout the premises to minimize combustible materials. **Open Fire Control:** Prohibit unattended fires. Allow fires for cooking purposes (by staff only) within designated, safe areas equipped with appropriate fire containment measures, for example convenience store kitchen		
NOISE	**Minimize Noise Levels:** Follow WHO guidelines for maximum noise levels to prevent hearing damage. Regularly service machinery and vehicles to reduce noise production. **-** Provide hearing protectors as standard PPE for workers in high-noise areas. - Activities that that generate excessive noise levels should be discouraged.	Weekly/Monthly review of Monitoring should be done through Incidents / Non-conformities reported as well as corrective action taken should be documented in a report for auditing purposes.	Proponent

	- Continuous monitoring of noise levels should be conducted to make sure the noise levels do not exceed acceptable limits, and No activity having a potential noise impact should be allowed after 18:00 if possible.		

5. Decommissioning Phase: EMP

This section shall discuss all decommissioning phase impacts identified that need to be monitored and audited, as well as augmented to continuous training and implementation with an integrated management system as appropriate, i.e ISO.

ENVIRONMENTAL IMPACT	MANAGEMENT ACTIONS	MONITORING REQUIREMENTS	RESPONSIBLE
DEVELOPMENT OF A DECOMMISSIONING ENVIRONMENTAL MANAGEMENT PLAN (DEMP)	- Clearly define the schedule and duration of remediation and decommissioning activities. - Establish restricted access zones with appropriate signage to ensure safety and prevent unauthorized entry. - Conduct soil contamination assessments to identify type, extent, and concentration of contaminants. - Quantify contamination levels and classify soils according to disposal guidelines. - Outline specific remediation actions for soil, water, or infrastructure.	Annual review of decommissioning plan/protocols and proposed initiatives.	Proponent

	- Include detailed procedures for waste containment, transportation, and disposal. - Implement erosion control measures to protect nearby watercourses. - Develop strategies for noise and dust management using suppression methods. - Isolate and prepare equipment for removal or storage, providing waste containment. - Establish protocols for managing accidental releases or spills. - Maintain site cleanliness to minimize hazards and ensure an organized work environment. - Keep detailed records of all decommissioning activities, including contamination assessments and waste disposal.	
DECOMMISSIONING OF UNDERGROUND STORAGE TANKS	- Engage experienced and certified contractors for decommissioning tasks. - Drain all remaining product, including residual liquids in piping and hoses, and dispose of materials per regulations.. - Perform soil and groundwater testing following decommissioning to ensure no contamination. - Notify the Environmental Commissioner if contamination is detected and follow remediation guidance. - Maintain comprehensive records of tank	Annual review of decommissioning plan/protocols and proposed initiatives. Proponent

	decommissioning activities, including abandonment, in-situ actions, and removals.
DECOMISSIONING FUND	The purpose of the Fund is to finance activities aimed at site restoration of the project site should project activities come to an end or investment priorities have shifted (i.e energy transition) and the site is decommissioned and/or repurposed for other entirely new activities or similar in nature.

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6. Conclusion

All the identified risks to the proposed project can be well managed and mitigated through the implementation of the Environmental Management Plan.

Management and mitigation of risks can further be enriched through the establishment of a functioning Health, Safety and Environmental Management System or Integrated Management System (i.e ISO).

7. References

Environam Consultants Trading (2021). Environmental Management Plan, Operation of The Existing Swakopmund Service Station, Swakopmund, Erongo Region.

Petroleum Products Regulations Government Notice 155 of 2000