

APP-00243

**RELOCATION AND OPERATIONS OF NOVEL MOTOR
COMPANY'S FUEL RETAIL FACILITY IN WALVIS BAY**

ENVIRONMENTAL SCOPING ASSESMENT REPORT




Assessed by:



Assessed for:

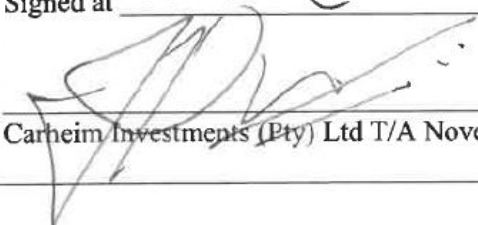
**Carheim Investments
(Pty) Ltd t/a Novel
Motor Company**

November 2022

Project:	RELOCATION AND OPERATIONS OF NOVEL MOTOR COMPANY'S FUEL RETAIL FACILITY IN WALVIS BAY: ENVIRONMENTAL SCOPING ASSESMENT REPORT	
Report: Version/Date:	Final November 2022	
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Cite this document as:	Faul A, , Short S; Strauss J 2022 November; Relocation and Operations of Novel Motor Company's Fuel Retail Facility in Walvis Bay: Environmental Scoping Assessment Report	
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Report Approval	 André Faul Conservation Ecologist	

I, Johann Strauss, acting as representative of Carheim Investments (Pty) Ltd T/A Novel Motor Company, hereby confirm that the project description contained in this report is a true reflection of the information which the Proponent provided to Geo Pollution Technologies. All material information in the possession of the Proponent that reasonably has or may have the potential of influencing any decision or the objectivity of this assessment is fairly represented in this report and the report is hereby approved.

Signed at Windhoek on the 10th day of January 2022.


 Carheim Investments (Pty) Ltd T/A Novel Motor Company 98 | 220
 Business Registration/ID No.

EXECUTIVE SUMMARY

Carheim Investments (Pty) Ltd t/a Novel Motor Company (the Proponent) requested Geo Pollution Technologies (Pty) Ltd to prepare an environmental assessment (EIA) and environmental management plan (EMP) for the relocation and operations of Novel Motor Company's fuel retail facility in Walvis Bay. The Proponent plans to demolish their existing fuel retail facility located on erf 4638, at the corner of Moses Garoëb and Hanna Mupetami Streets. This existing facility has been in operation for many years, and now requires significant upgrades or refurbishments. As such, the Proponent decided to rather relocate the fuel retail facility to erf 2605, at the corner of Moses Garoëb and Circumferential Street.

The environmental assessment is conducted to determine all environmental, safety, health and socio-economic impacts associated with the decommissioning of the existing facility and the construction and operations of the new facility. Relevant environmental data has been compiled by making use of secondary data and from a reconnaissance site visit. Potential environmental impacts and associated social impacts were identified and are addressed in this report. Due to the nature and location of the facility, limited impacts are expected on the surrounding environment, see summary impacts table below. The facility is surrounded mainly by industrial and residential areas. It is recommended that environmental performance be monitored regularly to ensure regulatory compliance and that corrective measures be taken if necessary. The fuel retail facility plays a role in contributing to a reliable supply of fuel to the residents and business sector of Walvis Bay as well as to the transport and tourism industries.

The major concerns related to the operations of the facility are that of potential groundwater, surface water and soil contamination and the possibility of fire. This will however be limited by adherence to South African National Standards and to relevant Material Safety Data Sheet instructions. Furthermore, noise levels should meet the minimum requirements of the World Health Organization. By appointing local contractors and employees and implementing educational programs, the positive socio-economic impacts can be maximised while mitigating any negative impacts.

The environmental management plan included in section 9 of this document should be used as an on-site reference document during all phases (planning, construction, operations and decommissioning) of the facility. All monitoring and records kept should be included in a report to ensure compliance with the environmental management plan. Parties responsible for transgression of the environmental management plan should be held responsible for any rehabilitation that may need to be undertaken. A health, safety, environment and quality policy or similar could be used in conjunction with the environmental management plan. Operators and responsible personnel must be taught the contents of these documents. Municipal or national regulations and guidelines must be adhered to and monitored regularly as outlined in the environmental management plan.

Impact Summary Class Values

Impact Category	Impact Type	Construction		Operations	
<i>Positive Rating Scale: Maximum Value</i>		5		5	
<i>Negative Rating Scale: Maximum Value</i>			-5		-5
EO	Revenue Generation	2		2	
EO	Employment	2		2	
SC/SC	Skills, Technology and Development	2		2	
EO	Demographic Profile and Community Health	-1		-2	
EO	Fuel Supply			2	
SC/EO	Traffic	-1		-2	
EO	Health, Safety and Security	-2		-2	
PC/EO	Fire	-2		-2	
PC	Air Quality	-1		-2	
PC	Noise	-2		-2	
PC/BE	Waste production	-2		-2	
BE	Ecosystem and Biodiversity Impact	-1		-1	
PC	Groundwater, Surface Water and Soil Contamination	-3		-3	
SC/EO	Visual Impact	-1		2	
SC/EO/PC/BE	Cumulative Impact	-3		-3	

BE = Biological/Ecological EO = Economical/Operational PC = Physical/Chemical SC = Sociological/Cultural

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LIST OF ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
BE	Biological/Ecological
DWA	Department of Water Affairs
EA	Environmental Assessment
EIA	Environmental Impact Assessment
EMA	Environmental Management Act No 7 of 2007
EMP	Environmental Management Plan
EMS	Environmental Management System
EO	Economic/Operational
ES	Environmental Classification
GPT	Geo Pollution Technologies
HIV	Human Immunodeficiency Virus
IAPs	Interested and Affected Parties
IUCN	International Union for Conservation of Nature
LNAPL	Light Non-Aqueous Phase Liquids
m/s	Meter per second
MBS	Meters below surface
MEFT	Ministry of Environment, Forestry and Tourism
mm/a	Millimetres per annum
MSDS	Material Safety Data Sheet
PC	Physical/Chemical
PPE	Personal Protective Equipment
ppm	Parts per million
SAH	South Atlantic High
SANS	South African National Standards
SC	Sociological/Cultural
UNCCD	United Nations Convention to Combat Desertification
WHO	World Health Organization

GLOSSARY OF TERMS

Alternatives - A possible course of action, in place of another, that would meet the same purpose and need but which would avoid or minimize negative impacts or enhance project benefits. These can include alternative locations/sites, routes, layouts, processes, designs, schedules and/or inputs. The “no-go” alternative constitutes the ‘without project’ option and provides a benchmark against which to evaluate changes; development should result in net benefit to society and should avoid undesirable negative impacts.

Assessment - The process of collecting, organising, analysing, interpreting and communicating information relevant to decision making.

Competent Authority - means a body or person empowered under the local authorities act or Environmental Management Act to enforce the rule of law.

Construction - means the building, erection or modification of a facility, structure or infrastructure that is necessary for the undertaking of an activity, including the modification, alteration, upgrading or decommissioning of such facility, structure or infrastructure.

Cumulative Impacts - in relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

Environment - As defined in the Environmental Assessment Policy and Environmental Management Act - “land, water and air; all organic and inorganic matter and living organisms as well as biological diversity; the interacting natural systems that include components referred to in sub-paragraphs, the human environment insofar as it represents archaeological, aesthetic, cultural, historic, economic, palaeontological or social values”.

Environmental Impact Assessment (EIA) - process of assessment of the effects of a development on the environment.

Environmental Management Plan (EMP) - A working document on environmental and socio-economic mitigation measures, which must be implemented by several responsible parties during all the phases of the proposed project.

Environmental Management System (EMS) - An Environment Management System, or EMS, is a comprehensive approach to managing environmental issues, integrating environment-oriented thinking into every aspect of business management. An EMS ensures environmental considerations are a priority, along with other concerns such as costs, product quality, investments, PR productivity and strategic planning. An EMS generally makes a positive impact on a company’s bottom line. It increases efficiency and focuses on customer needs and marketplace conditions, improving both the company’s financial and environmental performance. By using an EMS to convert environmental problems into commercial opportunities, companies usually become more competitive.

Evaluation – means the process of ascertaining the relative importance or significance of information, the light of people’s values, preference and judgements in order to make a decision.

Hazard - Anything that has the potential to cause damage to life, property and/or the environment. The hazard of a particular material or installation is constant; that is, it would present the same hazard wherever it was present.

Interested and Affected Party (I&AP) - any person, group of persons or organisation interested in, or affected by an activity; and any organ of state that may have jurisdiction over any aspect of the activity.

Mitigate - The implementation of practical measures to reduce adverse impacts.

Proponent (Applicant) - Any person who has submitted or intends to submit an application for an authorisation, as legislated by the Environmental Management Act no. 7 of 2007, to undertake an activity or activities identified as a listed activity or listed activities; or in any other notice published by the Minister or Ministry of Environment & Tourism.

Public - Citizens who have diverse cultural, educational, political and socio-economic characteristics. The public is not a homogeneous and unified group of people with a set of agreed common interests and aims. There is no single public. There are a number of publics, some of whom may emerge at any time during the process depending on their particular concerns and the issues involved.

Scoping Process - process of identifying: issues that will be relevant for consideration of the application; the potential environmental impacts of the proposed activity; and alternatives to the proposed activity that are feasible and reasonable.

Significant Effect/Impact - means an impact that by its magnitude, duration, intensity or probability of occurrence may have a notable effect on one or more aspects of the environment.

Stakeholder Engagement - The process of engagement between stakeholders (the proponent, authorities and I&APs) during the planning, assessment, implementation and/or management of proposals or activities. The level of stakeholder engagement varies depending on the nature of the proposal or activity as well as the level of commitment by stakeholders to the process. Stakeholder engagement can therefore be described by a spectrum or continuum of increasing levels of engagement in the decision-making process. The term is considered to be more appropriate than the term “public participation”.

Stakeholders - A sub-group of the public whose interests may be positively or negatively affected by a proposal or activity and/or who are concerned with a proposal or activity and its consequences. The term therefore includes the proponent, authorities (both the lead authority and other authorities) and all interested and affected parties (I&APs). The principle that environmental consultants and stakeholder engagement practitioners should be independent and unbiased excludes these groups from being considered stakeholders.

Sustainable Development - “Development that meets the needs of the current generation without compromising the ability of future generations to meet their own needs and aspirations” – the definition of the World Commission on Environment and Development (1987). “Improving the quality of human life while living within the carrying capacity of supporting ecosystems” – the definition given in a publication called “Caring for the Earth: A Strategy for Sustainable Living” by the International Union for Conservation of Nature (IUCN), the United Nations Environment Programme and the World Wide Fund for Nature (1991).

1 BACKGROUND AND INTRODUCTION

Geo Pollution Technologies (Pty) Ltd was appointed by Carheim Investments (Pty) Ltd t/a Novel Motor Company (Pty) Ltd (the Proponent) to prepare an environmental assessment (EIA) and environmental management plan (EMP) for the relocation and operations of Novel Motor Company's fuel retail facility in Walvis Bay. The facility is located on erf 4638 at the corner of Moses Garoëb and Hanna Mupetami Streets (Figure 2-1). It has been in operation for many years and now requires significant upgrades. As such, the Proponent decided to relocate the facility to erf 2605, at the corner of Moses Garoëb and Circumferential Street (Figure 2-1). After construction of the new facility, the Proponent will demolish the existing fuel retail facility and use the land for alternative purposes related to their vehicle sales dealership. After completion of the new facility daily operations typical of fuel retail facilities will continue and this include periodic maintenance and upgrades to ensure that the facility remains compliant to industry standards, specifically South African National Standards (SANS) as prescribed by Namibian law. Construction and operations of the new facility, and decommissioning of the old facility, include the following activities:

- ◆ Earthworks and installation of belowground infrastructure such as tanks and reticulation.
- ◆ Construction activities and concrete works to construct spill control infrastructure, buildings and support infrastructure.
- ◆ Installation of pumps, canopy, firefighting equipment and all services such as water supply and sewers.
- ◆ Filling of the storage tanks with fuel from road transport tankers.
- ◆ Dispensing of fuel to customers.
- ◆ Tank dips and fuel volume reconciliation.
- ◆ General operational activities and maintenance procedures associated with the new facility.
- ◆ Demolition of all aboveground infrastructure at the old site and excavations to remove the old tanks and reticulation.
- ◆ Removal of any contaminated soil and backfilling with clean soil.
- ◆ Resurfacing the area or repurposing the area for new uses.

A risk assessment was undertaken to determine both the potential impacts of the construction and operational activities of the new facility on the environment, as well as the impacts of decommissioning of the existing (old) facility on the environment. The environment being defined in the Environmental Assessment Policy and Environmental Management Act as "land, water and air; all organic and inorganic matter and living organisms as well as biological diversity; the interacting natural systems that include components referred to in sub-paragraphs, the human environment insofar as it represents archaeological, aesthetic, cultural, historic, economic, paleontological or social values".

The environmental assessment was conducted to apply for an environmental clearance certificate in compliance with Namibia's Environmental Management Act (Act No 7 of 2007) (EMA).

Project Justification – Local businesses, residents and the public transport industry require fuel for their daily operations and travels. Novel Motor Company has for many years played an important role in Walvis Bay by ensuring availability of a reliable supply of fuel. Relocating the fuel facility is proposed to improve the facility and stay compliant to industry standards.

Benefits of the new fuel retail facility include:

- ◆ Continued and improved reliable supply of fuel to the local community and various business sectors.
- ◆ Employment, skills development and training.
- ◆ Revenue generation and an increase in economic resilience in the area through support for diversified business activities and opportunities.
- ◆ Improved traffic conditions with safer vehicle access to the new facility when compared to the existing site.

2 SCOPE

The scope of this assessment is to:

- ◆ Determine the potential environmental impacts emanating from the construction, operational and decommissioning activities of the fuel retail facilities.
- ◆ Identify a range of management actions which could mitigate the potential adverse impacts to acceptable levels.
- ◆ Comply with requirements of EMA
- ◆ Provide sufficient information to the MEFT to make an informed decision regarding the construction, operations and decommissioning of the facilities.

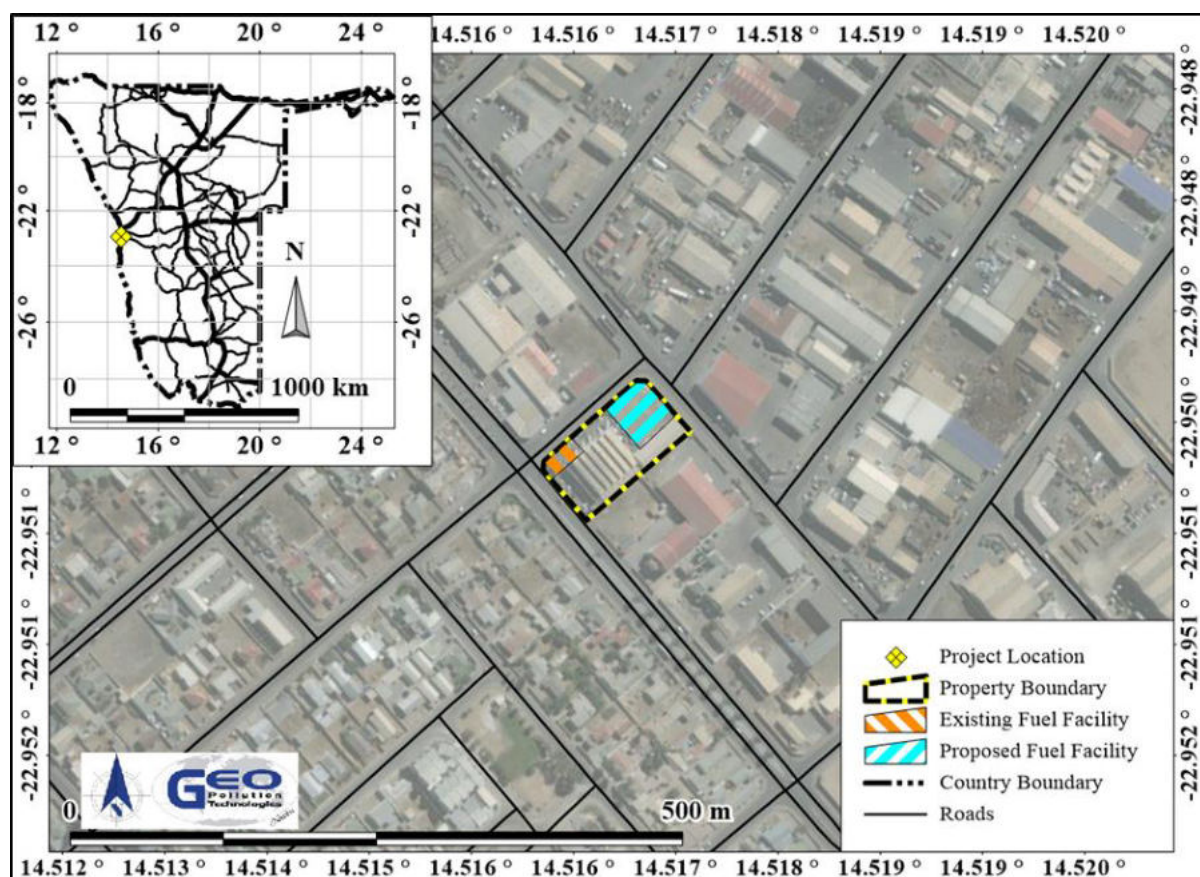


Figure 2-1 Project location

3 METHODOLOGY

The following methods were used to investigate the potential impacts on the social and natural environment due to the operations, refurbishment and decommissioning of the facility:

1. Baseline information about the site and its surroundings was obtained from existing secondary information as well as from a reconnaissance site visit.
2. As part of the scoping process to determine potential environmental impacts, interested and affected parties (IAPs) were consulted about their views, comments and opinions, all of which are presented in this report.
3. Potential environmental impacts emanating from the operations, refurbishment and decommissioning of the facility were determined and possible enhancement measures were listed for positive impacts while mitigation / preventative measures were provided for negative impacts.
4. As per the findings of this scoping report, an environmental management plan (EMP) was incorporated into this report to be submitted to the Ministry of Environment, Forestry and Tourism (MEFT).

4 PROJECT DESCRIPTION

The project description provides firstly a description of the existing site that will ultimately be decommissioned, and of the proposed new fuel retail facility that will be constructed. It is important to note that the old facility will continue operations while the new facility is constructed. Only once the new site becomes operational will the old site be decommissioned. This will ensure an uninterrupted fuel supply to customers.

4.1 EXISTING FUEL RETAIL FACILITY

Novel Ford is an existing site that has been in operation for many years. The forecourt area currently has three dispensing points on pump islands (Photo 4-1). Two are situated underneath a canopy and supply diesel and unleaded petrol each (Photo 4-2). The third is located next to the canopy area and supplies diesel only (Photo 4-3). Three vented, underground tanks for fuel storage are present and these are filled via filler points (Photo 4-4, Photo 4-5 and Photo 4-6). Tank details are presented in Table 4-1. Buildings and infrastructure on site include offices, new vehicles sales showroom, a workshop and ablution facilities. The premises is serviced with water and electricity from the Walvis Bay municipality and is connected to a waterborne sewer system.

Operations of the facility entail receipt of unleaded petrol and diesel by means of tanker trucks, storage of such fuel in the underground storage tanks, and the dispensing of the fuel by pump attendants in the forecourt area. Daily tasks include cleaning and maintenance of the site, administrative tasks, daily tank dips, as well as fuel volume reconciliations to detect any product losses and to ensure timely fuel delivery requests.



Figure 4-1 Site layout

Table 4-1 Storage tank details

	T1	T2	T3
Product	Diesel	Diesel	Unleaded Petrol
Capacity (m³)	14	14	14
Aboveground / Below Ground	Below Ground	Below Ground	Below Ground
Material	Steel	Steel	Steel
Spill Control	Concrete Surface	Concrete Surface	
Filler Point No.	FP 1	FP 2	FP 3

**Photo 4-1 Forecourt****Photo 4-2 Pump islands under canopy****Photo 4-3 Pump island – diesel only****Photo 4-4 Filler points****Photo 4-5 Diesel tank****Photo 4-6 ULP tank**

4.2 PROPOSED FACILITY

The Proponent plans to relocate the fuel retail facility to erf 2605 at the corner of Moses Garoëb and Circumferential Streets. Construction of the new facility will involve earthworks and excavations for the installation of the tanks, fuel reticulation, oil water separator and services supply such as water, electricity and sewers. Cement and concrete works will be required for construction of the various spill control surfaces and buildings. Pumps will be installed and a canopy erected. All buildings will be fitted with the required infrastructure for operations and firefighting equipment will be installed throughout the site.

After completion of the new facility the forecourt area will consist of three dispensing points on pump islands all three dispensing points will be situated underneath a canopy (Figure 4-2). Two vented underground tanks with a capacity of 23 m³ each will be filled via filler points. Newly erected buildings and infrastructure will include a shop, ablutions for employees and customers, pump attendance room with lockers for safe guarding personal items and a strong room.

Operations of the facility will be the same as the decommissioned site one erf 4638 it will entail the receipt of unleaded petrol and diesel by means of tanker trucks, storage of such fuel in the underground storage tanks and the dispensing of the fuel by pump attendants in the forecourt area. Daily tasks include cleaning and maintenance of the site, administrative tasks, daily tank dips, as well as fuel volume reconciliations to detect any product losses and to ensure timely fuel delivery requests.



Photo 4-7 Erf 2605



Photo 4-8 View to north from Erf 2605

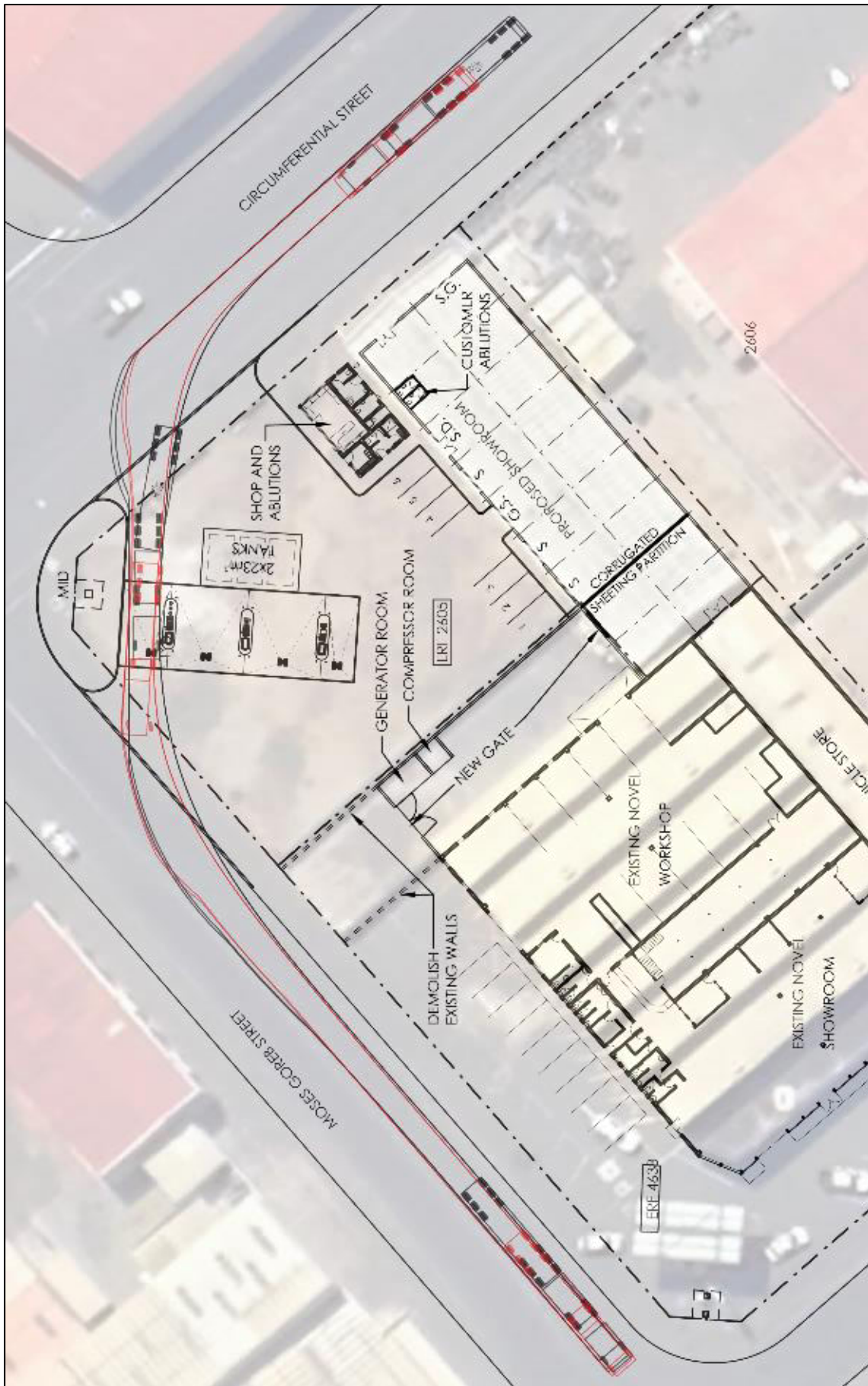


Figure 4-2 New site layout

5 ADMINISTRATIVE, LEGAL AND POLICY REQUIREMENTS

To protect the environment and achieve sustainable development, all projects, plans, programmes and policies deemed to have adverse impacts on the environment require an environmental assessment, as per the Namibian legislation. The legislation and standards provided in Table 5-1 to Table 5-4 govern the environmental assessment process in Namibia and/or are relevant to the facility.

Table 5-1. Namibian law applicable to the fuel retail facility

Law	Key Aspects
The Namibian Constitution	<ul style="list-style-type: none"> ◆ Promote the welfare of people ◆ Incorporates a high level of environmental protection ◆ Incorporates international agreements as part of Namibian law
Environmental Management Act Act No. 7 of 2007, Government Notice No. 232 of 2007	<ul style="list-style-type: none"> ◆ Defines the environment ◆ Promote sustainable management of the environment and the use of natural resources ◆ Provide a process of assessment and control of activities with possible significant effects on the environment
Environmental Management Act Regulations Government Notice No. 28-30 of 2012	<ul style="list-style-type: none"> ◆ Commencement of the Environmental Management Act ◆ List activities that requires an environmental clearance certificate ◆ Provide Environmental Impact Assessment Regulations
Petroleum Products and Energy Act Act No. 13 of 1990, Government Notice No. 45 of 1990	<ul style="list-style-type: none"> ◆ Regulates petroleum industry ◆ Makes provision for impact assessment ◆ Petroleum Products Regulations (Government Notice No. 155 of 2000) <ul style="list-style-type: none"> ○ Prescribes South African National Standards (SANS) or equivalents for construction, operation and decommissioning of petroleum facilities (refer to Government Notice No. 21 of 2002) ◆ Used Mineral Oil Regulations (Government Notice No. 48 of 1991) <ul style="list-style-type: none"> ○ Regulations relating to the purchase, sale, supply, acquisition, possession, disposal, storage, transportation, recovery and re-refinement of used mineral oil
The Water Act Act No. 54 of 1956	<ul style="list-style-type: none"> ◆ Remains in force until the new Water Resources Management Act comes into force ◆ Defines the interests of the state in protecting water resources ◆ Controls water abstraction and the disposal of effluent ◆ Numerous amendments
Water Resources Management Act Act No. 11 of 2013	<ul style="list-style-type: none"> ◆ Provide for management, protection, development, use and conservation of water resources ◆ Prevention of water pollution and assignment of liability ◆ Not in force yet
Local Authorities Act Act No. 23 of 1992, Government Notice No. 116 of 1992	<ul style="list-style-type: none"> ◆ Define the powers, duties and functions of local authority councils ◆ Regulates discharges into sewers

Law	Key Aspects
Public and Environmental Health Act Act No. 1 of 2015, Government Notice No. 86 of 2015	<ul style="list-style-type: none"> ◆ Provides a framework for a structured more uniform public and environmental health system, and for incidental matters ◆ Deals with Integrated Waste Management including waste collection disposal and recycling; waste generation and storage; and sanitation
Labour Act Act No 11 of 2007, Government Notice No. 236 of 2007	<ul style="list-style-type: none"> ◆ Provides for Labour Law 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)
Atmospheric Pollution Prevention Ordinance Ordinance No. 11 of 1976	<ul style="list-style-type: none"> ◆ Governs the control of noxious or offensive gases ◆ Prohibits scheduled process without a registration certificate in a controlled area ◆ Requires best practical means for preventing or reducing the escape into the atmosphere of noxious or offensive gases produced by the scheduled process
Hazardous Substances Ordinance Ordinance No. 14 of 1974	<ul style="list-style-type: none"> ◆ Applies to the manufacture, sale, use, disposal and dumping of hazardous substances as well as their import and export ◆ Aims to prevent hazardous substances from causing injury, ill-health or the death of human beings
Pollution Control and Waste Management Bill (draft document)	<ul style="list-style-type: none"> ◆ Not in force yet ◆ Provides for prevention and control of pollution and waste ◆ Provides for procedures to be followed for licence applications

Table 5-2. Municipal By-laws, Guidelines and Regulations

Groundwater Protection Regulations	<ul style="list-style-type: none"> ◆ Provides for the protection of groundwater, landscape and vegetation sensitivity ◆ Requires an EIA and EMP for projects that may potentially impact on groundwater ◆ Identifies three groundwater control zones: medium, high and very high.
Integrated Urban Spatial Development Framework for Walvis Bay	<ul style="list-style-type: none"> ◆ Overall vision to transform Walvis Bay to being the primary industrial city in Namibia. ◆ Aims to ensure that appropriate levels of environmental management is enforced for all developments in Walvis Bay.
Integrated Environmental Policy of Walvis Bay - Walvis Bay Moving Towards Realising Namibia's Vision 2030 (2022 – 2030)	<ul style="list-style-type: none"> ◆ Indicates the directions that the Municipality of Walvis Bay will move towards in the forthcoming years to fulfil its responsibilities to manage the environment of Walvis Bay together with the town's residents and institutions. ◆ Strong focus on conservation and protection of environment.

Table 5-3. Relevant multilateral environmental agreements for Namibia and the development

Agreement	Key Aspects
Stockholm Declaration on the Human Environment, Stockholm 1972.	<ul style="list-style-type: none"> ◆ Recognizes the need for a common outlook and common principles to inspire and guide the people of the world in the preservation and enhancement of the human environment
1985 Vienna Convention for the Protection of the Ozone Layer	<ul style="list-style-type: none"> ◆ Aims to protect human health and the environment against adverse effects from modification of the Ozone Layer are considered ◆ Adopted to regulate levels of greenhouse gas concentration in the atmosphere
United Nations Framework Convention on Climate Change (UNFCCC)	<ul style="list-style-type: none"> ◆ The Convention recognises that developing countries should be accorded appropriate assistance to enable them to fulfil the terms of the Convention
Convention on Biological Diversity, Rio de Janeiro, 1992	<ul style="list-style-type: none"> ◆ Under article 14 of The Convention, EIAs must be conducted for projects that may negatively affect biological diversity

Table 5-4. Standards or codes of practise

Standard or Code	Key Aspects
South African National Standards (SANS)	<ul style="list-style-type: none"> ◆ The Petroleum Products and Energy Act prescribes SANS standards for the construction, operations and demolition of petroleum facilities ◆ SANS 10089-3:2010 is specifically aimed at storage and distribution of petroleum products at fuel retail facilities and consumer installations <ul style="list-style-type: none"> ○ Provide requirements for spill control infrastructure

The fuel retail facility is listed as an activity requiring an environmental clearance certificate as per the following points from Section 9 of Government Notice No. 29 of 2012:

Hazardous Substance Treatment, Handling and Storage

- ◆ 9.1 “The manufacturing, storage, handling or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974.” (The facility store and handle hazardous substances in the form of fuel.)
- ◆ 9.2 “Any process or activity which requires a permit, licence or other form of authorisation, or the modification of or changes to existing facilities for any process or activity which requires an amendment of an existing permit, licence or authorisation or which requires a new permit, licence or authorisation in terms of a law governing the generation or release of emissions, pollution, effluent or waste.” (The facility store and handle hazardous substances in the form of fuel which is permitted by the Ministry of Mines and Energy.)
- ◆ 9.4 “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.” (Current total storage capacity for fuel is 42 m³ and the proposed new storage is 46 m³).
- ◆ 9.5 “Construction of filling stations or any other facility for the underground and aboveground storage of dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin.” (The facility is a filling station that stores diesel and unleaded petrol below ground.)

6 ENVIRONMENTAL CHARACTERISTICS

This section lists pertinent environmental characteristics of the study area.

6.1 LOCALITY AND SURROUNDING LAND USE

The existing facility is situated on erf 4638, at the corner of 18th Road and Moses Garoëb Street in Walvis Bay, in the Erongo Region (22.950521 °S; 014.516157 °E)(Figure 2-1). Access to the site is gained from both 18th Road and Moses Garoëb Street. Nearby properties currently consist of mixed land use which mainly include light industrial, commercial and residential activities.

The proposed new facility will be situated on erf 2605, at the corner of Moses Garoëb Street and Circumferential Street (22.949881 °S, 14.516745 °E) (Figure 2-1). Access to the site will be gained from both Circumferential Street and Moses Garoëb Street. Nearby properties currently consist of mixed land use which mainly include light industrial activities and include Food Lover's Market, Jumbo Charcoal, Progaz, Fisch Hydraulic, Atlantic Hygiene



Photo 6-1 Neighbour to north



Photo 6-2 Neighbour to east (Jumbo Charcoal)



Photo 6-3 Neighbours to northwest



Photo 6-4 Novel Motor Company to the south and southwest

Implications and Impacts

The proposed property for the new fuel retail facility is situated in an area intended for light industrial use. Fuel retail facilities are primary uses on light industrial erven in Walvis Bay. Activities surrounding the site is of industrial and commercial nature.

6.2 CLIMATE

Namibia's climate is dominated by dry conditions for most of the year and particularly so in the west. The location of Namibia with respect to the Intertropical Convergence Zone, Subtropical High Pressure Zone and Temperate Zone is what determines the climate, with the Subtropical High Pressure Zone being the major contributor to the dry conditions (Atlas of Namibia, 2002; Bryant, 2010). Precipitation over Namibia is mainly controlled by the South Atlantic High

(SAH), a high pressure cell (anticyclone) situated west of Namibia in the Subtropical High Pressure Zone. The SAH shifts during the year and is at higher latitudes in winter and lower latitudes in summer. In winter, as a result of being situated more north, the high pressure cell pushes any moisture originating from the Intertropical Convergence Zone northwards, preventing rain over Namibia. In summer, because the high pressure cell moves further south, and has less of an effect on the Intertropical Convergence Zone, moist air reaches Namibia, resulting in summer rains.

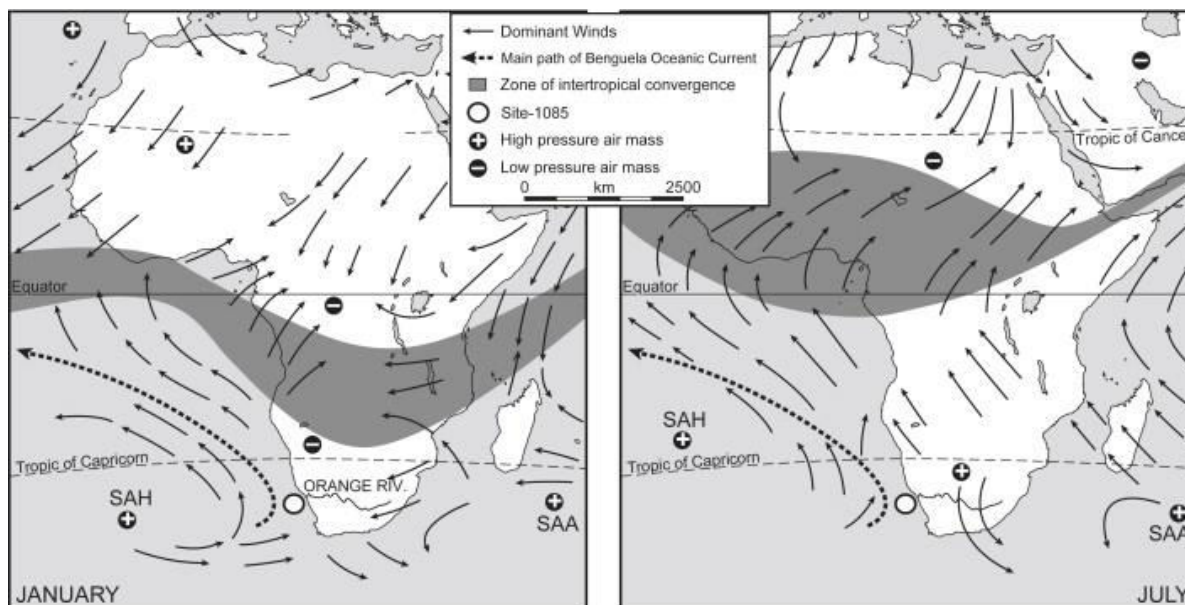


Figure 6-1 Map indicating the Intertropical Convergence Zone, Subtropical High Pressure Zone (SAH+), Benguela Current and Temperate Zone south of Tropic of Capricorn (not indicated) (from: <http://www.meteoweb.eu>)

On a more localised scale, the climatic conditions on the central Namibian coast, and inland thereof (coastal plains), are strongly influenced by the cold Benguela current, the SAH and the relatively flat coastal plains separated from the central highlands by a steep escarpment. The anticlockwise circulation of the high pressure SAH and the action of the earth's Coriolis force result in strong southerly (longshore) winds blowing northwards up the coastline of Namibia (Bryant, 2010; Corbett, 2018). This longshore wind is responsible for upwelling of the cold, deep waters of the Benguela Current. As a result of the temperature difference between the cold surface water of the Benguela Current and the warm coastal plains, the southerly wind is diverted to a south south-westerly to south-westerly wind along the coast. At Walvis Bay the temperature gradient that forms over the warmer darker sands south of the Kuiseb River, compared with the cooler lighter coloured gravel plains to the north of the river, leads to the formation of cyclonic circulation (localised low-pressure systems) centred over the dune area, due to warm air that rises. This, together with topographical changes and land-use, causes a local deflection of wind flow over the Walvis Bay area, from south to southwest in Walvis Bay (Figure 6-2), to more southwest to westerly further inland, as well as reduced wind speeds.

The winds are strongest in early to mid-summer (September to January) when the SAH is at its strongest and most persistent, and the temperature difference between the sea and the desert plains are at its greatest. Wind speeds then occasionally exceed 32 km/h and usually peaks late morning to early afternoon. In winter, the SAH loses strength and the southerly to south-westerly winds are at their weakest. Winter winds do not have enough strength to reach far inland. Autumn to winter conditions do however promote the formation of east wind conditions (berg winds) that can reach speeds of more than 50 km/h and transport a lot of sand. East winds occur when the inland plateau is cold with a localised high pressure cell, while a low pressure system is present at the coast. The high pressure cell forces air off the escarpment and as the air descends, it warms adiabatically as well as create a low pressure system due to the vertical expansion of the air

column. The warm air flows toward the coastal low and as it passes over the Namib plains, it heats up even further. The wind manifests itself as very strong, warm and dry winds during the mornings to early afternoon, but dies down late afternoon.

Throughout the year the prevailing night time wind is a weak easterly wind. This results from the mainland cooling to below the temperature of the coastal water. This results in a coastal low versus an onshore high pressure system with first no wind in the early evening, when temperatures between water and land is similar, and then weak easterly winds as the temperature difference increase.

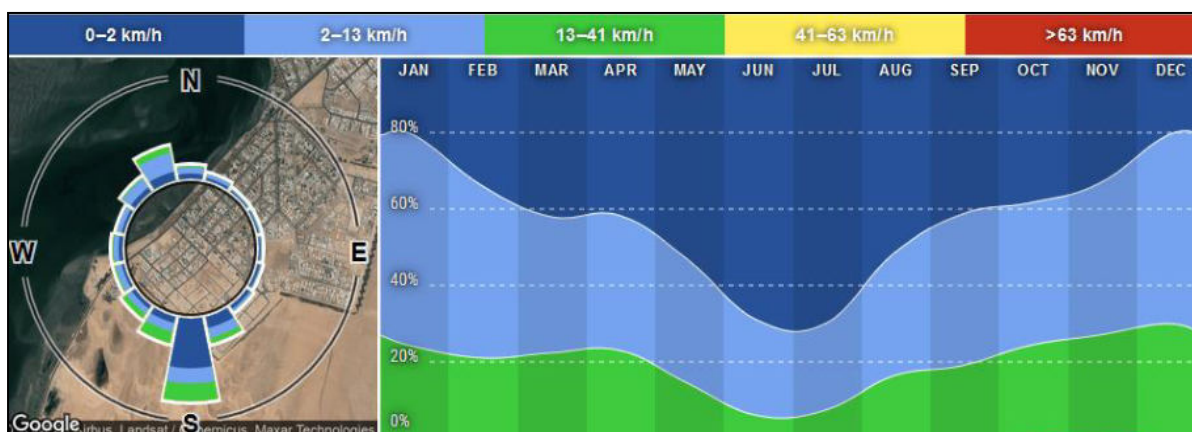


Figure 6-2 Wind direction and strength at the Walvis Bay Lagoon as measured between 2013 and 2020 (From: https://www.windfinder.com/windstatistics/walvis_bay_airport)

Temperature at Walvis Bay is strongly regulated by the cold Benguela current. As a result, there is typically limited variation between diurnal and seasonal temperatures. Average annual temperatures are approximately 18 °C to 19 °C with the maximum temperature seldom above 30 °C and minimums rarely below 5 °C (Figure 6-3). The only real temperature extremes are experienced during east wind conditions in the autumn to early winter months when temperatures can reach the upper thirties or even low forties. This results in these months having an average maximum temperature ranging from 30 °C to 35 °C. As one moves inland from Walvis Bay, daytime temperatures increases rather quickly while night time temperatures can get significantly colder in the desert environment.

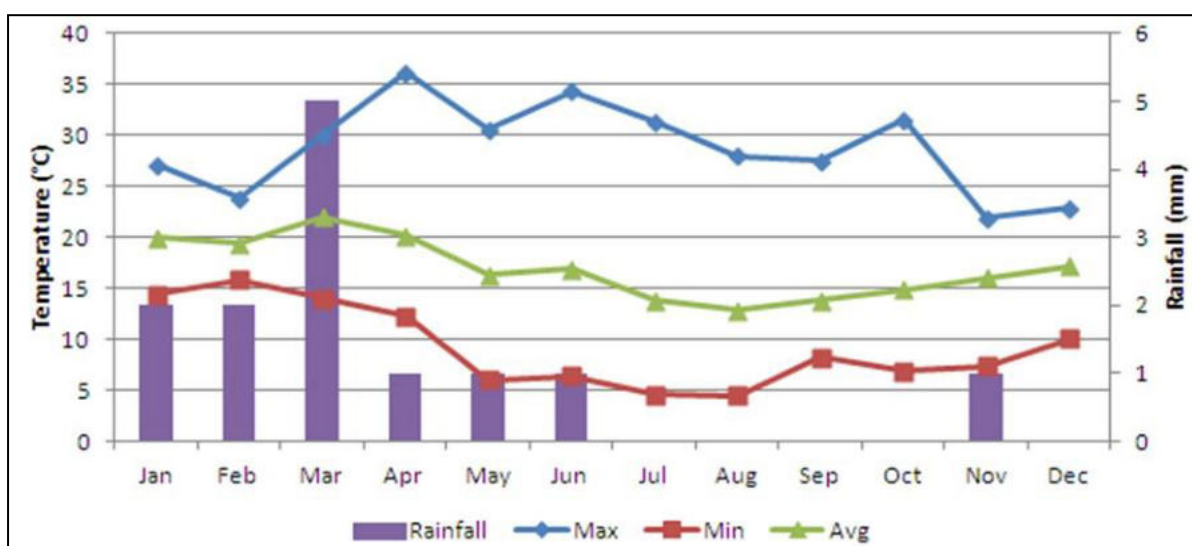


Figure 6-3 Temperature and rainfall at Walvis Bay (From: uMoya-NILU, 2020)

As explained above, the SAH severely limits the amount of rainfall over Namibia and especially at the coast and over the Namib Desert. As such, the average annual rainfall in Walvis Bay is below 50 mm (Figure 6-3), with variation in annual rainfall exceeding 100%. Infrequent, heavy

rainfall do occur and typically results in rather chaotic conditions as Walvis Bay, and other coastal towns, has not been developed to cater for large volumes of stormwater. Fog plays a very significant role as source of water for many plants and animals along Namibia's coast and the Namib Desert. Walvis Bay has up to 900 hours of fog per year and it results from the cold Benguela water cooling the humid air above it to such a temperature that the water vapour condenses to form fog and low level clouds (Mendelsohn et al., 2002).

Implications and Impacts

Water is a scarce and valuable resource in Namibia and Walvis Bay is characterized by low and extremely variable seasonal rainfall. This makes water an extremely vulnerable resource. Groundwater at the site is however saline and no impact on potable water supply is expected from operations at the facility. Pollution of groundwater should still be prevented.

6.3 CORROSIVE ENVIRONMENT

Walvis Bay is located in a very corrosive environment, which may be attributed to the frequent salt-laden fog, periodic winds and abundance of aggressive salts (dominantly NaCl and sulphates) in the soil. The periodic release of hydrogen sulphide (H₂S) from the ocean is expected to contribute to corrosion (see Table 6 for corrosion comparison data with other centres). See Figure 6-4 for corrosion comparison data with other centres.

The combination of high moisture and salt content of the surface soil can lead to rapid deterioration of subsurface metal (e.g. pipelines) and concrete structures. Chemical weathering of concrete structures due to the abundant salts in the soil is a concern.

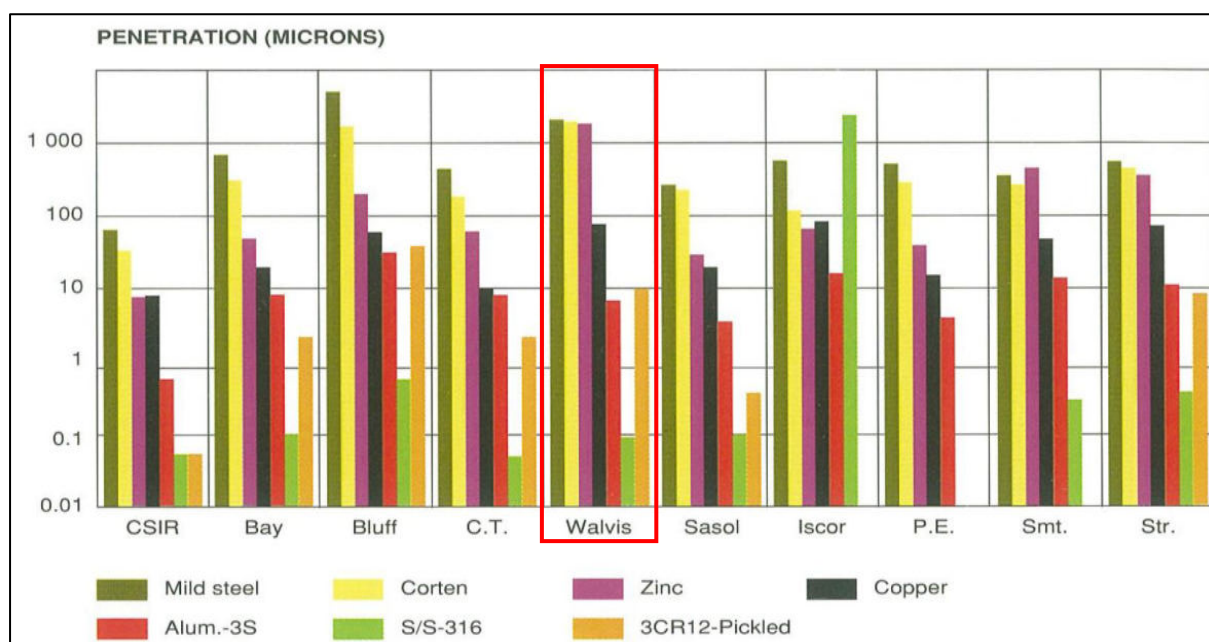


Figure 6-4 Twenty year corrosion exposure results in southern African towns (Callaghan 1991)

Implications and Impacts

Corrosion levels may be high and must be kept in mind when planning the construction and maintenance of the facility and related infrastructure.

6.4 TOPOGRAPHY AND DRAINAGE

Walvis Bay is located in the Central Western Plain of Namibia. The Kuiseb River forms the southern boundary of this landscape group, with the Namib Dune Field being present south of the Kuiseb River. A bay is formed by a peninsula commonly known as Pelican Point. On the southern part of the bay is a lagoon which used to be the mouth of the Kuiseb River. Dune

migration however forced the flow of the Kuiseb River to the north. This flow was stopped through the construction of a flood control wall to prevent flooding of the town of Walvis Bay, thus forcing the flood waters to move through the dune area to the lagoon. The Kuiseb River now rarely reaches the lagoon.

The topography is generally flat with a local gentle downward slope in a westerly direction toward the ocean. Drainage is poorly developed due to the lack of rainfall <50 mm/annum received in the area. A dune field is present southeast of Walvis Bay and also further to the northeast. These dunes generally migrate in a northerly direction. Further inland is the gravel plains of the central areas of the Namib Naukluft Park. Surface water around Walvis Bay is limited to the marine salt pans, lagoon and ocean as well as a man-made wetland formed as a result of the sewage treatment works. The site and surrounding areas are generally flat.

Implications and Impacts

Any pollutants that are not contained and are transported via surface water flow may be transported out of the site to the surrounding environment. Therefore, the storage of fuel must be strictly controlled according to SANS and best practice requirements.

6.5 GEOLOGY AND HYDROGEOLOGY

Walvis Bay is located in the Central Western Plain of Namibia. The Kuiseb River forms the southern boundary of this landscape group, with the Namib Dune Field being present south of the Kuiseb River. Northerly dune migration is forcing the Kuiseb River in a northerly direction, with Kuiseb River paleochannels being present as far south as Sandwich Harbour.

Following the breakup of West-Gondwana during the early Cretaceous (130 – 135 Ma ago), continental uplift took place, enhancing erosional cutback and the formation of the Namibian Escarpment. A narrow pediplain formed, mainly over Damara Age rocks. The South Central started filling in over the pediplain, with marine conditions established around 80 Ma ago. Towards the end of the Cretaceous (70 – 65 Ma ago) a relative level surface was created, on which later deposition of sediments took place. Marine deposition took place in the parts covered by the newly formed South Central Ocean, while terrestrial deposits took place on land. Further continental uplift moved the shoreline to its present position.

Northwards migration of sand covered parts of the exposed marine deposits, with Kuiseb floods also depositing material over the marine sediments. Depth to bedrock in Walvis Bay is expected to be deeper than 40 m below surface. Based on previous work conducted in the area, it is expected that the sediments under the project area would consist of medium to coarse grain sand with thin lenses of more clayey material and layers of shell material.

Groundwater in the area is expected less than 2 m below surface and related to seawater intrusion. Tidal fluctuations is expected to result a variation in groundwater depth.

Implications and Impacts

Groundwater is not utilised in the area. Pollution of the groundwater is however still prohibited. Adherence to Namibian law or better in relation to correct handling and storage of fuel, and spill control structures installed and maintained where fuel is stored and handled will successfully prevent pollution of groundwater, surface water or soil. Shallow groundwater may lead to rapid lateral spreading of contaminants. This may further have potential impact on underground utilities and may cause impacts on neighbouring properties.

6.6 PUBLIC WATER SUPPLY

Public water supply to Walvis Bay and the surrounding developments is provided by NamWater from the NamWater Kuiseb Water Supply Scheme.

Implications and Impacts

Groundwater is saline and not used as potable water source. No potential contamination impact on water supply is thus expected. Water usage by the facility will be mainly for domestic use and is thus not expected to have a negative impact on public water supply.

6.7 FAUNA AND FLORA

The site is located within a developed industrial area and has been cleared of all vegetation. No animals of particular significance is expected on site and will mostly include birds. The site is situated 1.6 km southeast of the Atlantic Ocean and fishing harbour.

Of note nearby (> 3.3 km southwest) is the Walvis Bay Lagoon, the salt works and the southern part of the bay west of the lagoon, which are the key components of the 12,600 ha Ramsar site (Wetland of International Importance). It is important both as an over-wintering area for Palaearctic migrant wader species as well as for African species such as Greater and Lesser Flamingos, Great White Pelican and Chestnut-Banded Plovers. The sewerage ponds, situated about 1.2 km southeast of the study area, are regarded as sensitive manmade wetlands. Although a manmade fresh water source, it is an attraction for pelicans and flamingos. These wetlands also support 53% of the duck and geese population in the area. The wetland is formed by the constant inflow of semi-purified water and supports extensive stands of reeds. There is also a flight path for birds between the sewerage ponds and the offshore bird breeding platform (Ghwano Island) 8 km north of the site.

Implications and Impacts

The facility is located within an already disturbed light industrial area. Thus no immediate threat to biodiversity in the area is expected, however, uncontrolled pollution may and can cause damage to any biodiversity surrounding the site. Bright lighting may also negatively affects birds flying at night and may cause disorientation and collisions.

6.8 DEMOGRAPHIC AND ECONOMIC CHARACTERISTICS

At local level Walvis Bay has an urban population size of 62,096 (Namibia Statistics Agency, 2014) although the current estimate is around 90,000 to 100,000. Walvis Bay is the principal port of Namibia, and is an import/export facility for processed fish, mining products and beef. The area is linked to Namibia's air, rail and road network, making its port well situated to service Zambia, Zimbabwe, Botswana, Southern Angola and South Africa. The fishing industry is the major employer of low skilled workers on a permanent and seasonal basis. The total employment of this sector is estimated at 2% of the total Namibian workforce. Economic activities relate mostly to businesses within the area and around the site.

Implications and Impacts

The facility will continue to provide employment to people from the area and more employees will be required for the operations of the new facility. Some skills development and training also benefit employees during the operational phase.

6.9 HERITAGE, CULTURAL AND ARCHAEOLOGICAL ASPECTS

There are no church, mosques or related buildings in close proximity to the site. No known archaeological resources have been noted in the vicinity since the urbanisation of the area. No other structures, sites or spheres of heritage of cultural significance was determined to be in close proximity to the site.

Implications and Impacts

No expected implications or impacts.

7 PUBLIC CONSULTATION

Consultation with the public forms an integral component of an environmental assessment investigation and enables interested and affected parties (IAPs) e.g. neighbouring landowners, local authorities, environmental groups, civic associations and communities, to comment on the potential environmental impacts associated with projects and to identify additional issues which they feel should be addressed in the environmental assessment.

Public participation notices were advertised twice for two weeks in the national papers: *Republikein* and *Namibian Sun* on 11 and 18 October 2022. A site notice was placed at the Proponents facility. Interested and affected parties were identified and notified of the project. Notification letters were hand delivered to available neighbours as well as the Municipality of Walvis Bay. A meeting was held with the Municipality of Walvis Bay to discuss the project. During the meeting, it was noted that the Proponent should apply for consent use for a fuel retail facility on light industrial erven from the Municipality and that members of the Municipality's Hazardous Waste and Health sections must be present during the decommissioning of the old site to monitor for any pollution that may be present. It was subsequently clarified that a consent use application will in fact not be required as fuel retail facilities are primary uses on light industrial erven. The Municipality further noted that the relocation of the site would be positive in terms of potential traffic impacts. See Appendix A for proof of the public participation processes and the minutes of the meeting with the municipality. No concerns regarding the project were raised by any of the neighbours or members of the public during the public consultation phase.

8 MAJOR IDENTIFIED IMPACTS

During the scoping exercise a number of potential environmental impacts have been identified. The following section provides a brief description of the most important of these impacts.

8.1 HYDROCARBON POLLUTION

This section describes the most pertinent pollution impacts that are expected from the facility and its operations. Groundwater and soil pollution from hydrocarbon products are major issues associated with the storage and handling of such products. Both forms of pollution are prohibited in Namibia.

When a release of hydrocarbon products takes place to the soil, the Light Non-Aqueous Phase Liquids (LNAPL) will infiltrate into the soil and start to migrate vertically. LNAPL transport in the subsurface environment occurs in several phases, including bulk liquid, dissolved, and vapour phases. Mechanisms that influence transport include the physicochemical properties of the specific compounds present such as density, vapour pressure, viscosity, and hydrophobicity, as well as the physical and chemical properties of the subsurface environment, including geology and hydrogeology. Hydrocarbon liquids are typically complex mixtures composed of numerous compounds, each with its own individual physicochemical and, therefore, transport properties.

If small volumes of spilled LNAPL enter the unsaturated zone (i.e. vadose zone), the LNAPL will flow through the central portion of the unsaturated pores until residual saturation is reached. A three-phase system consisting of water, LNAPL, and air is formed within the vadose zone. Infiltrating water dissolves the components within the LNAPL (e.g., benzene, xylene, and toluene) and transports them to the water table. These dissolved contaminants form a contaminated plume radiating from the area of the residual product. Many components found in LNAPL are volatile and can partition into soil air and be transported by molecular diffusion to other parts of the aquifer. As these vapours diffuse into adjoining soil areas, they may partition back into the water phase and transfer contamination over wider areas. If the soil surface is relatively impermeable, vapours will not diffuse across the surface boundary and concentrations of contaminants in the soil atmosphere may build up to equilibrium conditions. However, if the surface is not covered with an impermeable material, vapours may diffuse into the atmosphere.

If large volumes of LNAPL are spilled, the LNAPL flows through the pore space to the top of the capillary fringe of the water table. Dissolved components of the LNAPL precede the less

soluble components and may change the wetting properties of the water, causing a reduction in the residual water content and a decrease in the height of the capillary fringe.

Since LNAPL are lighter than water, it will float on top of the capillary fringe. As the head formed by the infiltrating LNAPL increases, the water table is depressed and the LNAPL accumulate in the depression. If the source of the spilled LNAPL is removed or contained, LNAPL within the vadose zone continue to flow under the force of gravity until reaching residual saturation. As the LNAPL continue to enter the water table depression, it spread laterally on top of the capillary fringe. The draining of the upper portions of the vadose zone reduces the total head at the interface between the LNAPL and the groundwater, causing the water table to rebound slightly. The rebounding water displaces only a portion of the LNAPL because the LNAPL remain at residual saturation. Groundwater passing through the area of residual saturation dissolves constituents of the residual LNAPL, forming a contaminant plume. Water infiltrating from the surface also can dissolve the residual LNAPL and add to the contaminant load of the aquifer.

Decrease in the water table level from seasonal variations may lead to dropping of the pool of LNAPL. If the water table rises again, part of the LNAPL may be pushed up, but a portion remains at residual saturation below the new water table. Variations in the water table height, therefore, can spread LNAPL over a greater thickness of the aquifer, causing larger volumes of aquifer materials to be contaminated.

Hydrocarbon products do biodegrade in the subsurface, although the effectiveness of this process depends on subsurface conditions. The type of hydrocarbon product plays a further role in the duration of biodegradation, with the longer chain components taking much longer to biodegrade.

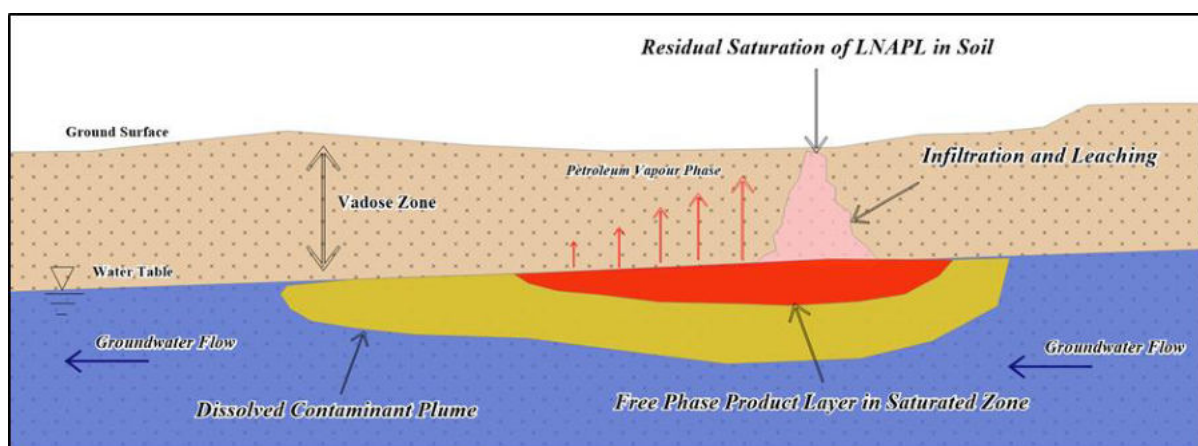


Figure 8-1 Conceptual LNAPL release to the vadose zone

8.2 NOISE IMPACTS

Noise will be a factor during the construction phase of the new fuel retail facility as well as during decommissioning of the old site due to large trucks and machinery working on site. Some noise will also exist due to heavy and light motor vehicles accessing the site for delivering and collecting fuel during operations.

8.3 TRAFFIC IMPACTS

Some traffic impacts can be experienced in the vicinity of the fuel retail facility during its construction, especially where construction vehicles gains access from and to the facility. Overall the relocation of the facility will improve traffic conditions. Access to the new site will be from quieter streets and it will not entice motorists to drive against oncoming traffic as was the case in 18th Road with the old site. Traffic flow may be impacted by delivery trucks bringing fuel to the site, potentially resulting in incidents such as collisions, if proper management measures are not in place.

8.4 FIRE

Chemicals and paints used during construction and maintenance may be flammable. Machinery like welders and grinders can cause sparks that can cause fires. Unleaded petrol is extremely flammable and if fuel is not handled according to Material Safety Data Sheet instructions and SANS requirements, a fire risk exist during the operational phase.

8.5 HEALTH

Construction activities and working at heights have inherent health risks. Hydrocarbons are carcinogenic and dermal contact and inhalation of fumes should be prevented.

8.6 ECOSYSTEM AND BIODIVERSITY IMPACT

As the proposed location is in an already disturbed area with an existing fuel retail facility no significant impacts are expected. Pollution of the environment and groundwater, especially by fuel, can deteriorate the ecosystem structure and function. Bright lighting directed upwards may impact on birds flying at night (e.g. flamingos) and this can cause disorientation and collisions with manmade structures.

8.7 SOCIO-ECONOMIC IMPACTS

Construction activities and operations of the new fuel retail facility will provide additional employment opportunities in the area. The operational phase will create permanent employment opportunities and some training and skills development will take place. Social ills including spread of disease, alcohol misuse, theft, etc., may result from construction personnel and job seekers moving into the area or due to the larger workforce if employees are not sourced locally.

9 ASSESSMENT AND MANAGEMENT OF IMPACTS

The purpose of this section is to assess and identify the most pertinent environmental impacts that are expected from the refurbishment, operational, and potential decommissioning activities of the facility. An EMP based on these identified impacts are also incorporated into this section.

For each impact an Environmental Classification was determined based on an adapted version of the Rapid Impact Assessment Method (Pastakia, 1998). Impacts are assessed according to the following categories: Importance of condition (A1); Magnitude of Change (A2); Permanence (B1); Reversibility (B2); and Cumulative Nature (B3) (see Table 9-1)

Ranking formulas are then calculated as follow:

$$\text{Environmental Classification} = A1 \times A2 \times (B1 + B2 + B3)$$

The environmental classification of impacts is provided in Table 9-2.

The probability ranking refers to the probability that a specific impact will happen following a risk event. These can be improbable (low likelihood); probable (distinct possibility); highly probable (most likely); and definite (impact will occur regardless of prevention measures).

Table 9-1 Assessment criteria

Criteria	Score
Importance of condition (A1) – assessed against the spatial boundaries of human interest it will affect	
Importance to national/international interest	4
Important to regional/national interest	3
Important to areas immediately outside the local condition	2
Important only to the local condition	1
No importance	0
Magnitude of change/effect (A2) – measure of scale in terms of benefit/disbenefit of an impact or condition	
Major positive benefit	3
Significant improvement in status quo	2
Improvement in status quo	1
No change in status quo	0
Negative change in status quo	-1

Significant negative disbenefit or change	-2
Major disbenefit or change	-3
Permanence (B1) – defines whether the condition is permanent or temporary	
No change/Not applicable	1
Temporary	2
Permanent	3
Reversibility (B2) – defines whether the condition can be changed and is a measure of the control over the condition	
No change/Not applicable	1
Reversible	2
Irreversible	3
Cumulative (B3) – reflects whether the effect will be a single direct impact or will include cumulative impacts over time, or synergistic effect with other conditions. It is a means of judging the sustainability of the condition – not to be confused with the permanence criterion.	
Light or No Cumulative Character/Not applicable	1
Moderate Cumulative Character	2
Strong Cumulative Character	3

Table 9-2 Environmental classification (Pastakia 1998)

Environmental Classification	Class Value	Description of Class
72 to 108	5	Extremely positive impact
36 to 71	4	Significantly positive impact
19 to 35	3	Moderately positive impact
10 to 18	2	Less positive impact
1 to 9	1	Reduced positive impact
0	-0	No alteration
-1 to -9	-1	Reduced negative impact
-10 to -18	-2	Less negative impact
-19 to -35	-3	Moderately negative impact
-36 to -71	-4	Significantly negative impact
-72 to -108	-5	Extremely Negative Impact

9.1 RISK ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN

The EMP provides management options to ensure impacts of the facility are minimised. An EMP is 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 might be included if necessary. The environmental management measures are provided in the tables and descriptions below. These management measures should be adhered to during the various phases of the refurbishment and operation of the facility. This section of the report can act as a stand-alone document. All personnel taking part in the operations of the facility should be made aware of the contents in this section, so as to plan the operations accordingly and in an environmentally sound manner.

The objectives of the EMP are:

- ◆ to include all components of refurbishment activities and operations of the facility;
- ◆ to prescribe the best practicable control methods to lessen the environmental impacts associated with the project;
- ◆ to monitor and audit the performance of operational personnel in applying such controls; and
- ◆ to ensure that appropriate environmental training is provided to responsible operational personnel.

Various potential and definite impacts will emanate from the construction, operational and decommissioning phases. The majority of these impacts can be mitigated or prevented. The impacts, risk rating of impacts, as well as prevention and mitigation measures are listed below.

As depicted in the tables below, impacts related to the facility are expected to mostly be of medium to low significance and can mostly be mitigated to have a low significance. The extent

of impacts are mostly site specific to local and are not of a permanent nature. Due to the nature of the surrounding areas, cumulative impacts are possible and include groundwater contamination and noise.

9.1.1 Planning

During the phases of planning for construction (relocation, future upgrades, maintenance etc.) continued operations and possible future decommissioning of the facility, 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 governs the operations of the facility are in place and remains valid. This includes the petroleum products licence.
- ◆ Ensure all appointed contractors and employees enter into an agreement which includes the EMP. Ensure that the contents of the EMP are understood by the contractors, sub-contractors, employees and all personnel present or who will be present on site.
- ◆ Make provisions to have a health, safety and environmental (HSE) coordinator to implement the EMP and oversee occupational health and safety as well as general environmental related compliance at the site.
- ◆ Have the following emergency plans, equipment and personnel on site, where reasonable, to deal with all potential emergencies:
 - Risk management/mitigation/EMP/Emergency Response Plan and HSE manuals
 - Adequate protection and indemnity insurance cover for incidents;
 - Comply with the provisions of all relevant safety standards;
 - Procedures, equipment and materials required for emergencies.
- ◆ If one has not already been established, establish and maintain a fund for future restoration of the project site should project activities cease and the site is decommissioned and environmental restoration or pollution remediation is required.
- ◆ Establish and/or maintain a bi-annual reporting system to report on aspects of operations, maintenance and decommissioning as outlined in the EMP.
- ◆ Submit biannual environmental monitoring reports to the MEFT to allow for environmental clearance certificate renewal after three years. This is a requirement by MEFT.
- ◆ Appoint a specialist environmental consultant to update the EIA and EMP and apply for renewal of the environmental clearance certificate prior to expiry.

9.1.2 Revenue Generation

Retailing of fuel contributes to revenue generation which is paid to the national treasury while also contributing to the local economy in terms of increased spending power of employees as well as the sourcing of goods and services.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Decommissioning/ Construction	Contribution to local and national economy	2	1	2	2	2	12	2	Definite
Daily Operations	Contribution to local economy	2	1	3	2	1	12	2	Definite
Indirect Impacts	Decrease in unemployment, contribution to local economy	3	1	3	2	3	24	3	Definite

Desired Outcome: Contribution to national treasury and provision of employment to local Namibians.

Actions

Enhancement:

- ◆ The Proponent must employ local Namibians where possible.
- ◆ If the skills exist locally, employees must first be sourced from the town, then the region and then nationally.
- ◆ Deviations from this practice must be justified.

Responsible Body:

- ◆ Contractors
- ◆ Proponent

Data Sources and Monitoring:

- ◆ Bi-annual summary report based on employee records.

9.1.3 Employment

Continued operations and maintenance of the facility relies on employment. Skilled and unskilled labourers are employed or contracted for various tasks of operations and maintenance. Unskilled labour may be sourced locally while it is expected that skilled contractors within Namibia will be used for specialised work. The presence of the facility therefore contributes to employment creation in the skilled and unskilled labour sector.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Decommissioning/ Construction	Employment and contribution to local and national economy	2	1	2	2	2	12	2	Definite
Daily Operations	Employment contribution to local economy	2	1	3	2	1	12	2	Definite
Indirect Impacts	Decrease in unemployment, contribution to local economy	3	1	3	2	3	24	3	Definite

Desired Outcome: Contribution to national treasury and provision of employment to local Namibians.

Actions

Enhancement:

- ◆ The Proponent must employ local Namibians where possible.
- ◆ If the skills exist locally, employees must first be sourced from the town, then the region and then nationally.
- ◆ Deviations from this practice must be justified.

Responsible Body:

- ◆ Contractors
- ◆ Proponent

Data Sources and Monitoring:

- ◆ Bi-annual summary report based on employee records.

9.1.4 Skills, Technology and Development

During operations of the facility, training is provided to a portion of the workforce to be able to perform their duties according to the required standards. Skills are transferred to an unskilled workforce for general tasks. Development of people and technology are key to economic development of the town, region and nationally.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Decommissioning/ Construction	Employment, technological development and transfer of skills	2	1	2	2	1	10	2	Probable
Daily Operations	Employment, technological development and transfer of skills	2	1	3	2	2	14	2	Definite
Indirect Impacts	Transfer of skills and technological development	2	1	3	2	2	14	2	Definite

Desired Outcome: To see an increase in skills of local Namibians, as well as development and technology advancements in the fuel industry.

Actions

Enhancement:

- ◆ If the skills exist locally, contractors and employees must first be sourced from the town, region, and then nationally. Deviations from this practice must be justified.
- ◆ Skills development and improvement programs to be made available as identified during performance assessments.
- ◆ Employees to be informed about parameters and requirements for references upon employment.

Responsible Body:

- ◆ Contractors
- ◆ Proponent

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 reports on all training conducted.

9.1.5 Demographic Profile and Community Health

The facility relies on labour for operations. The scale of the project is limited and it is not foreseen that it has or will in future create a change in the demographic profile of the local community. Exposure to factors such as communicable disease like HIV/AIDS as well as alcoholism / drug abuse are often associated with the trucking industry. Spills and leaks may present risks to members of the public especially if groundwater is polluted.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Decommissioning/ Construction	In-migration and social ills related to unemployment	2	-1	2	1	2	-8	-1	Probable
Daily Operations	In-migration and social ills related to unemployment	2	-1	3	2	2	-14	-2	Probable
Indirect Impacts	The spread of disease	2	-1	3	2	2	-14	-2	Probable

Desired Outcome: To prevent the in-migration and growth in informal settlements and to prevent the spread of diseases such as HIV/AIDS.

Actions:

Prevention:

- ◆ Employ only local people from the area, deviations from this practice should be justified appropriately.
- ◆ Adhere to all municipal by-laws relating to environmental health which includes, but is not limited to sanitation requirements.

Mitigation:

- ◆ Educational programmes for employees on HIV/AIDS and general upliftment of employees' social status.
- ◆ Appointment of reputable contractors.

Responsible Body:

- ◆ Contractors
- ◆ Proponent

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.

9.1.6 Fuel Supply

The facility contributes to ensuring a reliable and convenient supply of fuel to the town, local businesses and residents and the transport industry. The proposed relocation and new facility will aid in ensuring the supply remains uninterrupted.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	Contribution to economy, contribution to the fuel supply in the area	2	1	3	2	2	14	2	Definite
Indirect Impacts	Secure supply in fuel allowing travel and trade	3	1	3	2	2	21	3	Definite

Desired Outcome: Ensure a secure fuel supply remains available.

Actions

Mitigation:

- ◆ Ensure compliance to the petroleum regulations of Namibia which specify adherence to SANS standards for fuel retail facilities.
- ◆ Proper management to ensure constant supply.
- ◆ Record supply problems and take corrective actions.
- ◆ Communicate any fuel shortages and expected delays in supply at a visible location on site.

Responsible Body:

- ◆ Contractors
- ◆ Proponent

Data Sources and Monitoring:

- ◆ Record supply problems and corrective actions taken and compile a bi-annual summary report.

9.1.7 Traffic

The presence of the facility increase traffic flow in the area. This may increase the risk of incidents and accidents especially during the fuel deliveries. However, the relocated facility is expected to have less potential traffic impacts than the old facility. Construction activities may result in temporary traffic impacts as a result of larges vehicles accessing the site for delivery and collection of equipment and machinery.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Decommissioning/ Construction	Delivery of equipment and building supplies	1	-1	2	2	2	-6	-1	Probable
Relocation	Relocation of the facility reduce possible impacts	1	2	3	2	2	14	2	Definite
Daily Operations	Increase traffic, road wear and tear and accidents	1	-2	3	2	2	-14	-2	Probable

Desired Outcome: Minimum impact on traffic and no transport or traffic related incidents.

Actions

Prevention:

- ◆ Erect clear signage regarding access and exit points at the facility.
- ◆ Tanker trucks collecting and delivering fuel should not be allowed to obstruct any traffic.

Mitigation:

- ◆ If any traffic impacts are expected, traffic management should be performed.

Responsible Body:

- ◆ Contractors
- ◆ Proponent

Data Sources and Monitoring:

- ◆ Any complaints received regarding traffic issues should be recorded together with action taken to prevent impacts from repeating itself.
- ◆ A report should be compiled bi-annually of all incidents reported, complaints received, and action taken.

9.1.8 Health, Safety and Security

Activities associated with the construction and operational phases rely on human labour and therefore will expose them to health and safety risks. Health and safety risk associated with the construction activities include excavation activities during tank removal and installation, falling from heights and moving vehicles. Handling of hazardous chemicals (inhalation and carcinogenic effect of some petroleum products), will pose the main risks to employees during the operational phases. Security risks will be related to unauthorized entry, theft and sabotage.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Decommissioning/ Construction	Physical injuries, exposure to chemicals and criminal activities	1	-2	2	2	1	-10	-2	Probable
Daily Operations	Physical injuries, exposure to chemicals and criminal activities	1	-2	3	2	2	-14	-2	Probable

Desired Outcome: To prevent injury, health impacts and theft.

Actions

Prevention:

- ◆ All health and safety standards specified in the Labour Act should be complied with.
- ◆ Clearly label dangerous and restricted areas as well as dangerous equipment and products, especially during the construction phase.
- ◆ Equipment on site must be locked away or placed in a way that does not encourage criminal activities (e.g. theft).
- ◆ 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 and fuel / hazardous substance storage areas.
- ◆ Selected 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.
- ◆ Implement and maintain an integrated health and safety management system, to act as a monitoring and mitigating tool, which includes: colour coding of pipes, operational, safe work and medical procedures, permits to work, emergency response plans, housekeeping rules, MSDS's and signage requirements (PPE, flammable etc.).
- ◆ Security procedures and proper security measures must be in place to protect workers and clients.
- ◆ Develop emergency response plans for all possible health, safety and security impacts and appoint responsible personnel in key positions to activate and oversee such plans when required.

Mitigation:

- ◆ For all emergency situations, the appropriate emergency response plan must be implemented as soon as possible in order to minimize the magnitude of impacts or prevent such impacts from developing into more severe impacts.

Responsible Body:

- ◆ Contractors
- ◆ Proponent

Data Sources and Monitoring:

- ◆ Any incidents must be recorded with action taken to prevent future occurrences.

- ◆ A report should be compiled bi-annually of all incidents reported. The report should contain dates when training were conducted and when safety equipment and structures were inspected and maintained.

9.1.9 Fire

Construction and operational activities may increase the risk of the occurrence of fires. Unleaded petrol is extremely flammable and being a static accumulator may ignite if handled incorrectly.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Decommissioning/ Construction	Fire and explosion risk	1	-2	2	2	1	-10	-2	Probable
Daily Operations	Fire and explosion risk	1	-2	3	2	1	-10	-2	Probable

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

Actions:

Prevention:

- ◆ A holistic fire protection and prevention plan must be developed for the site and it should specifically take into account flammable products stored on site. This plan must include an emergency response plan, firefighting plan and a spill recovery plan and should have dedicated assigned personnel to oversee their development and implementation.
- ◆ Firefighting equipment must be maintained and regularly serviced.
- ◆ Regular personnel training (firefighting, fire prevention and responsible housekeeping practices).
- ◆ Ensure all chemicals are stored strictly according to MSDS and SANS instructions. This include segregation of incompatible products.
- ◆ Maintain regular site, mechanical and electrical inspections and perform regular maintenance.
- ◆ Clean all spills/leaks without delay and dispose of any contaminated material according to their MSDS requirements and at suitable locations to prevent the accumulation of flammable or explosive products on site.
- ◆ For fuel storage, special note must be taken of the regulations stipulated in sections 47 and 48 of the Petroleum Products and Energy Act, 1990 (Act No. 13 of 1990) and SANS standards for operation and maintenance of the consumer fuel installation should be followed.

Mitigation:

- ◆ For any fire related emergency situation, the appropriate emergency response plan must be implemented as soon as possible in order to minimize the magnitude of impacts or prevent such impacts from developing into more severe impacts.

Responsible Body:

- ◆ Contractors
- ◆ Proponent

Data Sources and Monitoring:

- ◆ A register of all incidents must be maintained on a daily basis. This should include measures taken to ensure that such incidents do not repeat themselves.
- ◆ A report should be compiled bi-annually of all incidents reported. The report should contain dates when fire drills were conducted and when fire equipment was tested and training given.

9.1.10 Air Quality

The operational phase release fuel vapours into the air during refuelling of bulk storage tanks as well as at dispensing points. Prolonged exposure may have carcinogenic effects. Construction and refurbishment activities may cause dust where soil surfaces are exposed.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Decommissioning/ Construction	Excessive dust generated from maintenance and construction activities	1	-1	2	2	2	-6	-1	Probable
Daily Operations	Fuel vapours	2	-1	3	2	1	-12	-2	Probable

Desired Outcome: To prevent health impacts related to reduced air quality.

Actions

Mitigation:

- ◆ Employees should be informed about the dangers of fuel vapours.
- ◆ Vent pipes must be properly placed as per SANS requirements.
- ◆ During construction, dust masks should be provided to employees where dust impacts are expected and dust suppression by means of water implemented.

Responsible Body:

- ◆ Contractors
- ◆ Proponent

Data Sources and Monitoring:

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

9.1.11 Noise

Noise pollution may be generated due to heavy and light motor vehicles accessing the site to offload fuel or refuel. Construction and refurbishment activities may result in a temporary increase in noise levels.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Decommissioning/ Construction	Excessive noise generated from refurbishment activities – nuisance and hearing loss	1	-2	2	2	1	-10	-2	Probable
Daily Operations	Noise generated from the operational activities – nuisance	1	-2	3	2	1	-12	-2	Probable

Desired Outcome: To prevent any nuisance and hearing loss due to noise generated.

Actions

Prevention:

- ◆ Follow the Health and Safety Regulations of the Labour Act's guidelines for limits on noise in the workplace and World Health Organization (WHO) guidelines on maximum noise levels (Guidelines for Community Noise, 1999) to prevent hearing impairment and a nuisance at nearby receptors.
- ◆ All machinery must be regularly serviced to ensure minimal noise production.
- ◆ Manage noise caused by clients including loud music.

Mitigation:

- ◆ Hearing protectors as standard PPE for workers in situations with elevated noise levels.

Responsible Body:

- ◆ Contractors
- ◆ Proponent

Data Sources and Monitoring:

- ◆ Health and Safety Regulations of the Labour Act's guidelines for limits on noise in the workplace and World Health Organization (WHO) guidelines on maximum noise levels (Guidelines for Community Noise, 1999).
- ◆ Maintain a complaints register.
- ◆ Bi-annual report on complaints and actions taken to address complaints and prevent future occurrences.

9.1.12 Waste production

Waste is produced during the construction and operational phase. Waste includes hazardous waste associated with the handling of hydrocarbon products. Maintenance waste may include building rubble and discarded equipment contaminated by hydrocarbon products. Contaminated soil and water is considered as hazardous waste. Such contamination may be present at the site to be decommissioned. Domestic waste will be generated by the facility and related operations. Waste presents a contamination risk and when not removed regularly may become a fire hazard.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Decommissioning/ Construction	Excessive waste production, littering, illegal dumping, contaminated materials	1	-2	2	2	2	-12	-2	Probable
Daily Operations	Excessive waste production, littering, contaminated materials	1	-2	3	2	2	-14	-2	Probable

Desired Outcome: To reduce the amount of waste produced and prevent pollution and littering.

Actions

Prevention:

- ◆ Waste reduction measures should be implemented and all waste that can be re-used/recycled must be kept separate.
- ◆ Ensure adequate waste storage facilities are available.
- ◆ Ensure waste cannot be blown away by wind.
- ◆ Prevent scavenging (human and non-human) of stored waste.

Mitigation:

- ◆ Waste should be disposed of regularly and at appropriately classified disposal facilities, this includes hazardous material (empty chemical containers, contaminated rugs, paper water and soil).
- ◆ See the MSDS available from suppliers for disposal of contaminated products and empty containers.
- ◆ Liaise with the town council regarding waste and handling of hazardous waste.

Responsible Body:

- ◆ Contractors
- ◆ Proponent

Data Sources and Monitoring:

- ◆ 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.
- ◆ All information and reporting to be included in a bi-annual report.

9.1.13 Ecosystem and Biodiversity Impact

The sites has previously been developed and is devoid of vegetation. The nature of the operational activities is such that the probability of creating a habitat for flora and fauna to establish is low. Ecosystem or biodiversity impacts are mostly associated with pollution of the environment and potential impacts of bright lights on birds.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Decommissioning/ Construction	Impact on fauna and flora. Loss of biodiversity	1	-1	2	2	2	-6	-1	Improbable
Daily Operations	Impact on fauna and flora. Loss of biodiversity	1	-1	3	2	2	-7	-1	Improbable

Desired Outcome: To avoid pollution of, and impacts on, the ecological environment.

Actions.

Prevention:

- ◆ Educate all contracted and permanent employees on the value of biodiversity.
- ◆ Direct all lighting downwards.

Mitigation:

- ◆ Contain construction material and activities on site.
- ◆ Mitigation measures related to waste handling and the prevention of groundwater, surface water and soil contamination should limit ecosystem and biodiversity impacts.
- ◆ Prevent scavenging of waste by animals.
- ◆ The establishment of habitats and nesting sites at the facility should be avoided where possible.

Responsible Body:

- ◆ Contractors
- ◆ Proponent

Data Sources and Monitoring:

- ◆ Any ecologically significant events or sightings to be included in a bi-annual report.

9.1.14 Groundwater, Surface Water and Soil Contamination

Operations entails the storage and handling of various hydrocarbons (such as fuels and lubricants). Such material may contaminate surface water, soil and groundwater. Contamination may either result from failing storage facilities and reticulation, or spills and leaks associated construction activities and with fuel handling such as overfills and spills.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Decommissioning/ Construction	Contamination from hazardous material spillages and hydrocarbon leakages	2	-2	2	2	1	-20	-3	Probable
Daily Operations	Contamination from hazardous material spillages and hydrocarbon leakages	2	-2	3	2	1	-24	-3	Probable

Desired Outcome: To prevent the contamination of water and soil.

Actions

Prevention:

- ◆ All construction and or maintenance machines should be maintained to be in a good working condition during operation.
- ◆ Employ drip trays and spill kits during construction when onsite servicing/repairs of equipment are needed.
- ◆ Spill control structures and procedures must be in place according to SANS standards or better and connection of all surfaces where fuel is handled, with an oil water separator.
- ◆ Surfactants (soap) should not be allowed to enter the oil water separator as this will decrease its efficiency.
- ◆ All fuelling should be conducted on surfaces provided for this purpose. E.g. Concrete slabs with regularly maintained seals between slabs.
- ◆ The procedures followed to prevent environmental damage during service and maintenance, and compliance with these procedures, must be audited and corrections made where necessary.
- ◆ Proper training of operators must be conducted on a regular basis (fuel handling, spill detection, spill control).

Mitigation:

- ◆ Once the old site is decommissioned and the tanks removed, a conditions assessment must be performed to determine the presence of any contaminated soil. Should contamination be present, rehabilitation of the site must be performed. This should be overseen by the Health and Hazardous Waste inspectors of the municipality.
- ◆ Any spillage of more than 200 l must be reported to the Ministry of Mines and Energy.
- ◆ Spill clean-up means must be readily available on site as per the relevant MSDS and all spills must be cleaned up immediately.
- ◆ During site refurbishment a pollution environmental conditions survey (tank pit survey) must be conducted when tanks are removed and any contaminated soil, if present, must be removed prior to installation of new tanks.

Responsible Body:

- ◆ Contractors
- ◆ Proponent

Data Sources and Monitoring:

- ◆ Conditions assessment on old site at the time of decommissioning.
- ◆ Daily tank inspections and dips to detect product loss due to leaks as soon as possible.
- ◆ 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, comparison of pre-exposure baseline data (previous pollution conditions survey results) with post remediation data (e.g. soil / groundwater hydrocarbon concentrations) and a copy of documentation in which spill was reported to Ministry of Mines and Energy.

9.1.15 Visual Impact

This is an impact that not only affects the aesthetic appearance, but also the integrity of the facility. The general upkeep and maintenance of the facility will not only reduce any negative visual impacts, but also ensure the longevity of the structures and buildings. The new relocated facility will have a positive visual impact.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Decommissioning/Construction	Aesthetic appearance and integrity of the site	1	-1	2	2	2	-6	-1	Probable
Daily Operations	Aesthetic appearance and integrity of the site	1	2	2	2	2	12	2	Definite

Desired Outcome: To minimise aesthetic impacts associated with the facility and prevent lighting from being a visual disturbance.

Actions

Mitigation:

- ◆ Regular waste disposal, good housekeeping and routine maintenance on infrastructure will ensure that the longevity of structures are maximised and a low visual impact is maintained.
- ◆ Lighting should be directed towards the facility or downwards and away from residents where possible.
- ◆ Minimum lighting necessary for operations to be used at night. The installation of auto-dimming lights when no movement is detected are desirable.

Responsible Body:

- ◆ Contractors
- ◆ Proponent

Data Sources and Monitoring:

- ◆ A report should be compiled every bi-annually of all complaints received and actions taken.

9.1.16 Cumulative Impact

Possible cumulative impacts associated with the construction, operational and decommissioning phases include increased traffic and noise in the area.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Decommissioning/ Construction	The build-up of minor impacts to become more significant	2	-2	2	2	2	-24	-3	Probable
Daily Operations	The build-up of minor impacts to become more significant	2	-2	2	2	2	-24	-3	Probable

Desired Outcome: To minimise all cumulative impacts associated with the facility.

Actions

Mitigation:

- ◆ Addressing each of the individual impacts as discussed and recommended in the EMP would reduce the cumulative impact.
- ◆ Reviewing bi-annual and annual reports for any new or re-occurring impacts or problems would aid in identifying cumulative impacts and help in planning if the existing mitigations are insufficient

Responsible Body:

- ◆ Contractors
- ◆ Proponent

Data Sources and Monitoring:

- ◆ Annual summary report based on all other impacts must be created to give an overall assessment of the impact of the operational phase.

9.2 DECOMMISSIONING AND REHABILITATION

Decommissioning of the existing facility, after the new fuel retail facility is constructed, has been included in this report and assessment. Preventative and mitigation measures are provided for identified impacts (section 9.1). Decommissioning will entail the complete removal of all infrastructure underground infrastructure related to the old facility. Any pollution present on the site must be remediated. A soil conditions survey should be conducted to detect any hydrocarbon pollution and to implement remediation measures. The impacts associated with this phase include noise and waste production as structures are dismantled. Noise must be kept within Labour Act and WHO standards and waste should be contained and disposed of at an appropriately classified and approved waste facility and not dumped in the surrounding areas. For purposes of the relocated facility, it is not foreseen that it will be decommissioned during the validity of the environmental clearance certificate. Should decommissioning be considered in future, the EMP will have to be reviewed at the time of decommissioning, to cater for changes made to the site and to implement new guidelines and mitigation measures.

9.3 ENVIRONMENTAL MANAGEMENT SYSTEM

The Proponent could implement an Environmental Management System (EMS) for their operations. An EMS is an internationally recognized and certified management system that will ensure ongoing incorporation of environmental constraints. 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; and
- ◆ Periodic (internal and external) audits and reviews of environmental performance and the effectiveness of the EMS.
- ◆ The EMP.

10 CONCLUSION

The fuel retail facility has a positive impact on the various sectors operational in the town and surrounding community. In addition to reliable and convenient fuel the Proponent contributes to employment, skills transfer and training which in turn develops the local workforce. The proposed relocation and newly constructed facility will ensure the operations remain compliant with legislative requirements, and aid in securing a constant and reliable supply of fuel.

Negative impacts can successfully be mitigated. SANS standards relating to the petroleum industry and prescribed by Namibian law must be followed during construction and operations of the fuel retail facility as well as decommissioning of the old facility. Noise pollution should at all times meet the Health and Safety Regulations of the Labour Act and/or WHO guidelines on community noise requirements to prevent hearing loss and not to cause a nuisance. Fire prevention should be adequate, and health and safety regulations should be adhered to in accordance with the regulations pertaining to relevant laws and internationally accepted standards of operation. Any waste produced must be removed from site and disposed of at an appropriate facility or re-used or recycled where possible. Hazardous waste must be disposed of at an approved hazardous waste disposal site. Spill containment infrastructure is key in preventing pollution of the environment and includes drip trays and suitably surfaced areas where fuel is handled.

The EMP should be used as an on-site reference document for the construction and operations of the facility as well as decommissioning of the old facility. Parties responsible for transgressing of the EMP

should be held responsible for any rehabilitation that may need to be undertaken. The Proponent could use an in-house health, safety, security and environment management system in conjunction with the EMP. All operational personnel must be taught the contents of these documents.

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

Table 10-1 Impacts summary class values

Impact Category	Impact Type	Construction		Operations	
<i>Positive Rating Scale: Maximum Value</i>		5		5	
<i>Negative Rating Scale: Maximum Value</i>		-5		-5	
EO	Revenue Generation	2		2	
EO	Employment	2		2	
SC/SC	Skills, Technology and Development	2		2	
EO	Demographic Profile and Community Health	-1		-2	
EO	Fuel Supply			2	
SC/EO	Traffic	-1		-2	
EO	Health, Safety and Security	-2		-2	
PC/EO	Fire	-2		-2	
PC	Air Quality	-1		-2	
PC	Noise	-2		-2	
PC/BE	Waste production	-2		-2	
BE	Ecosystem and Biodiversity Impact	-1		-1	
PC	Groundwater, Surface Water and Soil Contamination	-3		-3	
SC/EO	Visual Impact	-1		2	
SC/EO/PC/BE	Cumulative Impact	-3		-3	

BE = Biological/Ecological EO = Economical/Operational PC = Physical/Chemical SC = Sociological/Cultural

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Appendix A: Proof of Public Participation

Notified Interested and Affected Parties – Via Email

Name	Institution
David Uushona	Municipality of Walvis Bay
Lovisa Hailaula	Municipality of Walvis Bay
Ephraim Nambahu	Municipality of Walvis Bay
Nangula Amatsi Amutenya	Municipality of Walvis Bay
Coastal Hire Walvis Bay	Neighbour

Notified Neighbours – Hand Delivered Letters

 Public Participation Notification: Environmental Assessment: For the relocation and operation of a fuel retail facility in Walvis Bay						
Name & Surname	Organisation/Address	Tel / Mobile	Email	Signature		
Julius TSOUMASEB	Greg's Motors Spares	064 278550	julius@gregsmotorspaces.com			
Almarie Himbiri	Atlantic Hygiene	052041111	himbiri.al@icloud.com			
Lally Tcapuwa	PODGNAZ	0818588146	podgnaz@protonenergy.com			
JOSEF LUCAS	FISCHHYDRAULIC	0816028923	fischlucas@fischhydraulik.com			
PETER VO NERWE	FLM	0511289181	pvo@flm.com.na			
James K	Jumbocharcoal	064 221410				
Gloria. N	NINE	064 203382	info@nine-namibia.com.na			
EBERTH BOOIS	Wurth Namibia	064 207520	wurthshop@wurth.com.na			

Geo Pollution Technologies
 Novel Ford
 October 2022

Municipality Notification Letter



TEL.: (+264-61) 257411 ♦ FAX.: (+264) 88626368
 CELL.: (+264-81) 1220082
 PO BOX 11073 ♦ WINDHOEK ♦ NAMIBIA
 E-MAIL: gpt@thenamib.com

To: Interested and Affected Parties 12 October 2022
 Re: Environmental Scoping Assessment and Environmental Management Plan for the Relocation and Operations of a Fuel Retail Facility in Walvis Bay

Dear Sir/Madam

In terms of the Environmental Management Act (No 7 of 2007) and the Environmental Impact Assessment Regulations (Government Notice No 30 of 2012), notice is hereby given to all potential interested and/or affected parties that an applications will be made to the Environmental Commissioner for an environmental clearance certificate for the following project:

Project: The Relocation and Operational Activities of a Fuel Retail Facility in Walvis Bay.

Proponent: Carheim Investments (Pty) Ltd t/a Novel Motor Company

Environmental Assessment Practitioner: Geo Pollution Technologies (Pty) Ltd

Carheim Investments (Pty) Ltd t/a Novel Motor Company requested Geo Pollution Technologies (Pty) Ltd to prepare an environmental assessment (EIA) and environmental management plan (EMP) for the relocation and operations of the Novel Motor Company fuel retail facility in Walvis Bay. The Proponent plans to demolish their existing fuel retail facility located on erf 4638, at the corner of Moses Garoeb and Hanna Mupetami Streets. This existing facility has been in operation for many years, and now requires significant upgrades or refurbishments. As such, the Proponent decided to rather relocate the fuel retail facility to erf 2605, at the corner of Moses Garoeb and Circumferential Streets.

Geo Pollution Technologies (Pty) Ltd was appointed by the Proponent to conduct an environmental assessment for both the demolition of the old facility, as well as construction of the new facility. As part of the assessment we consult with interested and affected parties (IAPs). All IAPs are invited to register with the environmental consultant to receive further documentation and communication regarding the project. By registering, IAPs will be provided with an opportunity to provide input that will be considered in the drafting of the environmental assessment report and its associated management plan. Additional background information for the project is available at:

www.thenamib.com/projects/projects.html

Please register as an IAP and provide comments by **25 October 2022**.

To register, please contact:

Email: gpt@thenamib.com

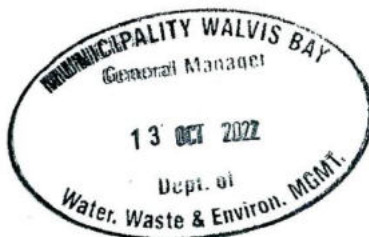
Fax: 088-62-6368

Should you require any additional information please contact Geo Pollution Technologies at telephone 061-257411.

Thank you in advance.

Sincerely,
Geo Pollution Technologies

André Faul
 Environmental Scientist



[Handwritten signature]
 Received 13/06/2022

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Directors:

P. Botha (B.Sc. Hons. Hydrogeology) (Managing)

Registered Interested and Affected Parties

Name	Institution
Lovisa Hailaula	Municipality of Walvis Bay
Ephraim Nambahu	Municipality of Walvis Bay
Riaan Archer	Municipality of Walvis Bay
Jesaya Andreas	Municipality of Walvis Bay
Erikka Handongo	Municipality of Walvis Bay
Clinton Jacobs	Municipality of Walvis Bay
Nangula Amatsi Amutenya	Municipality of Walvis Bay

Minutes of Meeting with Municipality

Environmental Assessment for the <u>Relocation of the Fuel Retail Facility of Carheim Investments (Pty) Ltd t/a Novel Motor Company, Walvis Bay</u>			
Date:	13 October 2022		
Time:	10:00 – 10:40		
Venue:	Kuseb Conference Room, Wastewater and Environmental Management Offices		
Project Team	Lovisa Hailaula	Municipality of Walvis Bay	LHailaula@walvisbaycc.org.na
	Ephraim Nambahu	Municipality of Walvis Bay	ENambahu@walvisbaycc.org.na
	Riaan Archer	Municipality of Walvis Bay	RArcher@walvisbaycc.org.na
	Jesaya Andreas	Municipality of Walvis Bay	jandreas@walvisbaycc.org.na
	Erikka Handongo	Municipality of Walvis Bay	healthintern@walvisbaycc.org.na
	Clinton Jacobs	Municipality of Walvis Bay	cjacobs@walvisbaycc.org.na
	Nangula Amatsi Amutenya	Municipality of Walvis Bay	namutenya@walvisbaycc.org.na

List of Abbreviations:

EMP	Environment Management Plan
EIA	Environmental Impact assessment
SANS	South African National Standards

Opening Remarks

Ms. Namutenya opened the meeting and gave the floor to Dr. Faul to introduce the project.

Meeting Proceedings

Dr. Faul briefly introduced himself and gave a short description of the proposed project of Novel Motor Company (the Proponent). In short the project entails the relocation of their existing fuel retail facility from erf 4638 to erf 2605. He explained the new facility will adhere to all SANS requirements for fuel retail facilities, which include all spill control measures. He further mentioned that the environmental assessment will include both the decommissioning of the existing facility and the construction and operations of the new facility.

Mr Nambahu mentioned that he will confirm the erf numbers and if the property was subdivided, the facility will be relocated to a new erf. Fuel retail facilities require consent use on light industrial erven and such consent will have to be applied for. In future, such consent application procedures can be conducted simultaneous with the EIA process. [It was ascertained after the meeting that fuel retail facilities are in fact “primary use” establishments on light industrial erven and that consent use application will not be required].

The question was raised as to what will happen at the old site. Dr. Faul mentioned that all old infrastructure, including the tanks, will be removed and it is typically required that a pollution survey be conducted and if any pollution is detected, rehabilitation must be performed. He said he suspects they will continue to use the area for parking once decommissioned and rehabilitated.

Mr. Cloete noted that potential traffic impacts will be mitigated by moving the site to the new erf. The relocation is thus positive from a traffic perspective.

Ms. Nangula mentioned that the Hazardous Waste and Health inspectors must do a site visit at the old site, once the tanks are removed, to assess the condition of the site in terms of potential pollution. Dr. Faul noted that a conditions assessment will also be part of the EMP and that the need for the inspectors' involvement will also be highlighted.

With no further comments or discussions the meeting was adjourned.

Appendix B: Curriculum Vitae

ENVIRONMENTAL SCIENTIST**André Faul**

André entered the environmental assessment profession at the beginning of 2013 and since then has worked on more than 160 Environmental Impact Assessments including assessments of the petroleum industry, harbour expansions, irrigation schemes, township establishment and power generation and transmission. André's post graduate studies focussed on zoological and ecological sciences and he holds a M.Sc. in Conservation Ecology and a Ph.D. in Medical Bioscience. His expertise is in ecotoxicological related studies focussing specifically on endocrine disrupting chemicals. His Ph.D. thesis title was The Assessment of Namibian Water Resources for Endocrine Disruptors. Before joining the environmental assessment profession he worked for 12 years in the Environmental Section of the Department of Biological Sciences at the University of Namibia, first as laboratory technician and then as lecturer in biological and ecological sciences.

CURRICULUM VITAE ANDRÉ FAUL

Name of Firm	:	Geo Pollution Technologies (Pty) Ltd.
Name of Staff	:	ANDRÉ FAUL
Profession	:	Environmental Scientist
Years' Experience	:	21
Nationality	:	Namibian
Position	:	Environmental Scientist
Specialisation	:	Environmental Toxicology
Languages	:	Afrikaans – speaking, reading, writing – excellent English – speaking, reading, writing – excellent

EDUCATION AND PROFESSIONAL STATUS:

B.Sc. Zoology	:	University of Stellenbosch, 1999
B.Sc. (Hons.) Zoology	:	University of Stellenbosch, 2000
M.Sc. (Conservation Ecology)	:	University of Stellenbosch, 2005
Ph.D. (Medical Bioscience)	:	University of the Western Cape, 2018

First Aid Class A	OSH-Med, 2022
Basic Fire Fighting	OSH-Med, 2022

PROFESSIONAL SOCIETY AFFILIATION:

Environmental Assessment Professionals of Namibia (Practitioner)

AREAS OF EXPERTISE:

Knowledge and expertise in:

- ◆ Water Sampling, Extractions and Analysis
- ◆ Biomonitoring and Bioassays
- ◆ Biodiversity Assessment
- ◆ Toxicology
- ◆ Restoration Ecology

EMPLOYMENT:

2013-Date	:	Geo Pollution Technologies – Environmental Scientist
2005-2012	:	Lecturer, University of Namibia
2001-2004	:	Laboratory Technician, University of Namibia

PUBLICATIONS:

Publications:	5
Contract Reports	+160
Research Reports & Manuals:	5
Conference Presentations:	1