ENVIRONMENTAL SCOPING AND MANAGEMENT PLAN

Proposed Alliance LC's Dry Bulk (Mineral / Manganese Ore) Loading and Export Operations utilizing a Transshipment Facility at the Port of Lüderitz, Namibia

APRIL 21

Compiled for: Mr. Vyacheslav Lobikov
Alliance LLC
11B Komendantsky propsekt
Saint-Petersburg, Russia

Authored by: Mr. Titus Shuuya

АЛЬЯНС

P. O. Box 25874, Windhoek +264 81 232 6843 eap.trigen@gmail.com

Title	Application for Environmental Clearance Certificate for the Proposed Alliance LC's Dry Bulk (Mineral Ore) Loading and Export Operations utilizing a Transshipment Facility at the Port of Lüderitz, Namibia	
ECC Application Reference number	APP- 002862	
Location	Lüderitz Port, Namibia	
Proponent	LC Alliance 11B Komendantsky propsekt Saint-Petersburg, Russia P. O. Box 25874, Windhoek	
Author:	Signature	Date
Mr. Shadrck Tjiramba (EAP) 1		28 March 2022
Mr. Ipeinge Mundjulu (Reviewer) 2		13 April 2022
Approval – Client 1		
Mr. Vyacheslav Lobikov		20 April 2021

Project Overview

Alliance LLC (herein referred to as the proponent) is an international logistics and shipping company, which endeavours in the logistics and shipping operations. The proponent has partnered with Manica Group Namibia (Pty) Ltd and Pektranam Logistics (Pty) Ltd, both Namibian registered logistics companies to venture in the export of mineral ore through the Port of Lüderitz. While Manica Group Namibia (Pty) Ltd and Pektranam Logistics (Pty) Ltd will be responsible for the on-land activities i.e. the sourcing, handling and haulage of dry bulk commodity (mainly bulk manganese ore, zinc and lead) to the port, Alliance LC is assigned the role providing services relating to the operation Floating Transshipment Facility to transfer ore from the barges onto the an Ultramax / Supramax vessels for export.

Considering the fact that the Port of Lüderitz is shallow and relatively congested, Alliance LLC propose to implement the use of a transshipment facility within the Lüderitz Port in order to undertake its operations. To this effect, Alliance LLC wishes to apply and obtain an Environmental Clearance Certificate to ensure compliance with the Environmental Management Act (No. 7 of 2007) and other legislatures in respect to operating a transshipment facility and also handling dry bulk cargo within the Lüderitz harbour.

Need for the Project

The shallowness of the port has limited the efficiency of the port and the value of transactions performed in the port-dependent coastal town, and deepening it could enhance its capacity and increase trade volume in the town.

Hence, the Namibia Ports Authority (NamPort) considered developing a deep-water port, at Angra Point in the southern coastal town (Lüderitz) to enhance its cargo handling capacity, as the current port is being used beyond capacity. However, a deep-water port would present definite and significant environmental implications.

Therefore, as an alternative NamPort opts to adopt short-term to middle-term plans to enhance capacity within the existing port. These includes, the introduction of a transshipment vessel to ensure dry bulk such mineral ore is not only loaded at quay in order to accommodate full loading of larger vessels from the Lüderitz Port.

Project Description

Alliance LLC proposes to install and operate a transhipment facility (consisting of a floating crane and two barge facilities each with a capacity of between 8000 – 10 000 mt) from quayside of Lüderitz Port. In total the facility is designed and envisaged to handle a volume of about 2.2 Mill ton in order to accommodate potential for growth.

Firstly, the port's shore cranes will be utilized and for this NamPort Authority has offered to avail from its Walvis Bay equipment fleet, one crane to the Port of Lüderitz thus increasing the port's capacity to two (2) shore crane.

The proposed process shall consist of the following activities:

- After completion of loading of barges quayside, they will be towed by NamPort tugs to the mother ship;
- The barges will make fast to the floating crane;
- The floating crane will perform the unloading from barges and loading into mother ship operations using high-density grabs;
- As soon as unloaded, the barges will be towed

Need for an Environmental Impact Assessment

In compliance with the Environmental Management Act No. 7 of 2007, to determine the potential impact related to the Barges Operation, an EMP addendum and a Contingency / Emergency Response Plans were compiled. These shall be submitted to the Department of Environmental Affairs in order to apply for Environmental Clearance Certificate (ECC). The need for the assessment is triggered by the activities of the proposed operations falling under the following category of listed activities.

Therefore, Alliance LLC has appointed Enviro-Leap Consulting cc to conduct an environmental assessment and facilitate the process of obtaining and Environmental Clearance Certificate.

Approach to the EIA Process

The assessment process consisted of a site visit to the project location and public consultation meetings with the Interested and Affected Parties (I&APs). An environmental scoping and management plan (EMP) were compiled and constitute the application for an Environmental Clearance Certificate submitted to the Ministry of Environment and Tourism (Office of Environmental Commissioner).

Overall Recommendation

Based on the findings of the environmental scoping assessment, which concludes that all potential negative impacts associated to the proposed Alliance's transshipment facility installation and operations are minimal and practical mitigation measures are available. Equally, the positive impacts can be harnessed to increase the net marginal benefits relating to the socio-economic aspects of the operations.

Taking into consideration, findings of the environmental scoping process and given the national strategic requirements for infrastructure and economic development, the proposed operations offers an opportunity to positively contribute towards steering Namibia's vision of becoming a Logistic Hub.

It is the EAPs opinion that, provided that the specified mitigation measures and any additional conditions as may be applicable are adhered to, issuance of an environmental clearance certificate in terms of the Section 32 of the EMA No. 7 of 2007 and its EIA Regulations to Alliance LLC, is recommended.

Glossary

glossary

AfDB	African Development Bank
BID	Background Information Document
BoN	Bank of Namibia
CA	Competent Authority
DEA	National Department of Environmental Affairs
EA	Environmental Authorization
ECC	Environmental Clearance Certificate
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
GPS	Geographical Positioning System
IMF	International Monetary Fund
GPS	Geographical Positioning System
IMF	International Monetary Fund
OEC	Office of Environmental Commissioner
PPP	Public Participation Process
SADC	Southern African Development Community

contents

1. INTRODUCTION

Alliance LLC (herein referred to as the proponent) is an international logistics and shipping company, founded in 2004, is successfully performing towing works and providing auxiliary craft in the ports, oil terminal, and at the berths globally. Overall, Alliance LLC shipping competency revolves mainly around cargo handling (within ports) and shipping of various dry bulk commodities.

The proponent often performs unique tugging operations which includes for instance tugging and delivering of off-size vessels to the aquatic area of Gulf of Finland. Those include floating dry-docks, linear icebreakers and more. Such unique operations are thoroughly worked through at all stages. In 2014, the float-out of "Vladivostok" icebreaker built by the Vyborg Shipyard was fulfilled by LLC Alliance. The work was fulfilled at the shipyard's self-submerged barge "Atlant", which is intended for transporting shipments outside of the area of the shipyard and float-outs.

The proponent has partnered with Manica Group Namibia (Pty) Ltd and Pektranam Logistics (Pty) Ltd, both Namibian registered logistics companies to venture in the export of mineral ore (Manganese) through the Port of Lüderitz. While Manica Group Namibia (Pty) Ltd and Pektranam Logistics (Pty) Ltd will be responsible for the implementation of the Common User Manganese Export Terminal (CUMET, Land-based activities) i.e. construction of warehouse and installation of complementary facilities, the sourcing, handling and haulage of dry bulk commodity (dry bulk manganese ore) to the port, Alliance LLC is assigned the role of installing and operating a Floating-Transshipment-Unit (FTU) and to transfer the ore from a barge onto large vessel offshore but within.

Considering the fact that the Port of Lüderitz is shallow and relatively congested, Alliance LLC propose to implement the use of a transshipment facility (**Figure 1**) within the harbour area in order to undertake its operations.

Figure 1: Shows a typical barge operation similar to that proposed at Lüderitz by Alliance LLC

Alliance LLC wishes to install and operate a FTU facility (consisting of a floating crane barge and two draught deck cargo each with a capacity of between 8000 – 10 000 mt) from quayside of Lüderitz Port. In total the facility is designed and envisaged to be handle a volume of about 90 000 tons per Ultramax / Supramax vessels (two vessels to be loaded monthly). While their operations stimulate diversification in the national economic and development activities, consequently creating employment opportunities and trickling benefits to the larger Namibian population, it poses the risks of unprecedented negative environmental impacts.

Potential impacts may vary in terms of scale (locality), magnitude and duration e.g. minor negative impacts in the form of dust and noise pollution especially during the handling (loading and off-loading) will be experienced.

Most critically, Alliance LLC upon recognition of the potential socio-economic and environmental impacts associated with the proposed operations, they appointed Enviro-Leap Consulting cc to conduct an environmental assessment in order to obtain an environmental clearance certificate prior to commencing the proposed operations (scheduled for **April 2022**).

Therefore, this report presents findings of an environmental scoping process that evaluates the likely socio-economic and environmental effects the proposed operation, and further identifies suitable mitigation measures for avoiding or minimizing the predicted impacts. The envisioned EIA process was undertaken in a holistic approach encompassing different elements as shown in ***Figure 2***.

Figure 2: *Anticipated Environmental Assessment Timeline*

1.1. PROJECT APPLICANT AND PROJECT OVERVIEW

Alliance LLC (herein referred to as the proponent) is an international logistics and shipping company, which endeavours in the logistics and shipping operations. The proponent is awarded a tender by the Namibia Ports Authority (NamPort), to procure, install and operate a transshipment facility for loading of bulk mineral ore from barge vessels onto Ultramax / Supramax vessels in order to enhance the ports capacity and economic viability.

1.2. PROJECT MOTIVATION (INCLUDING NEED AND DESIRABILITY)

The shallowness of the port has limited the efficiency of the port and the value of transactions performed in the port-dependent coastal town, and deepening it could enhance its capacity and increase trade volume in the town. Hence, the Namibia Ports Authority (NamPort) considered developing a deep-water port, at Angra Point in the southern coastal town (Lüderitz) to enhance its cargo handling capacity, as the current port is being used beyond capacity.

However, although the proposed Angra Point Deepwater Port would present definite benefits and opportunities for the local community, there are significant environmental implications. Angra Point peninsula is an ecologically sensitive area and falls within a biodiversity hotspot of the Succulent Karoo Biome, and is the world's only arid hot spot. Consequently, NamPort is forced to seek alternative environmentally sound initiatives to enhance its capacity and economic sustainability without the new harbour.

Alternatively, there are short-term to middle-term plans to enhance capacity within the existing port. These includes, considering the introduction of a transshipment vessel (**Figure 3**) to ensure enhance cargo / container handling capacity at the Port of Lüderitz is attained by not only loading the vessels at the quay but also a bit deep at sea.

Figure 3: Shows illustration of the preferred proposed barge facility to be utilised by Alliance LC

1.2.1. Need and Desirability

The Namibian ports of Walvis Bay and Lüderitz (**Figure 4**) provide the link between the terrestrial transport infrastructure and sea, and are critical to enabling the movement of goods and people. Ports are a key part of the Namibian maritime and logistics infrastructure and thus essential for the country's trade, industrialization, socio-economic development and regional integration. The sector therefore is a key enabler for continued growth of the country as highlighted in the NDP5.

Figure 4: Shows the Port of Lüderitz and associated infrastructure

Lüderitz port faces significant challenges due to its relative shallow depth of 8.75 m and that it is located in a rocky area which limits its expansion. A previous environmental scoping assessment recommended against the development of a deep-water port at Angra Fria point due to its environmental sensitivity.

However, the economic growth drive of the Lüderitz harbour town, requires that sustainable alternatives for ensuring that the port's capacity and livelihoods its operation support is enhanced, are explored and adopted. Hence, the introduction of a transhipment facility within the current harbour area is considered a rather environmentally sound option to that of developing a deep-water port.

Critically, going ahead with the proposed activity creates potential for the following marginal net benefits:

- Contribution Taxes and Royalty
- Technological Skill and Knowledge transfer
- Creates the most needed employment opportunities

1.3. REQUIREMENTS FOR AN ENVIRONMENTAL IMPACT ASSESSMENT

In compliance with requirements of the Environmental Management Act No. 7 of 2007, it is prudent that prior to undertaking any listed activity, their proponents determine the potential impact related to the particular proposed. It is important so, because while a proposed activity may contribute positively to a given socio-economic environment, it may also present unforeseen potentially negative environmental impacts.

Therefore, the Barges Operation, an environmental scoping and EMP reports shall be compiled. These shall be submitted to the Department of Environmental Affairs in order to apply for Environmental Clearance Certificate (ECC). The need for the assessment is triggered by the activities of the proposed operations falling under the following category of listed activities (**Table 1**):

Table 1: List of activities identified in the EIA Regulations which apply to the proposed project

EMA 2007 Legislation	Description of activity	Relevance to this project
The project is listed as an activity requiring an environmental clearance certificate as per the following points from Regulation 29(sub-regulation 9) of Government Notice No. 29 of 2012:	9.1 "The manufacturing, storage, handling or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974."	The project involves the haulage, storage and handling of a potential hazardous commodities (Lead, Zinc and manganese mineral commodity).
	9.2 "Any process or activity which requires a permit, license or other form of authorization, or the modification of or changes to existing facilities for any process or license, or authorization in terms of a law governing the generation or release of emissions, pollution, effluent or waste."	The project involves the haulage, storage and handling of a potential hazardous commodities (Lead, Zinc and manganese mineral commodity).
	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."	The project involves the haulage, mineral commodity of up to 2 million tons
	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."	Aspect of the project require the storage and handling of vessels fuel, although within the Port area at Lüderitz.

1.4. DETAILS AND EXPERTISE OF THE EAP

Over the past four years the Enviro-Leap Consulting cc (see **Table 2** for the composition of ELC's team for this EA) has been involved in a multitude of Environmental Assessment projects across SADC and within Namibia. The Environmental Practitioners of Enviro-Leap Consulting has a combined of more than 35 years' experience in the environmental sector, ecological research and stakeholder engagement. Consequently, the team offers a wealth of experience and appreciation of the environmental and social priorities and national policies and regulations in Namibia.

Table 2: *The EIA Management Team*

NAME	ORGANISATION	ROLE/ SPECIALIST STUDY UNDERTAKEN
Environmental Assessment Practitioners		
Mr. Titus Shuuya	Enviro-Leap Consulting cc	Lead Consultant - Ecologist
Mr. Ipeinge Mundjulu	Red-Dune Consulting cc	Fisheries and Marine Specialist
Mr. Vilho P. Mtuleni	Enviro-Leap Consulting cc	Project Administrator -
Mr. Shadrag Tjiramba	Enviro-Leap Consulting cc	Legal Specialist & Stakeholder Cons. Facilitator

1.5. OBJECTIVES OF THE ENVIRONMENTAL SCOPING ASSESSMENT

The primary objective of this EA Report is to present stakeholders, I&APs and the Competent Authority, the DEA, with an overview of the predicted impacts and associated management actions required to avoid or mitigate the negative impacts; or to enhance the benefits of the proposed Alliance LLC operations.

In broad terms, the 2012 EMA EIA Regulations (GG 4878) stipulates that an EIA Process must be undertaken providing to determine the potential environmental impacts, mitigation and closure outcomes, as well as the residual risks of any listed activity.

Therefore, based on these (EIA Regulations), the objectives of the EA Process is to:

- determine the policy and legislative context within which the activity is located and note how the proposed activity complies with and responds to the policy and legislative context;
- describe the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;
- identify the location of the development footprint within the preferred site based on an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects of the environment;
- determine the nature, significance, consequence, extent, duration and probability of the impacts occurring to inform identified preferred alternatives; and the degree to which these impacts (a) can be reversed; (b) may cause irreplaceable loss of resources, and (c) can be avoided, managed or mitigated; and
- identify suitable measures to avoid, manage or mitigate identified impacts;

In terms of legal requirements, a crucial objective of the EIA Report is to satisfy the requirements of EIA Regulations in respecting to obtaining an Environmental Clearance Certificate. This section regulates and prescribes the content of the Scoping Report and specifies the type of supporting information that accompany the submission of the ECC application to the Competent Authority.

1.6. PROJECT ASSUMPTIONS AND UNCERTAINTY

Enviro-Leap Consulting cc warrants that this assessment was conducted in accordance with the methodologies set forth in the Scope of Work and requirements of the EMA No. 7 of 2007. Equally, we acknowledge various constrains relating to data availability or accuracy and need to comply with for instance the Corvid-19 Regulations which limited the possibility of hosting full stakeholder engagement meetings.

Enviro-Leap believes that the information obtained from the proponent, literature review and during the public consultation process concerning activities of the proposed operation is correct and reliable. However, we cannot guarantee that the information provided by other sources is accurate or complete as these are strictly limited in time and scope.

2. PROJECT DESCRIPTION

As state in the previous section of this report, is awarded a tender contract to compliment activities of the CUMET project by procuring, installing and operating a Floating-Transshipment-Unit (FTU) and to transfer the ore from a barge onto large vessel offshore.

The proponent proposes to strictly undertake their activity from the port area at Lüderitz, and these entails the proposed installation and operation of the transshipment facility (consisting of a floating crane and two barge facilities each with a capacity of between 8000 – 10 000 mt) from quayside of Lüderitz Port. In total the facility is designed and envisaged to be handle a volume of about 2.2 Mill ton in order to accommodate potential for growth.

2.1. SITE SELECTION

On a site specific, Alliance LLC proposes to install the transhipment platform within the Lüderitz Harbour and operate the Barge vessel between the port quay (corner GPS coordinates presented in **Table 3**) and the transhipment facility (**Figure 5**). The site selection process took into consideration key site selection factors such as land availability, proximity to sensitive receptors, site accessibility, topography, risks, current land use.

Figure 5: Illustration of the proposed barge delivery and return route from quay to the transhipment facility

Table 3: Corner coordinates of the proposed development site

Corner point	Latitude	Longitude
A – Lüderitz Port Point 1	-26.640786°	15.152960°
B – Lüderitz Port Point 2	-26.641257°	15.152842°
C – Lüderitz Port Point 3	-26.641326°	15.153498°
D – Lüderitz Port Point 4	-26.640888°	15.153682°

The Namibian Ports Authority (NamPort) has confirmed readiness to host the proposed operations and offered to avail two of it shore cranes as support infrastructure to the proposed activity. Additionally, Alliance LLC is sourcing a suitable transshipment facility to be installed at the Port of Lüderitz quayside to increase bulk vessel loading capacity.

2.2. KEY COMPONENTS OF ALLIANCE LLCOPERATIONS

The core activity will be the hatch-to-hatch transfer of bagged / bulk mineral ore between the draught deck cargo and an Ultra/Supramax vessel. This will be carried out by using a floating transfer unit, either floating cranes or Transfer vessels (preferably a transhipment barge crane). The proposed operation is therefore strictly for the operations within the Port area and in compliance with other existing authorization, and entails a combination of the current loading process and the floating transhipment barge crane.

Alliance LLC proposes to strictly undertake its activity from within the harbour at Lüderitz, and these entails the proposed installation and operation of the transshipment facility (consisting of a floating crane and two draught deck cargo each with a capacity of between 8000 – 10 000 mt) from quayside of Lüderitz Port. It is envisaged that in total 180 000 tons (90 000 ton per Ultra/Supramax vessel) of bulk ore will be handled per month, consisting of two loading cycles of nine (9) days per cycle. The loading at requires approximately ~ 1.5 day per draught deck cargo and barges will be utilized equating to three (3) days of quay loading and a cumulative of twelve / thirteen (12 / 13) days of docking of the FTU at anchorage site a month.

The proposed CUMET project activity's EIA, which is conducted by separately Geo Pollution Technologies includes aspects of the development that will take place within port bounds i.e.

- arrival of a truck or train at the port,
- offloading of manganese ore within a purpose built warehouse for stockpiling,
- loading of a barge (or draught deck cargo) berthed at the quay wall, and
- all administrative and ancillary tasks required for efficient and reliable operations.

While the complementary transshipment operations, covered in this environmental assessment are strictly confined to the off-shore activities within the harbour i.e. firstly, Alliance LLC shall source a suitable transshipment facility to be installed at the Port of Lüderitz deep sea to increase bulk vessel loading capacity.

Secondly, the main loading component shall include the following steps:

- After completion of loading the draught deck cargo, the pre-loaded draught deck cargo will be propelled to the anchorage area (FTU) for transfer / loading onto the Ultra/Supramax vessel

- The vessel loading is then completed by use of a Damen Floating Crane Barge with her own gear and grabs (**Figure 6**)
- It is estimated that to complete a full Ultra/Supramax vessel loading cycle, a maximum of 9 days is required, with the draught deck cargos sailing from quay to the vessel. Hence, to load the envisaged two vessels a total of eighteen days may be required on a monthly basis.

Figure 6: Illustration of the grab equipment used in the transfer of bulk mineral ore on a transhipment facility

2.3. EQUIPMENT ALTERNATIVE: FLOATING TRANSFER UNIT

A floating transfer unit (FTU) is a specialized unit for dry bulk handling between two vessels, complemented by preferably specialised grabs for efficiency and environmental safety and or conveyance belt system where practical. Apart from being the most convenient option for immediate commencement of the proposed operation, **Figure 7** illustrates the justification for priority choice in term

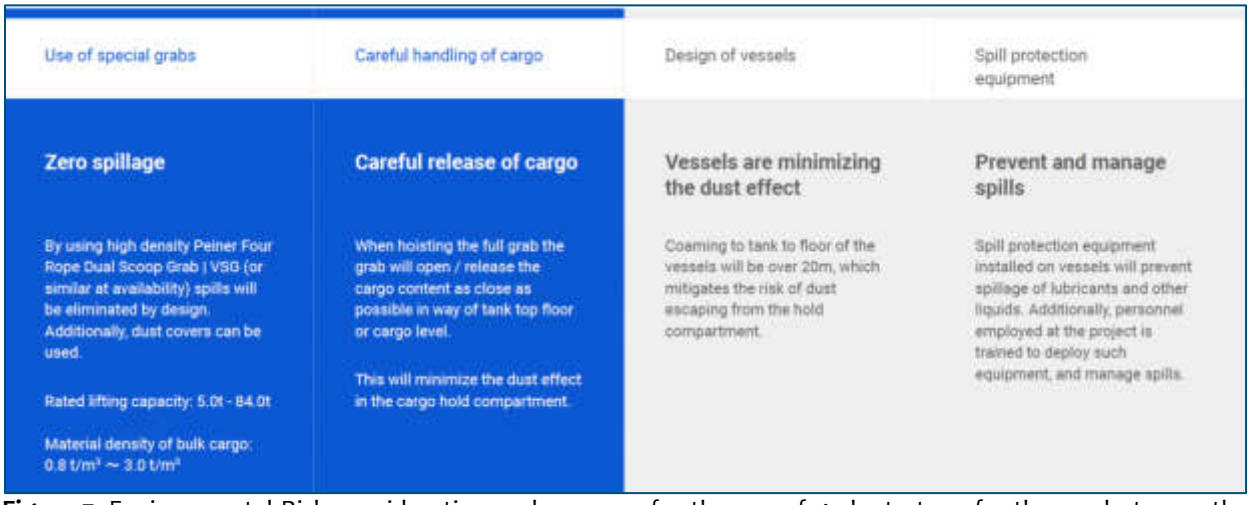


Figure 7: Environmental Risk consideration and measure for the use of grabs to transfer the ore between the vessels / barges

There are different designs and types of FTUs available and usage depends on the scope and type of operation. In principle, any dry bulk cargo can be handled with any type of FTU.

The most common types of FTUs are:

- Transfer Vessel,
- Transfer Platform,
- Floating Crane.

Transfer Vessel: this (**Figure 8**) a purpose built or converted bulk carrier with cargo handling gear such as cranes and/or conveyor belt system. The advantage of Transfer vessels is that they are easily mobilized and repositioned, they can store cargo in their own holds and they can be used to carry cargo.

Also they are most resistant to adverse weather conditions. Transfer vessels are treated as normal bulk carriers and as such are subject to all national and international rules and regulations pertaining to that class of vessel.

Figure 8: Illustration of the transhipment processes with a transfer vessel

A Transfer vessel can be used for ship to ship transfer between a Capsize and or a Panamax vessels on its own. As such, there would be one vessel to start the operation if the decision is made to use a Transfer vessel. If the operation is expanded later on there will be an additional vessel which will operate an additional Transfer operation.

Transfer Platform: A purpose build floating platform (**Figure 9**) with bulk cargo handling equipment to transfer cargo between two vessels or vessel and barge. This type of transfer unit is mostly seen in operations where cargo is handled between barges and vessels (both loading/unloading). The major difference to a floating crane is that a combination of belt system and cranes is used. This combination results in faster loading / discharging rates as the crane cycle is reduced. These units generally have no or very limited cargo holding capability.

Most Transfer platforms use two cranes and one belt loader and are used in combination with barges. One Transfer platform can service a ship-to-ship operation involving large bulk carriers, however it is likely that two units would be employed in the case a Transfer Platform system is chosen.

Figure 9: Illustration of the transhipment processes with a transfer platform

Floating Crane: Floating Cranes (**Figure 10**) are found in many ports of the world to enable lifting of goods / devices. The Floating Cranes used for dry bulk cargo handling are generally specially built for this purpose. In many Ports, bulk handling cranes are used to assist with cargo handling from the water side or to provide additional capacity to the port by turning an anchorage into a cargo handling space. This is the most preferred FTU to be used by Alliance LLC for their proposed transhipment operation at the Port of Lüderitz, in particular the FTU will be procured from Damen.

Figure 10: Shows a self-contained Floating Crane Transhipment Facility

2.4. DESRCIPTION OF COMMODITIES

2.4.1. Manganese (Mn)

Manganese is a pinkinsh-gray, chemically active element. It is a hard metal and is very brittle. It is hard to melt, but easily oxidized (Lenntech, 2020). Manganese is reactive when pure, and as a powder it will burn in oxygen, it reacts with water (it rusts like iron) and dissolves in dilute acids.

Manganese is essential to iron and steel production, accounting for 85% to 90% of the total steel making demand (Lenntech, 2020). Manganese is a key component of low-cost stainless steel formulations and certain widely used aluminium alloys. Manganese is used to decolorize glass and make violet coloured glass. Other compound that find application are Manganese oxide (MnO) which goes into fertilizers and ceramics) and manganese carbonate (MnCO) used for making other manganese compounds (Lenntech, 2020).

2.4.2. Lead (Pb)

Lead is a bluish-white lustrous metal. It is very soft, highly malleable, ductile, and a relatively poor conductor of electricity (Lenntech, 2021a). It is very resistant to corrosion but tarnishes upon exposure to air. Lead isotopes are the end products of each of the three series of naturally occurring radioactive elements (Lenntech, 2021a).

Lead is a major constituent of the lead-acid battery used extensively in car batteries. It is used as a coloring element in ceramic glazes, as projectiles, in some candles to threat the wick. It is the traditional base metal for organ pipes, and it is used as electrodes in the process of electrolysis (Lenntech, 2021a). One if its major uses is in the glass of computer and television screens, where it shields the viewer from radiation (Lenntech, 2021a). Other uses are in sheeting, cables, solders, lead crystal glassware, ammunitions, bearings and as weight in sport equipment.

2.4.3. Zinc (Zn)

Zinc is a lustrous bluish-white metal. It is brittle and crystalline at ordinary temperatures, but it becomes ductile and malleable when heated between 110°C and 150°C (Lenntech, 2021b). It is a fairly reactive metal that will combine with oxygen and other non-metals, and will react with dilute acids to release hydrogen (Lenntech, 2021b).

It is used principally for galvanizing iron, more than 50% of metallic zinc goes into galvanizing steel, but is also important in the preparation of certain alloys (Lenntech, 2021b). It is used for the negative plates in some electric batteries and for roofing and gutters in building construction.

Zinc oxide is used as a white pigment in water colours or paints, and as an activator in the rubber industry (Lenntech, 2021b). As a pigment zinc is used in plastics, cosmetics, photocopier paper, wallpaper, printing inks etc, while in rubber production its role is to act as a catalyst during manufacture and as a heat disperser in the final product (Lenntech, 2021b).

2.5. INSTALLATION AND DECOMMISSIONING

In respect to installation, Alliance LLC opts to procure a Damen's Crane Barge 6324, which is a self-propelled low cost transshipment barge designed for ship-to-ship, ship-to-barge or ship-to-quay operations. The design is also suitable for flexible harbour services being able to transship dry bulk, containers and breakbulk. The 63-metre long vessel boasts 750m2 of deck space, with additional below-deck lashing stores.

As seen in **Figure 11,** the floating crane barge is a self-contained facility with on-board accommodation and basic service which include power and water supply, and sanitary systems. The accommodation consist of six (6) cabins and recreation room there with two (2) multi split units outside connected to the indoor wall mounted units. The temperature, cooling or heating, and fan speed can individually be remote controlled. The basic services required or available on the facility includes the following:

- Fuel consumption: the barge operates on Diesel Oil of an approximate consumption of 180 mt per month which translate to loading capacity of 180 000 mt per month (daily consumption equals to 0.5 mt per day, when in operation)
- Power generating system: Two main generator sets provide power to operate the crane. A third generator is installed as redundancy to ensure continuous operation. The Harbour Generator is installed to provide sufficient power for the accommodation, to charge battery sets and for pumps.
- Sanitary gravity discharge system: A sanitary discharge system of the gravity type shall be fitted throughout the accommodation area. The toilets are flushed with freshwater. A sewage discharge pump will be installed and connected to the Sewage tank and local harbour protocols for discharge of sewer shall be observed as per NamPort procedures.
- Water supply and storage: The vessel is provided with two fresh water tanks which are provided with a low level alarm. The freshwater tanks can be filled up via the filling point located at the main deck. A freshwater UV sterilizing unit and a carbon filter is fitted in the main supply line, which leads to the various consumers. Below main deck a boiler of sufficient capacity is provided. The hot water system is provided with thermal insulation at important working areas. One fresh water pressure set with sufficient capacity is provided.

The main aim of decommissioning is to return the land to its original, pre-construction condition. Should the unlikely need for decommissioning arise (i.e. if the facility becomes outdated or the land needs to be used for other purposes), the decommissioning procedures will be undertaken in line with the EMP and the site will be rehabilitated and returned to its pre-construction state.

A closure and rehabilitation plan shall be prepared and submitted to DEA for approval prior to the commencing with the on-ground de-commissioning activities. The process will entail consultations with all relevant stakeholder and consideration for alternatives uses of the facilities before demolition of the infrastructure.

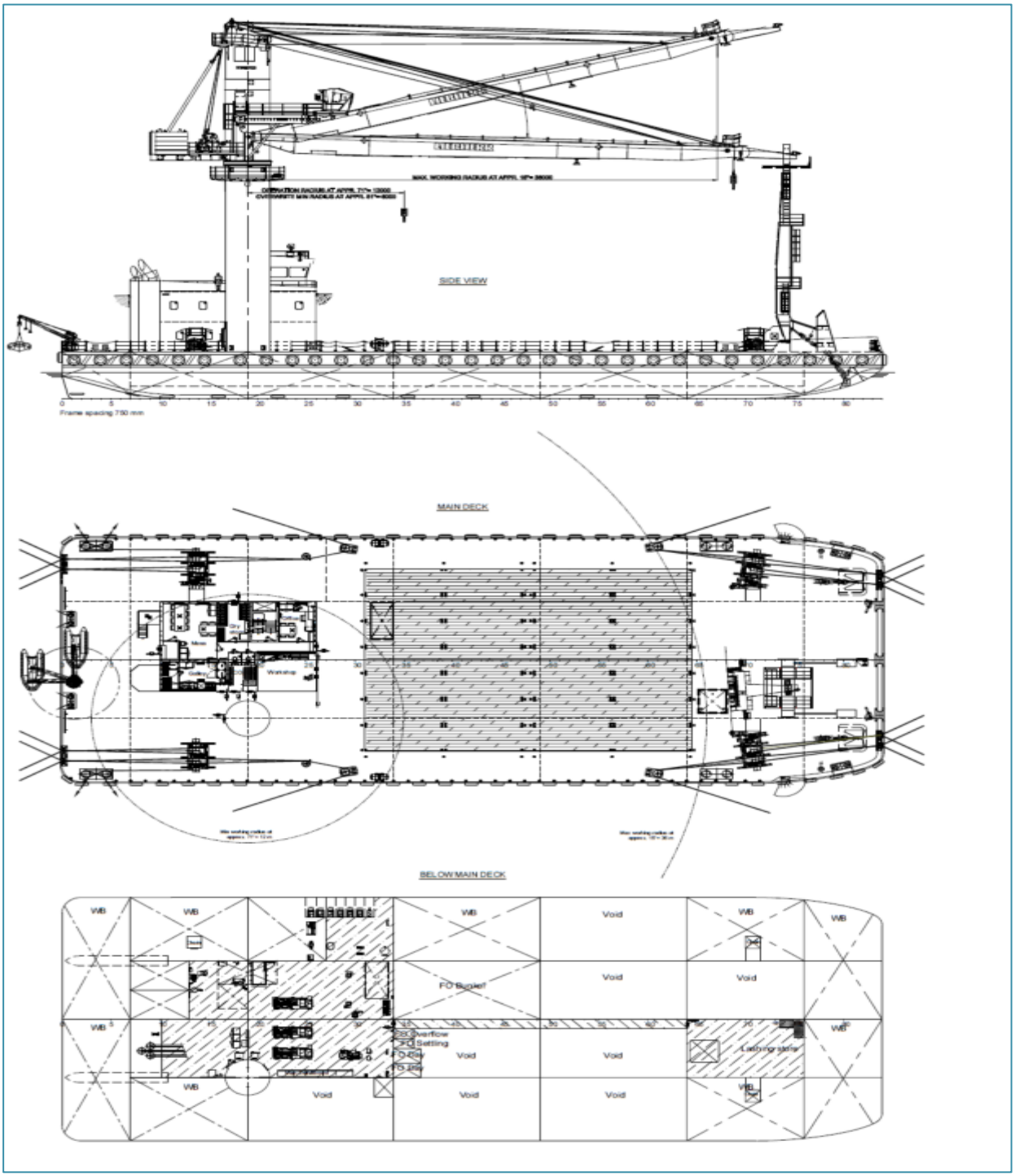


Figure 11: Show ground floor and cross-section layout of the Transhipment barge facility proposed

3. DESCRIPTION OF THE AFFECTED ENVIRONMENT

This chapter of the Scoping Report provides an overview of the affected environment for the proposed site (Lüderitz) and other key receptors with the surrounding of the Port of Lüderitz. The receiving environment is understood to include biophysical, socio-economic and heritage aspects which could be affected by the proposed development or which in turn might impact on the proposed development.

3.1 BIOPHYSICAL ENVIRONMENT

3.1.1 Marine Fauna and Flora

Namibia is a maritime nation whose rich ocean wealth is shaped by one of the most productive ocean systems in the world, consisting of a marine area of approximately 2/3 the size of its land area and a coastline of 1,572 km.

The Namibian sea is part of the Benguela Current Large Marine Ecosystem (BCLME), which is characterized by wind-driven upwelling leading to high productivity. The BCLME extends along the south-western margin of Africa, from the south at 34°S through Namibia up to the Angola-Benguela front at around 15°S in the north (**Figure 12**).

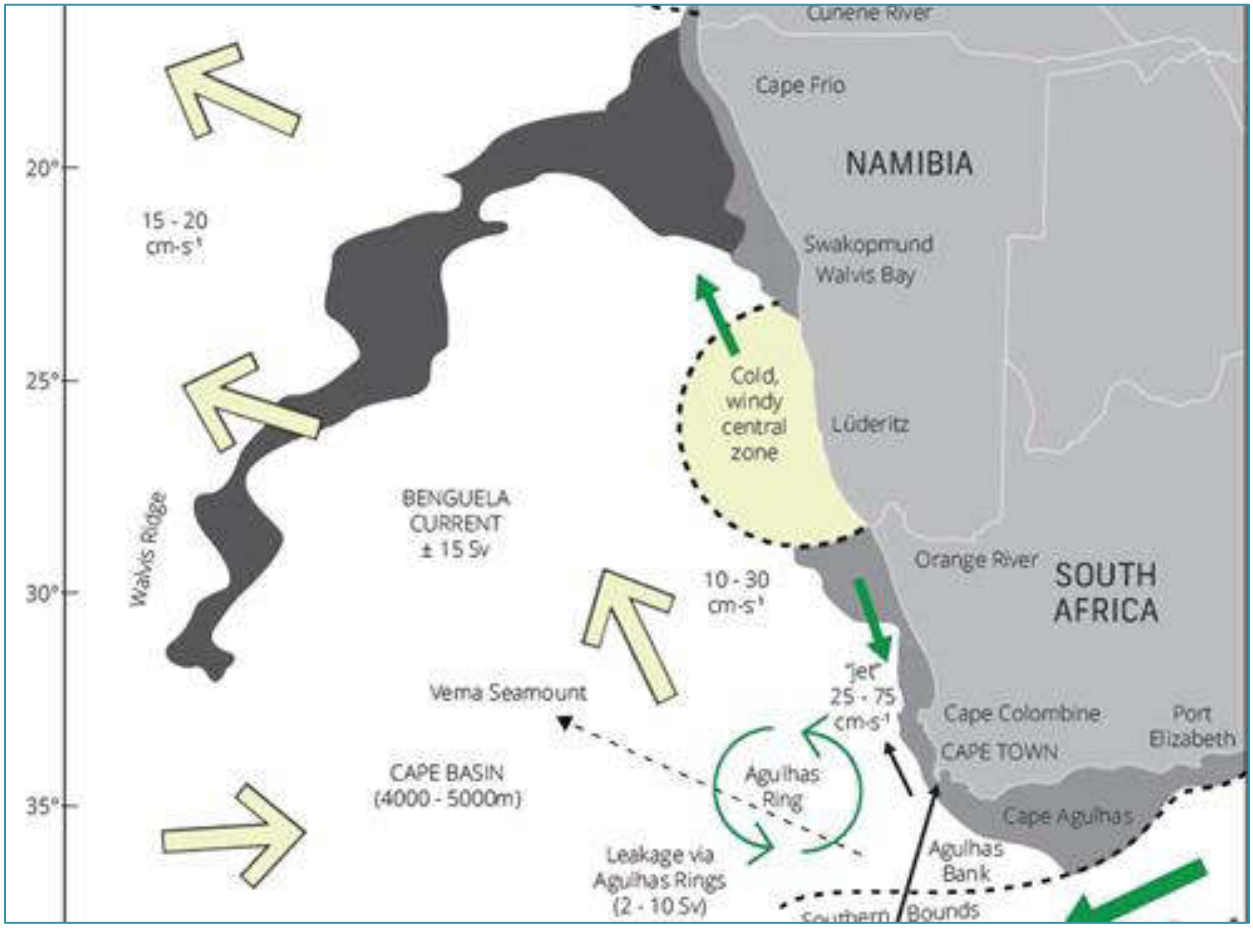


Figure 12: Map depicts the Benguela Current Large Marine Ecosystem oceanography

Overall, Namibia's marine environment is clean and healthy which supports some of the greatest concentrations of marine life found anywhere in the world. Namibia's natural marine environment is unique and biologically diverse, consisting of a range of habitats and a high variety of marine species including internationally important populations African Penguins and Gannets.

3.1.2 Coastline Geology and Soils

The most prominent bathymetry feature is the Namib Walvis Ridge, with few canyons and seamounts present throughout the entire Namibian EEZ (**Figure 13**). The Namibian coastline is relatively straight with only a few capes and bays such as Walvis Bay and Sandwich Harbour.

The subsoil conditions in the port area can be described as silt with fine to coarse sands as well as gravels on a rock-bed. The thickness of this sand/gravel layer was recently established and it was determined that the harbour can without difficulties be dredged to at least - 10 m. The silting up of the bay is caused by the transport of fine sediments and sandy materials which are windblown into the bay and which are mixed with some organic residues form the fish factories outside Lüderitz town boundary.

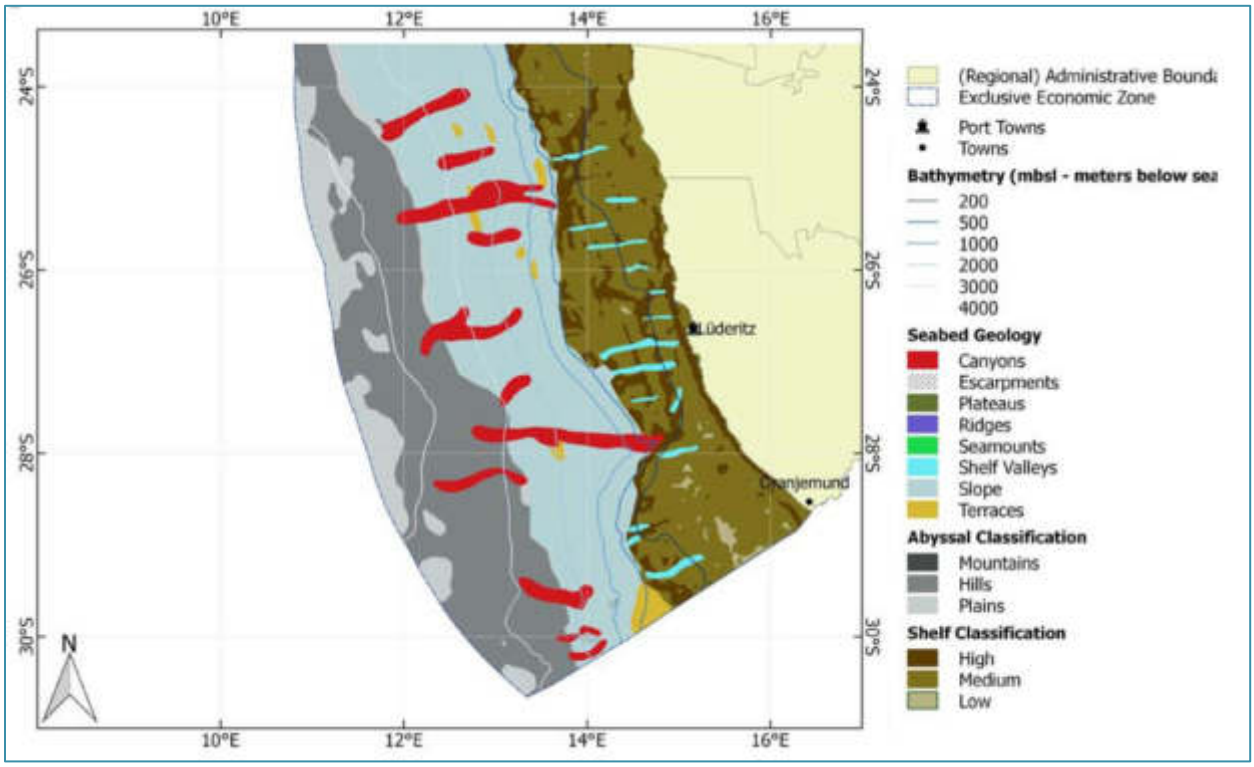


Figure 13: Map shows seafloor geomorphic features (proposed MSP area)

The water depth at the anchorage outside Lüderitz town boundary Harbour (between Angra Point and Shark Island) is approx. 16 m Chart Datum, whilst the depth in the inner Robert Harbour is 7.5 m. The approach channel has a length of 1 km, a width of 60 m and a depth of 6.75 m CD. The maximum accepted length of vessels for the port is 110 m, this relates to a ship

with 5, 500 t GRT (A gross register ton (GRT) is equal to a volume of 100 cubic feet (2.8 m3) and 1 metric ton = 1000 kg).

The only perennial river systems in the south of the country is the Orange River bordering South Africa and as a result of the arid nature of the climate, freshwater input to the ocean is not significant. The continental shelf is narrow in the south of Namibia, however, widens at the Orange River mouth.

3.1.3 Lüderitz Marine Sensitive and Protected Areas

Several Namibian Islands are located offshore in the central region of the Benguela Current Large Marine Ecosystem (BCLME) within the intensive Lüderitz Upwelling Cell. These islands and their surrounding waters are described primarily in terms of their significance for life history stages of threatened seabird species.

The islands are crucial seabird breeding sites within the existing Namibian Islands Marine Protected Area (NIMPA, **Figure 14**). The boundaries of the NIMPA are largely based on the foraging ecology of key threatened, breeding seabirds and these include the full ecological and biological significance of the islands and adjacent marine environment.

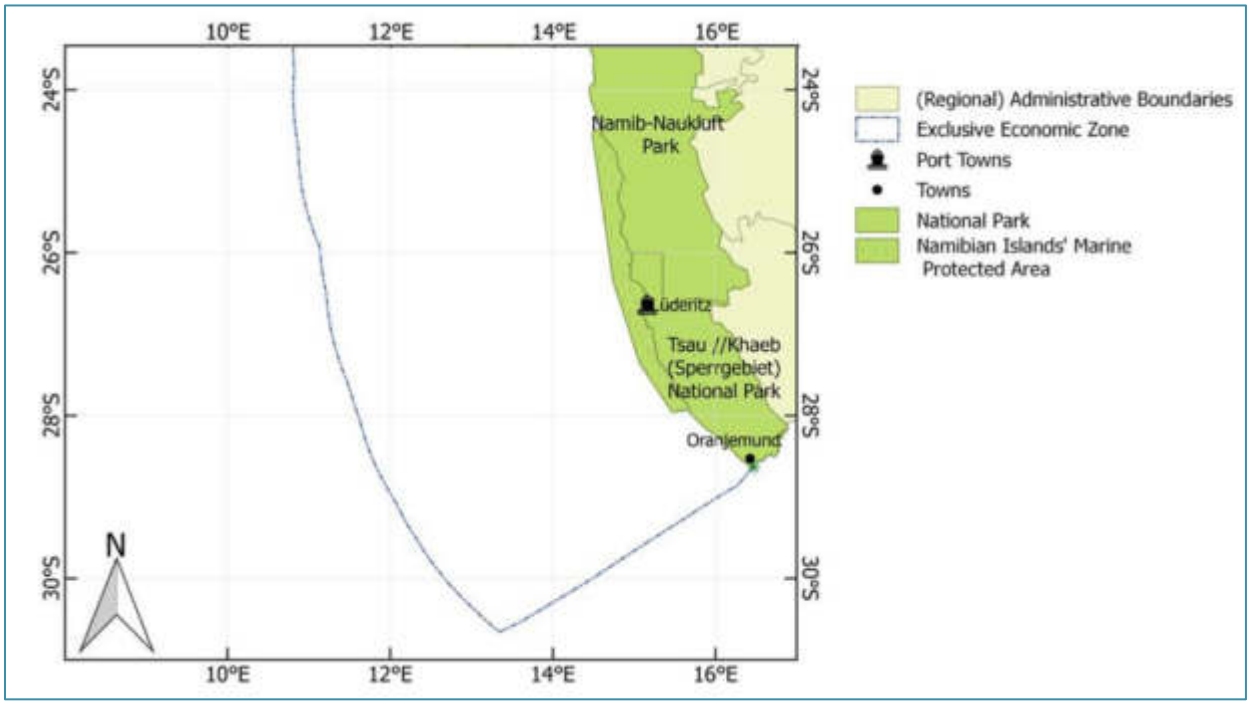


Figure 14: Map shows two of the four terrestrial national parks along the coastline and the NIMPA

3.1.4 The Lüderitz Upwelling Cell

The Lüderitz upwelling cell is known to be the strongest upwelling centres in the world (Bakun, 1996). This is a wind-driven coastal upwelling in this area, where prevailing winds are often stronger than the optimum for upwelling. This cell is a permanent feature and active all year round (Stander, 1964). However, there is also a constant northward flow of surface waters due to the Benguela current. This current carries newly upwelled water further north where wind velocities may be lower and where water stratification can occur. What drives the Lüderitz upwelling cell is the virtually constant southerly winds dictated by the position of the south Atlantic high pressure, coupled with this, the very narrow 30 km continental shelf just south of Lüderitz allows deep water to easily reach the coastal zone (Shannon, 1985).

Due to the rotation of the earth, these longshore winds cause an Ekman movement of surface water off-shore. This water is replaced by water coming from the depths of 200 – 300 m facilitated by the narrow shelf. This water is cold, 7 – 10.5 o C and nutrient rich (nitrate, 5 – 25 µM, phosphate, 1.5 – 2.5 µM; silicate, 5 – 20 µM) (Stander, 1964, Shannon, 1985). At times, the winds, as a major driving force for upwelling, can be too strong for optimal upwelling, the prolonged wind after upwelling can hamper primary production (Cury and Roy, 1989). The ideal wind speed for upwelling is 5 – 6 m/sec (Cury and Roy, 1989).

3.1.5 Geographic Climate of Lüderitz

The cold Benguela current is passing Diaz Point in a northerly direction and causes in the Lüderitz Bay by diffraction a rest flow which can expressively be observed during strong south westerly wind conditions. These currents can affect the port installations, especially at the eastern side. The tides are semidiurnal tides. The difference in tidal ranges is between 0.6 m at neap tide and 1.7 m at spring tide. The rise of the tide is referred to the zero reading of the Chart Datum (CD) for the lowest spring tide low water.

The principal wind direction (**Figure 15**) is southeast to southwest with 70% probability, for approximately only 1% there are no winds. Gale force winds can be encountered, especially in the summer compared to the winter season.

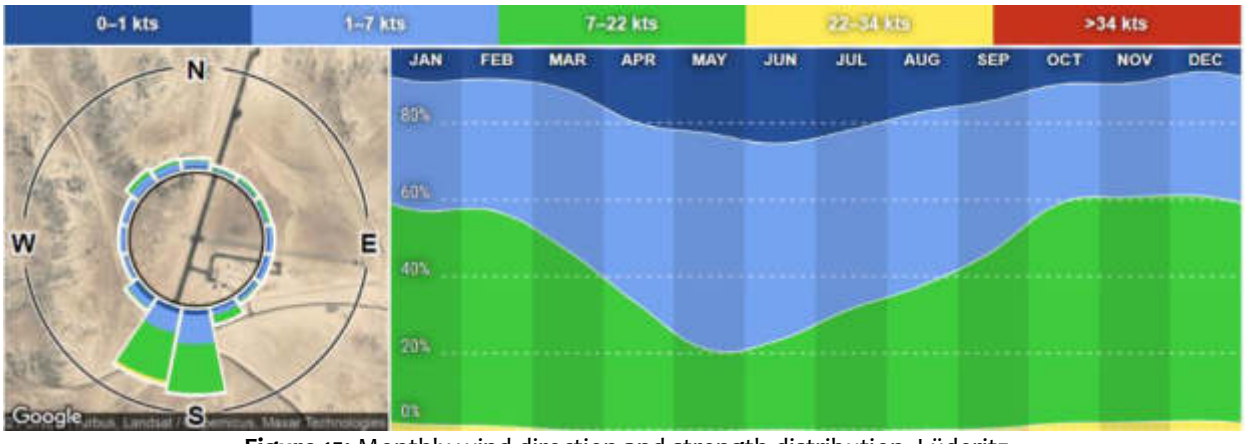


Figure 15: Monthly wind direction and strength distribution, Lüderitz

The mean annual precipitation is 42 mm per year, on 16 days per year a rainfall height of 1 mm or more can be experienced. Reduced sight distances (sight distance less than 2 statute mile (= 3, 218 meters) due to fog can be found during approximately 1,000 hours per year.

3.2 THE SOCIO-ECONOMIC ENVIRONMENT

3.2.1 *Demographic Profile*

The //Karas Region is the southernmost region of Namibia's 14 political regions. With a total land area of 161,086 km², the region occupies 19.6% (almost one-fifth) of the country's total land surface and it is the largest region, in terms of land, in the country (Karas Poverty Profile, 2007). The //Karas Region has a relatively small population compared to the vast land cover. With 77,421 people residing in the region this means a density of 0.5 persons per km² (NSA, 2014).

3.2.2 *Economic Profile*

From the archaeological remains, it is known that people have lived on the Namibian coast and in particular, it was with the discovery of diamonds near the coast close to Lüderitz in 1908 that economic development increased along the southern coast. Because of the lack of fresh water there were very few permanent settlements, as people were mainly nomadic.

The Namibian ports look after maritime traffic, including shipping, fishing, and sports and recreational traffic. The port of Lüderitz, located 254 nautical miles south of the Port of Walvis Bay along Namibia's coastline, caters for the southern part of the country, and provides access to markets in the Northern Cape of South Africa. Approximately 800 ships visit the Lüderitz port annually (**Figure 16**), shipping various kinds of goods include: containerized cargo vehicles, general cargo, dry-bulk (manganese and iron), and tankers (fuel, sulphuric acid).

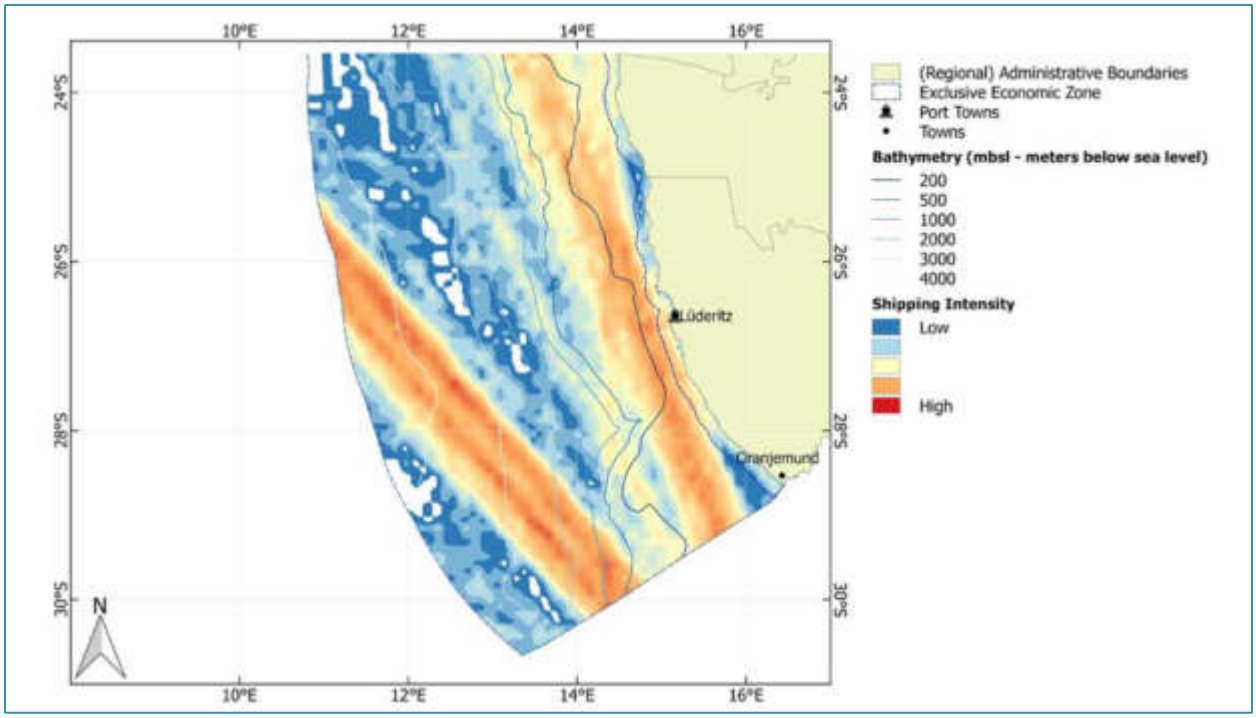


Figure 16: illustration of shipping activity density within the Namibia EPZ in proximity to the Port of Lüderitz

Apart fishing, the coast of Lüderitz provides a number of Mariculture farmer (**Figure 17**) in the town an opportunity to sustain their livelihoods from culturing oyster, measles and seaweed mainly within the Lüderitz lagoon.

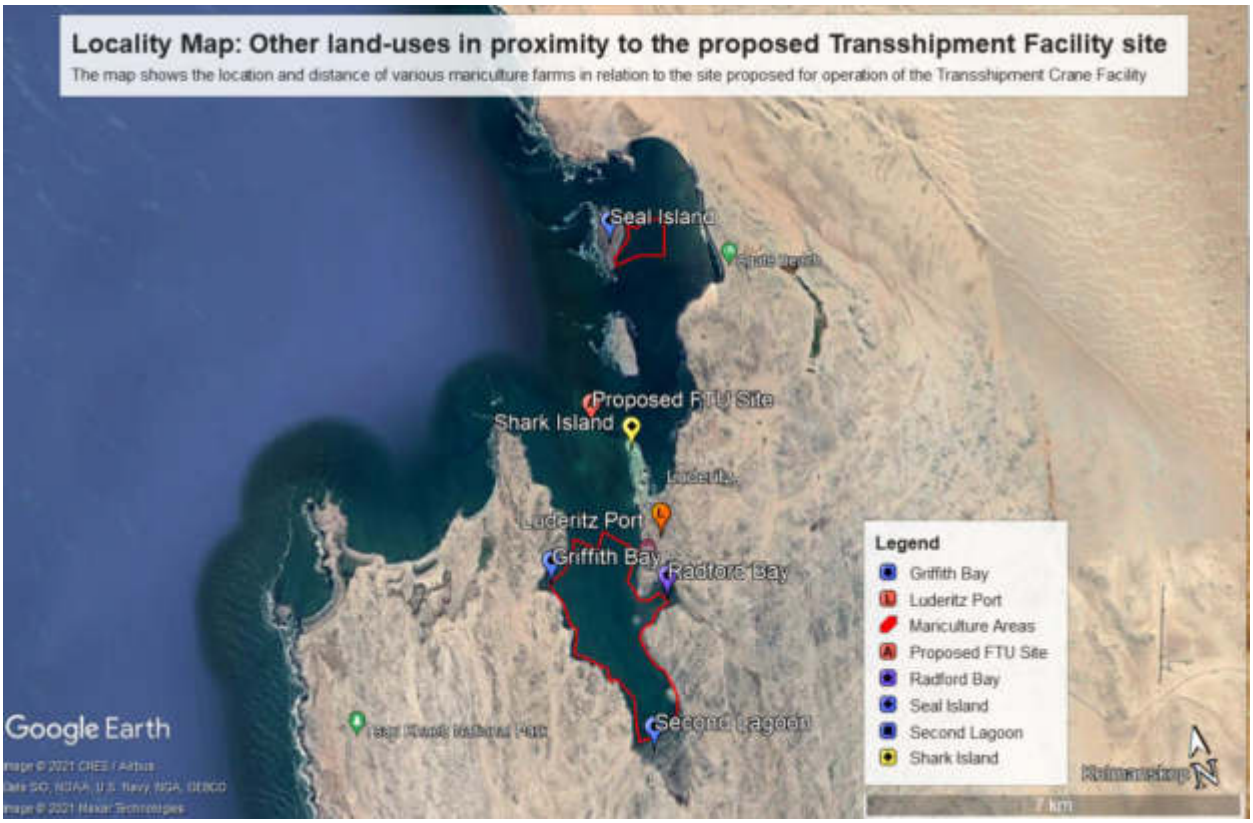


Figure 17: Highlights the proximity of areas predominantly used for Mariculture activities

Red seaweed (*Gracillaria*) is cultured in a 40 ha plot in Lüderitz lagoon to supplement the collection of beach cast product. Abalone farming has recently attracted interest in Namibia and one farm is now operational at Lüderitz Bay. There is also considerable interest in rearing rock lobster (*Jasus lalandii*), marine finfish (*dusky kob, Argyrosomus inodorus*; and *turbot, Psetta maxima*) and scallops.

Marine cultured products, such as abalone and oysters, are internationally sold. Abalone meat is considered a delicacy in Latin America (especially Chile), South East Asia and East Asia (especially China, Japan and Korea).

Overall, the private sector employees 49.9% of the employed sector within the //Karas Region, while the government sector employees 15.8% and the parastatal sector 13.5%. The main employment industry is the agriculture sector with roughly 32.4% employed in this sector; followed by public administration and defence with 8.5% (NSA, 2013).

3.2.3 Heritage and Culture Profile

The heritage and culture consideration was conducted through a desktop study, indicates that although the southern regions of Namibia is not well studied archaeologically, several field surveys have been carried out indicating that the archaeological sequence is represented over the whole of southern and central Namibia. These surveys tend to concentrate mainly on the physical setting of known archaeological sites e.g. river valleys with an emphasizes on the higher and mid- slopes of hills, as well as a number of localized resources such as small springs and outcrops.

More importantly, this assessment identified at least ten (10) national monuments proclaimed within the Town of Lüderitz and these includes padroes, historical beacons, churches and buildings. These includes but not limited to:

- **PADROES**
  - Site of Original Dias Cross
- **HISTORICAL BEACONS**
  - Memorial in the Old Cemetery
- **CHURCHES AND HISTORICAL BUILDINGS**
  - Evangelical Lutheran Church
  - Station Building
  - Krabbenhöft & Lampe Building
  - Deutsche Afrika Bank Building
  - Kreplin House
  - Semi-detached House, Remainder of Erf 269, Lüderitz
  - Magistrate's Residence, Lüderitz

Critically, all the identified monuments are situated offshore and therefore a distance well away from the harbour where the proposed activity is proposed to be undertaken. Therefore, there is no potential implications foreseen to be as a result of the operation of the transhipment facility by LLC Alliance.

4. APPROACH TO EIA PROCESS AND PUBLIC PARTICIPATION

This chapter presents the approach to the Environmental Scoping Assessment process, for the proposed Alliance LLC transhipment operations and gives particular attention to the legal context and guidelines applicable to this assessment. The assessment approach and the steps in the Public Participation component of this scoping report were undertaken in accordance with Regulations 29 and 30 of Government Notice No. 30 of 2012.

Overall, this section highlights information including the approach to stakeholder engagement, identification of issues, overview of relevant legislation, and key principles and guidelines that provide the context for this scoping assessment process. Hence, in a nutshell, the purpose of the environmental assessment is to:

- Address issues that have been identified through the Scoping Process;
- Assess alternatives to the proposed activity in a comparative manner;
- Assess all identified impacts and determine the significance of each impact; and
- Recommend actions to avoid/mitigate negative impacts and enhance benefits

4.1 OVERVIEW OF APPROACH ADPTED FOR COMPILING THE SCOPING AND EMP REPORTS

The objectives of the environmental scoping assessment are noted in Section 1 of this Report. Section 6 of this Scoping Report includes a summary of the findings, the overall conclusions and the recommendations. The Scoping Report was made available for a 30-day I&AP and authority review period, as outlined in the EMA Regulations of 2012. Although adverts were put in two local newspapers (the Windhoek Observer (**18 August** and **24 August 2021**) and Confidente (**04 August 2021** and **12 - 19 August 2021**) with little responses, additional consultation with pre-identified stakeholder were undertaken by availing the Scoping report for review and comment, and responses or inputs were received (see **Appendix A** for detailed report).

As previously noted, the Scoping Report includes an Environmental and Emergency Response Plan (EERP, **Appendix B**). The EERP is based broadly on global environmental management principles and embodies an approach of continual improvement and mitigation actions.

These are drawn primarily based on the identified potential impacts for both the construction and operational phases of LLC Alliance's proposed operations. If the project components are decommissioned or re-developed, this will need to be done in accordance with the relevant environmental standards and clean-up / remediation requirements applicable at the time.

4.2 LEGAL CONTEXT FOR THIS EIA

In accordance with the provisions of the Environmental Impact Assessment (EIA) Regulations No. 30 of 2012 gazette and the Environmental Management Act, (EMA), 2007, (Act No. 7 of 2007), the activity to be undertaken by Alliance LLCmay not be undertaken without an Environmental Clearance Certificate.

4.2.1 LEGISLATION AND GUIDELINES PERTINENT TO THIS ENVIRONMENTAL ASSESSMENT

Key acts and policies currently in force include:

- Namibia's Environmental Assessment (EIA) Policy for Sustainable Development and
- Environmental Conservation (1995);
- Environmental Management Act (No. 7 of 2007);
- Environmental Impact Assessment Regulations (Government Notice No. 30 of 2012); Namibia Agriculture Policy of 2015;
- Namibia Vision 2030.

As the main source of legislation, the Namibian constitution makes provision for the creation and enforcement of applicable legislation. In this context and in accordance with its constitution, Namibia has passed numerous laws (those of relevant to this project are listed in **Table 4**) intended to protect the natural environment and to mitigate adverse environmental impacts.

Namibia's policies provide the framework to the applicable legislation. Whilst policies do not often carry the same legal recognition as official statutes, policies can be and are used in providing support to legal interpretation when deciding cases.

4.2.1.1 Environmental Management Act No. 7 of 2007

The environmental management act No.7 of 2007 aims to promote the sustainable use of natural resources and provides the framework for the environmental and social impact assessment, demands precaution and mitigation of activities that may have negative impacts on the environment and provision for incidental matters. Furthermore, the act provides a list of activities that may not be undertaken without an environmental clearance certificate.

The purpose of the Environmental Management Act is:

a) to ensure that people carefully consider the impact of developmental activities on the environment and in good time
b) to ensure that all interested or affected people have a chance to participate in environmental assessments
c) To ensure that the findings of environmental assessments are considered before any decisions are made about activities which might affect the environment.

4.2.1.2 Environmental Assessment Policy (1995)

The Environmental Assessment Policy for Sustainable development and Environmental Conservation emphasize the importance of environmental assessments as a key tool towards implementing integrated environmental management. Sets an obligation to Namibians to prioritize the protection of ecosystems and related ecological processes.

The policy subjects all developments to environmental assessment and provides guideline for the Environmental Assessment. The policy advocates that Environmental Assessment take due consideration of all potential impacts and mitigations measures should be incorporated in the project design and planning stages (as early as possible).

4.2.1.3 Other Legal Requirements

In addition to the EMA and the Environmental Assessment Policy, there exist other regulatory frameworks that MDL must comply with. This is due to the supporting infrastructure that are needed to compliment the proposed logistics hub. As such, MDL will be required to obtain additional specific permits for the supporting infrastructure as listed in table 4 below. The process of obtaining the additional permits can be undertaken concurrently to the EIA process.

Furthermore, the proponent has the responsibility to ensure that the project activities conform to all other relevant legal documents and guidelines as listed in ***Table 4*** below).

Table 4*: Other relevant legislation and applicability thereof* (Source: Risk Based Solution)

Legislation	Relevance
Namibian Ports Authorities Act 2 of 1994	• Use of the Port services and facilities
Territorial Sea and Exclusive Economic Zone of Namibia Act 3 of 1990	• Exploitation of natural resources in the EEZ
Marine Resources Act 27 of 2000, and accompanying regulations	• Discharges into the sea
Seashore Ordinance 37 of 1958	• Removal of living and non-living resources from seashore or seabed and depositing of rubbish • within 3 nautical miles of the shore
Marine Traffic Act 2 of 1981, as amended	• Right of innocent passage through the territorial • sea, for all ships
	• Regulation of marine traffic within the Namibia • EEZ
Prevention and Combating of Pollution of the Sea by Oil Act 24 of 1991	• Discharge of oil
	• Prevention/removal of marine pollution by oil
Merchant Shipping Act 57 of 1951	• Safety of vessels at sea
Dumping at Sea Control Act 73 of 1980	• Control of dumping of substances in the sea within • 12 nautical miles of the Low Water Mark.
	• Prevent pollution of the sea and marine life, • damage to amenities and interference with other • Marine users.
Labour Act, 1992, (Act No. 6 of 1992) and	• Labour matter
Regulations Related to Health and Safety of Employees	• Health and Safety of Employees

4.3 APPROACH TO IMPACT ASSESSMENT AND MITIGTION MEASURES

Potential environmental impacts were identified through both desktop literature review and consultation with I&APs, regulatory authorities, specialist and Enviro-Leap Consulting. In case of social impacts, the assessment focused on third parties only (third parties include members of the public and other local and regional institutions) and did not assess health and safety

impacts on workers because the assumption was made that these aspects are separately regulated by health and safety legislation, policies and standards.

The impacts are discussed under issue headings in this section. The discussion and impact assessment for each sub-section covers the installation, operational, decommissioning and closure phases where relevant. This is indicated in the table at the beginning of each sub-section. Included in the table is a list of project activities/infrastructure that could cause the potential impact per farming phase. The activities/infrastructure that are summarized in this chapter, link to the description of the proposed project (see Section 6 of the EIA report).

Mitigation measures to address the identified impacts are discussed in this section and included in more detail in the ERCP report that is attached in **Appendix C.** In most cases (unless otherwise stated), these mitigation measures have been taken into account in the assessment of the significance of the mitigated impacts only.

Table 5: Criteria for Assessing Impacts

PART A: DEFINITION AND CRITERIA		
Definition of SIGNIFICANCE		**Significance = consequence probability**
Definition of CONSEQUENCE		**Consequence is a function of severity, spatial extent and duration**
Criteria for ranking of the SEVERITY/NATURE of environmental impacts	**H**	Substantial deterioration (death, illness or injury). Recommended level will often be violated. Vigorous community action. Irreplaceable loss of resources.
	M	Moderate/measurable deterioration (discomfort). Recommended level will occasionally be violated. Widespread complaints. Noticeable loss of resources.
	L	Minor deterioration (nuisance or minor deterioration). Change not measurable/will remain in the current range. Recommended level will never be violated. Sporadic complaints. Limited loss of resources.
	L+	Minor improvement. Change not measurable/will remain in the current range. Recommended level will never be violated. Sporadic complaints.
	M+	Moderate improvement. Will be within or better than the recommended level. No observed reaction.
	H+	Substantial improvement. Will be within or better than the recommended level. Favorable publicity.
Criteria for ranking the DURATION of impacts	**L**	Quickly reversible. Less than the project life. Short-term
	M	Reversible overtime. Life of the project. Medium-term
	H	Permanent beyond closure – Long-term.
Criteria for ranking the SPATIAL SCALE of Impacts	**L**	Localized-Within the site boundary.
	M	Fairly widespread–Beyond the site boundary. Local
	H	Widespread – Far beyond site boundary. Regional/national

Both the criteria used to assess the impacts and the method of determining the significance of the impacts is outlined in ***Table 5***. This method complies with the method provided in the Namibian EIA Policy document and the draft EIA regulations. ***Part A*** provides the approach for determining impact consequence (combining severity, spatial scale and duration) and impact significance (the overall rating of the impact).

Impact consequence and significance are determined from ***Part B*** and ***C***. The interpretation of the impact significance is given in ***Part D***. Both mitigated and unmitigated scenarios are considered for each impact.

PART B: DETERMINING CONSEQUENCE					
		SEVERITY = L			
DURATION	Long-term	H	Medium	Medium	Medium
	Medium term	M	Low	Low	Medium
	Short-term	L	Low	Low	Medium
		SEVERITY = M			
DURATION	Long-term	H	Medium	High	High
	Medium term	M	Medium	Medium	High
	Short-term	L	Low	Medium	Medium
		SEVERITY = H			
DURATION	Long-term	H	High	High	High
	Medium term	M	Medium	Medium	High
	Short-term	L	Medium	Medium	High
			L	M	H
			Localized Within site boundary Site	Fairly widespread Beyond site boundary Local	Widespread Far beyond site boundary Regional/national
			SPATIAL SCALE		

PART C: DETERMINING SIGNIFICANCE					
PROBABILITY (of exposure to impacts)	Definite/Continuous	H	Medium	Medium	High
	Possible/frequent	M	Medium	Medium	High
	Unlikely/seldom	L	Low	Low	Medium
			L	M	H
			CONSEQUENCE		

PART D: INTERPRETATION OF SIGNIFICANCE	
Significance	**Decision guideline**
High	It would influence the decision regardless of any possible mitigation.
Medium	It should have an influence on the decision unless it is mitigated.
Low	It will not have an influence on the decision.

*H = high, M = medium and L = low and + denotes a positive impact.

4.4 ASSESSMENT OF ALTERNATIVES AND IMPLICATIONS

Mitigation measures to address the identified impacts are discussed in this section and included in more detail in the ERCP report that is attached in **Appendix A**. In most cases (unless otherwise stated), these mitigation measures have been taken into account in the assessment of the significance of the mitigated impacts only

4.4.1 NO-GO ALTERNATIVE

The no-go alternative assumes that the proposed transshipment operations does not go ahead i.e. Alliance LLC does not install a transshipment facility and thus the Lüderitz Port cargo handling capacity remains as is. This alternative entails that the operations would not drive any environmental change and result in no additional environmental impacts on the Lüderitz harbour and Port.

It favors the *status quo* or baseline against which other alternatives are compared and will be considered throughout the report. However, the likely negative environmental impacts of other current and future user that may still happen in the absence of the proposed activities includes: Natural dust and generation of particulate matter during windy event particularly resulting from other regional economic activities such as construction, cargo handling and tourism, pollution and environmental degradation associated with current land use along and around the proposed project route and sites.

Therefore, in terms of the "No-go Alternative", potential economic gains that may never be realized if the proposed project activities do not go-ahead include: loss in income for both TransNamib and NamPort, unemployment and the loss of socio-economic benefits derived from current and future export and import trading opportunities. Most importantly, is the reduced regional integration in terms of trade and investment, loss of direct and indirect contracts and employment opportunities, export earnings, foreign direct investments and various taxes payable to the Government.

4.4.2 ALTERNATIVES FOR SITES SELECTION

The Port of Lüderitz is selected as the preferred CUMET operational site for the proposed project taking into account the following consideration of alternatives Location and suitable routing infrastructure i.e. rail or road network and distance of mineral source to alternative port facility (Walvis Bay).

While the Walvis Bay Port is, in terms of cargo handling capacity the most suitable export option, its accessibility in terms of distance is farthest than the Lüderitz Port, and the route may present more environmental impacts as it passes through more densely populated settlement and towns as opposed to the other. Hence, the site selected for the installation and operation of the Transshipment facility is deliberately situated within the existing harbour and port footprint (appropriately zoned environment), elimination entirely new environmental implications.

Overall, the operations of LCC Alliance presents no potential for significant negative socio-economic and environmental impacts on the receiving environment. Critically, areas where other economic and livelihood supporting activities such as Tourism and Mariculture farming were avoided. However, potential visual impacts were identified affecting two tourism establishments and appropriate mitigation measures are proposed to ensure that these impacts are reduced and or alternative considerations are made such as compensation.

4.4.3 IMPACTS ON THE BIOPHYSICAL ENVIRONMENT

Potential impacts in respect to the Biophysical environment involves particularly the terrestrial and marine ecology (**Tables 6** and **7**) environments and relate mainly to the handling and storage of the commodities both at the TransNamib and NamPort premises (both in Keetmanshoop and Lüderitz respectively).

Table 6. Impact on the Marine Ecology

Impact Event	Disturbances to the marine ecology including the fish stock and other marine-life
Description	Impacts in respect to Marine Ecology relates manly to Accidental spillage or contamination of sea water with the mineral ore particles and thus affecting the chemical or biological oxygen demand (COD or BOD, respectively). Dissolved particulate matters as a result handling the Lead, Zinc and Manganese ore may lead in diminished oxygen levels in seawater which forces mobile fauna to flee while sessile and sediment-dwelling organisms die. When oxygen is no more available for the break-down of discharged matter, other microbial communities take over, leading to emissions of sulphide.
Nature	The effects of Manganese on the immune response in the studied animals vary, they are all affected in some way. Overall, while certain dose levels of Lead, Zinc and Manganese are essential to human and plants, access dose-levels are toxic, therefore requiring careful handling and or mitigation measures.

Phases: Phases during which sources of marine ecology impacts apply are highlighted below; Significance assessment was carried out on the operational phase which presents a long term risk.

Construction Phase	**Operational Phase**	**Decommissioning Phase**	**Post Closure**
N/A	• Transportation of commodities from quay to the barge • Handling /transfer of the ore onto vessels	N/A	N/A

Severity	In the unmitigated scenario, the potential risk for sea water contamination is high particularly if the commodity handling activities do not employ adequate dust suppression mitigation measures. However, in the mitigated scenario, most dust particulate particles may be well contained					
Duration	The Significance of the potential impacts is subject to the proposed operation's life-time, however duration is short-term.					
Spatial Scale	Low, localized although the affected environment may extend beyond NamPort's port / harbour area					
Probability	Very Low, most impact are contained by use of appropriate equipment / loading gear and treatment of ore to limit dust generation					
Unmitigated	**Severity**	**Duration**	**Spatial Scale**	**Consequence**	**Probability of Occurrence**	**Significance**
	M	M	M	H	M	H
Mitigated	**Severity**	**Duration**	**Spatial Scale**	**Consequence**	**Probability of Occurrence**	**Significance**
	L	L	M	L	L	M
Conceptual Description of Mitigation Measures	The most practical measure is containment of dust by storage and handling of mineral commodities in closed warehouse, and ensuring that maintenance of dust suppression equipment remains to date. In events of accidental spillage, oxidation followed by filtration may be applied in small water bodies when combined levels of Lead, Zinc and manganese exceed 10 mg/L. In this process, a chemical is added to convert any dissolved Lead, Zinc and manganese into the solid, oxidized forms that can then be easily filtered from the water. Although it might be effective for larger water bodies, the cost of doing so warrants strict compliance with the avoidance / prevention measures.					

4.4.4 IMPACTS ON THE SOCIO-ECONOMIC ENVIRONMENT

Potential impacts in respect to the socio-economic environment involves particularly the health and safety (**Tables 7, 8** and **9**) environments and relate mainly to the handling and transportation of the mineral ore from quay to the transshipment facility. Potential impacts may relate to visual obstruction, economic effects of contamination on Mariculture farms and traffic (boat / ship) safety.

Sharp changes to the urban skyline due to their verticality has been a clue for researchers in visual studies to study visual impacts which are far beyond their footprints. Although high-rise developments or structures are highly visible, the main planning issues are whether they are more or less appealing, more or less dominant or more or less visible (Rød & Van Der Meer, 2009).

The perception of building bulk and heights is regulated by limits of human vision limits, which are critical in justifying building height relationships. The horizontal Field of View of a steady gaze from both human eyes is considered to be 124° (Panero & Zelnik, 1979). It defines the limits of the primary direction of a viewer within a 360° viewshed (see **Figure 18**).

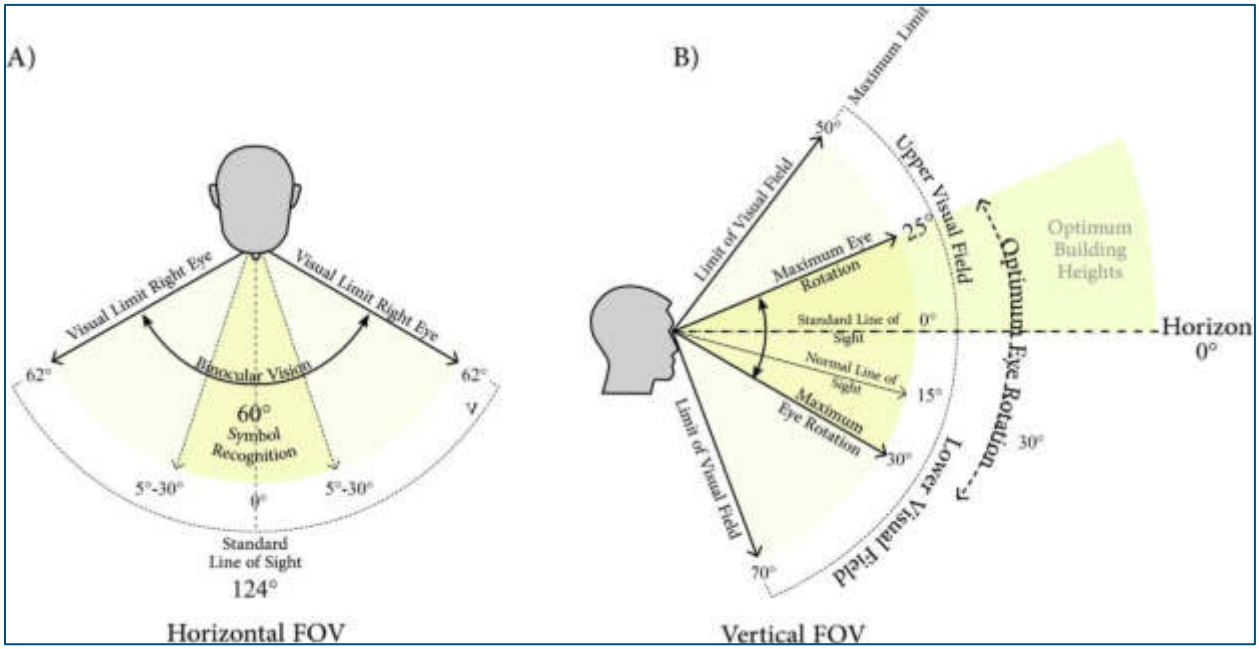


Figure 18: Human field of vision (A) horizontal angle of view and (B) vertical angle of view. Adopted from Panero & Zelnik, 1979

The Human field of vision model was adopted in assessing potential impact of the proposed transshipment facility on other stakeholder in Lüderitz, particularly on the tourism facilities adjacent to the proposed transshipment installation side.

Equally the installation and operation of Floating transshipment unit my present an occurrence of visual amenity issues related to bulk, height and scale of the proposed TFU. Impacts of high-rise infrastructure on urban environments include impacts on city form,

heritage, density, transport capacity, sustainability, environmental comfort, imageability and amenity.

Additionally, consideration were made in respect to potential impacts relating to the visual value of the sea to about five tourism (lodging establishments) as a result of operating the FTU at the designated sight. Although, the proposed site is currently utilized occasionally for anchoring vessels and rigs, and thus a degree of visual impacts exist, it is considered necessary assess such impacts relating the proposed transshipment operation.

Figure 19, provides a glimpse on potential visual impacts associated with the proposed transshipment facility on key tourism establishment (Cormorant House, Rocky Cottage Airbnb, Cairos Cottage BnB, Island Cottage and Shark Island Campsite) adjacent to the proposed operation site. Based primarily on the horizontal field of vision, two of these establishments (Island Cottage and Shark Island Campsite) are identified as those potentially having their visual view affected by the operations.

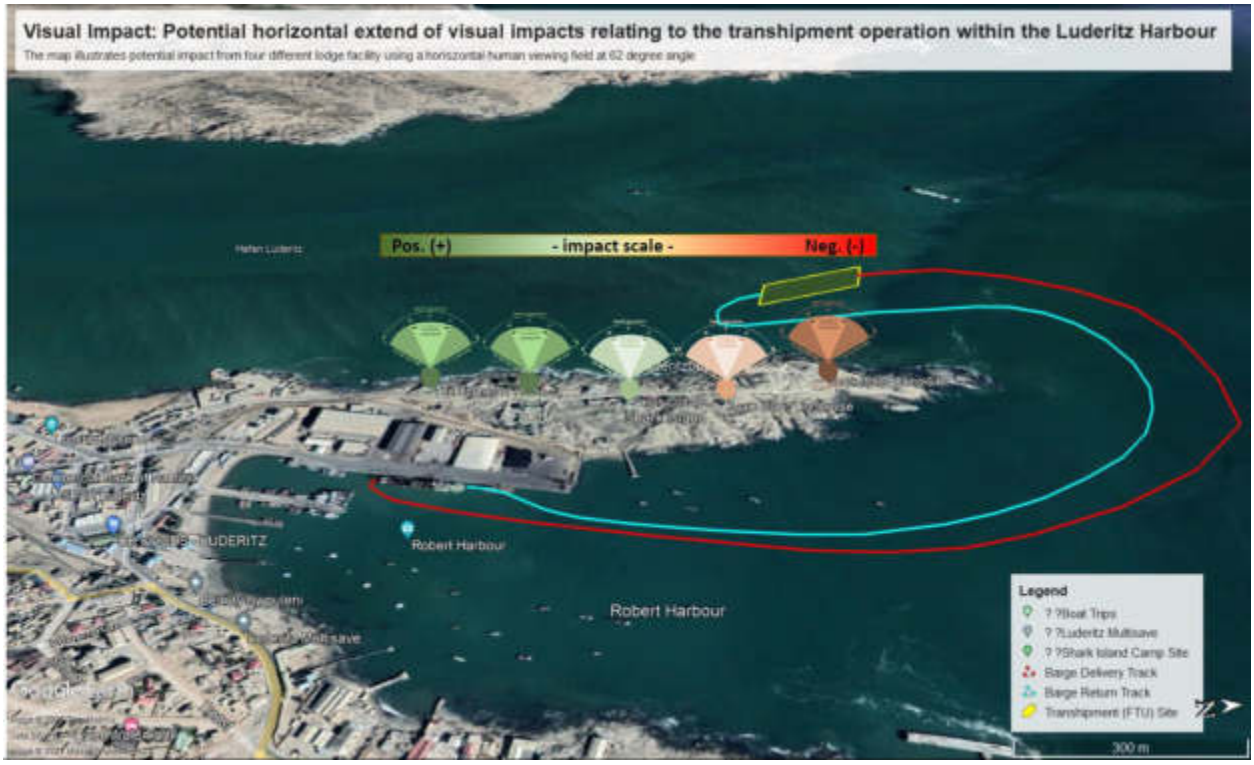


Figure 19: Illustration of potential visual impacts associated with the proposed transshipment facility on key tourism establishment adjacent to the proposed operation site.

Fortunately, a stakeholder engagement plan is recommended through which the loading schedules may be planned and communicated with the affected parties to ensure that extended anchorage of the transshipment facility at the site is avoided during peak tourism seasons.

Equally, the plan should include potential compensation procedure for loss of income to the affected tourism operators due to the proposed transshipment operation (this must be done prior to commencing the proposed operation).

Table 7. Impact on the Health and Safety

<table>
<tr><td>Impact Event</td><td colspan="6">Disturbances to the human receptors including pets and other household animals</td></tr>
<tr><td>Description</td><td colspan="6">Trace amounts of Lead, Zinc and Manganese are essential to the health of human, wildlife and plants. However, these has a tendency to accumulate in some organisms and plants which could lead to higher levels presenting potentially harmful exposures further up the food chain. It is not considered likely that Lead, Zinc / Manganese pollution has any effects on the global environment.</td></tr>
<tr><td>Nature</td><td colspan="6">Both Lead, Zinc and Manganese compounds can enter the body by either inhalation of air containing particulate matters, ingestion of water or food containing these compounds. Inhalation of air containing high levels of these compounds can lead to a range of adverse health effects. These include hallucinations, changes in behavior, weakness, speech problems headaches, tremors, stiffness, balance problems and bronchitis.</td></tr>
<tr><td colspan="7">Phases: Phases during which sources of Health and Safety impacts apply are highlighted below; Significance assessment was carried out on the operational phase which presents a long term risk.</td></tr>
<tr><td>Construction Phase</td><td colspan="2">Operational Phase</td><td colspan="2">Decommissioning Phase</td><td colspan="2">Post Closure</td></tr>
<tr><td>N/A</td><td colspan="2">• Transportation of commodities by barge from quay to vessel
• Handling of wagons / containers at the Port</td><td colspan="2">N/A</td><td colspan="2">N/A</td></tr>
<tr><td>Severity</td><td colspan="6">The cumulative impact emanating from Alliance LLC operations and other operators within the port shall be of high severity in the unmitigated scenario. In the mitigated scenario, many of these disturbances can be prevented or mitigated to acceptable levels, which reduces the severity to low.</td></tr>
<tr><td>Duration</td><td colspan="6">The Significance of the potential impacts is subject to the proposed operation's life-time, with potentially long-term impacts extending beyond the project operations in the unmitigated scenario.</td></tr>
<tr><td>Spatial Scale</td><td colspan="6">Low, localized and mainly limited to the warehouse sites in Lüderitz and Keetmanshoop</td></tr>
<tr><td>Probability</td><td colspan="6">Very Low, most impact are contained through the preferred handling, storage and transportation methods of the commodities involved.</td></tr>
<tr><td rowspan="2">Unmitigated</td><td>Severity</td><td>Duration</td><td>Spatial Scale</td><td>Consequence</td><td>Probability of Occurrence</td><td>Significance</td></tr>
<tr><td>H</td><td>H</td><td>M</td><td>H</td><td>M</td><td>H</td></tr>
<tr><td rowspan="2">Mitigated</td><td>Severity</td><td>Duration</td><td>Spatial Scale</td><td>Consequence</td><td>Probability of Occurrence</td><td>Significance</td></tr>
<tr><td>L</td><td>L</td><td>M</td><td>L</td><td>L</td><td>M</td></tr>
<tr><td>Description of Mitigation Measures</td><td colspan="6">In the unmitigated scenario, the greatest risk in respect to the proposed operations would entail mainly airborne exposure to dust particles generated during the handling activities. Hence, the most appropriate measures would be to enforce exposure limits through strict work-shifts and ensuring maximum dust suppression measures. Critically, in the mitigated scenario which entails adoption of precautionary measures as identified in the EMP including the avoidance approach of the mitigation hierarchy i.e. ensure a no dust operations.</td></tr>
</table>

Table 8. Impact on the Traffic and Noise

Impact Event	Disturbances to the social and economic aspects of the town population					
Description	Container handling related activities may result in temporary noise producing activities. Some noise will exist due to other current operational activities of NamPort the train and other heavy motor vehicles accessing the port and moving through town for commodity delivery as well as the operations of front-end loaders and forklifts.					
Nature	Temporary to long-term impact are anticipated, but these shall not be entirely or significantly influence by the proposed activity but from regular TransNamib and NamPort operational activities. In respect to the transshipment, minimal noise is anticipated and limited to handling of the barge and cranes. However, cumulative with existing activities, noise will be the major negative impact on both residents and the tourism sector, especially at accommodation establishments situated along or near the transshipment site.					
Phases: Phases during which sources of socio-economic impacts apply are highlighted below; Significance assessment was carried out on the operational phase which presents a long term risk.						
Construction Phase	**Operational Phase**		**Decommissioning Phase**		**Post Closure**	
N/A	• Transportation of commodities by barge from quay to vessel • Handling of wagons / containers at the Port		N/A		N/A	
Severity	Potential impacts will not, be associated directly to activities of Alliance LLC transshipment operations and therefore, in this respect are cross-cutting across all NamPort's activities					
Duration	The Significance of the potential impacts is subject to the proposed operation's life-time.					
Spatial Scale	Low, localized and limited to the port area					
Probability	Very Low, in respect to the barge facility but medium to high in respect to the cumulative scenario					
Unmitigated	**Severity**	**Duration**	**Spatial Scale**	**Consequence**	**Probability of Occurrence**	**Significance**
	L	L	H	M	L	H
Mitigated	**Severity**	**Duration**	**Spatial Scale**	**Consequence**	**Probability of Occurrence**	**Significance**
	L	L	L	L	L	L
Description of Mitigation Measures	It is recommended that project activities relating to handling and transportation must adhere strictly to existing mitigation measures as prescribed in the NamPort's Clearance Certificate conditions, EMP and Contingency Plan. Equally, all necessary PPE's gear must be provided to the staff / Labourers associated with the operation. A register of complaints reported to the NamPort relating to the transshipment operation must be kept, and possible solutions explored to ensure that the neighboring community are less affected by the noise generated.					

Table 9. Impact on the Economic Aspect

Impact Event	Potential economic gain for the Lüderitz town population					
Description	Potential economic gains that may never be realized if the proposed project activities does not go-ahead include: loss in income for both TransNamib and NamPort, unemployment and the loss of socio-economic benefits derived from current and future export and import trading opportunities.					
Nature	Impacts relating to the of the local socio-economic activities may arise from increased TransNamib and NamPort operational activities in relation to the export of mineral and fuel commodity through Lüderitz resulting in employment (positively) and noise (potential negative on residence and tourism).					
Phases: Phases during which sources of socio-economic impacts apply are highlighted below; Significance assessment was carried out on the operational phase which presents a long term risk.						
Construction Phase	**Operational Phase**		**Decommissioning Phase**		**Post Closure**	
N/A	• Transportation of commodities from quay to vessels • Handling of wagons / containers at the Port		N/A		N/A	
Severity	In the unmitigated scenario, this implies in the case where the activity take not take effect, no economic benefits shall realize hence, the severity in respect to unemployment shall be very high. However, with the implementation of the proposed operations, the severity of unemployment shall be reduced to medium.					
Duration	The Significance of the potential impacts is subject to the proposed operation's life-time, with a long-term potential					
Spatial Scale	Low, localized and only limited to the Lüderitz community					
Probability	Medium to High probability in respect to job creation on both the temporary during construction phase of warehouse facilities and long-term during operation phase					
Unmitigated	**Severity**	**Duration**	**Spatial Scale**	**Consequence**	**Probability of Occurrence**	**Significance**
	H	L	L	L	L	L
Mitigated	**Severity**	**Duration**	**Spatial Scale**	**Consequence**	**Probability of Occurrence**	**Significance**
	L	M+	M+	H+	H+	H+
Description of Mitigation Measures	It is critical that timely and continuous communication and dissemination of information with the local community is ensured to alleviate potential sense of social marginalization, drive gender equality and enhance the understanding and perception of the benefits associated with Alliance LLC operations A stakeholder forum consisting of the different Port users i.e. Mariculture farmers, boating club, tourism, government and Lüderitz resident must be established to ensure that regular monitoring and reporting is conducted and potential concerns are addressed timely.					

Table 9. Impact on the Economic Aspect

Impact Event	Disturbances to the economic aspects relating to other land-uses					
Description	Potential economic losses may occur on the other land-users particularly the tourism operators through loss scenic value during the days when the FTU is docked, and Mariculture farmers, should an unprecedented large spill and contamination of the sea water with dissolved particulate matters of manganese and or the other commodities occurs.					
Nature	Impacts relating to potential spill are of extremely low probability, although the loss of scenic value is most probable. Equally, any potential and excessive contamination of seawater may be detrimental to the Mariculture farmers community's livelihoods should any occur, although again the probability is low. Consequently, Alliance LLC is subject to establishing a stakeholder forum through which these potential impacts may be monitored and appropriate remedial measures planned and discussed.					
Phases: Phases during which sources of economic impacts apply are highlighted below; Significance assessment was carried out on the operational phase which presents a long term risk.						
Construction Phase	**Operational Phase**		**Decommissioning Phase**		**Post Closure**	
N/A	• Transportation of commodities from quay to vessels • Anchorage of the FTU facility during the peak loading periods		N/A		N/A	
Severity	In the unmitigated scenario, medium to high economic losses may be incurred. However, with the implementation of appropriate mitigation measures, the severity may be reduced to medium.					
Duration	The Significance of the potential impacts is subject to the proposed operation's life-time, with a long-term potential envisaged					
Spatial Scale	Low, localized and only limited to the Lüderitz community, particularly the tourism and Mariculture operators					
Probability	Very low to medium probability in respect to job creation (medium, as not many new jobs will be directly created through the Barge operation, but many indirect jobs are associated with the larger CUMET project at large). And, in terms negative impacts, loss of income from Mariculture farming due to contamination may as well cause medium to long-term effects.					
Unmitigated	**Severity**	**Duration**	**Spatial Scale**	**Consequence**	**Probability of Occurrence**	**Significance**
	M-H	H	L	H	M	L
Mitigated	**Severity**	**Duration**	**Spatial Scale**	**Consequence**	**Probability of Occurrence**	**Significance**
	L	M	L	L	L	L
Description of Mitigation Measures	It is critical that timely and continuous communication and dissemination of information with the local community is ensured to alleviate potential sense of social marginalization, drive gender equality and enhance the understanding and perception of the benefits associated with Alliance LLC operations A stakeholder forum consisting of the different Port users i.e. Mariculture farmers, boating club, tourism, government and Lüderitz resident must be established to ensure that regular monitoring and reporting is conducted and potential concerns are addressed timely.					

5. CONCLUSION AND RECOMMENDATIONS

5.1 CONCLUSIONS

The proposed transhipment operations by Alliance LLC, the Proponent along the Trans-Oranje and through the Port of Lüderitz offers Namibia a great opportunity to expand international trade endeavour.

However, while the proposed trading operations shall create employment opportunities and thus trickling benefits down to the larger population, it may also create opportunity for unprecedented negative impacts.

Potential impacts may vary in terms of scale (locality), magnitude and duration e.g. minor negative impacts in the form of visual intrusion, dust and noise pollution especially during the handling (loading and off-loading will be experienced. Below is a summary of the likely positive impacts that have been assessed for the different phases of the proposed LLC Alliance's transhipment operations:

- Raising awareness about the benefits of ecologically sustainable natural resource use (Likely impacts are high).
- Socio-economic development and capacity building through partnerships of Operators, skills transfer and training on the import / export industry shall be achieved (Likely impacts are high).

The following is a summary of the likely negative impacts that have been assessed for the different phases of the existing sand mining project:

- Ambient Air Quality (Likely impacts are medium but localized and can be further reduced by observing dust suppressing measures).
- Traffic and Noise impact (Likely impacts are low for traffic congestion as the activity is limited to maritime traffic and confined to within the harbour).
- Ecological and biodiversity loss (Likely impacts are localized and low).
- Health and safety (Overall likely impacts are low with handling of commodities in closed warehouse and use of correct PPE).
- Accidental Spill of Hazardous substance (Likely impacts are low with a contingency and environmental management plan in place).

Marine live and sea water pollution risks / impacts are likely low if the appropriate mitigation measures as detailed in the EMP Section of this report are implemented and monitored, the proposed activities can be integrated within the NamPort's Port of Lüderitz strategic business operations and environmental management policy.

5.2 RECOMMENDATONS

Enviro-Leap environmental practitioner confidently recommends that the proposed project can proceed and should be authorized by the DEA. The proposed operations is considered to have an overall low negative environmental impact and an overall moderate positive socio-economic impact (with the implementation of respective mitigation and enhancement measures).

Based on this, it is recommended that the proponent must upon obtaining their Environmental Clearance Certificate (ECC), implement all appropriate management, mitigation measures and monitoring requirements as may be stipulated in this report and or as condition of the ECC. These measures must be undertaken to promote and uphold good practice environmental principles and adhere to relevant legislations by avoiding unacceptable impacts to the receiving environment.

Taking into consideration the findings of the environmental scoping assessment process and given the national and regional strategic requirements for infrastructure development and economic growth, it is the opinion of the EAP that the project benefits outweigh the costs and that the project will make a positive contribution towards steering Namibia on its pathway towards its vision of becoming a Logistic Hub. Provided that the specified mitigation measures are applied effectively, it is recommended that Alliance's operations receive an ECC in terms of the Section 32 of the EMA No. 7 of 2007 and it's EIA Regulations of 2012.

REFERENCE

ATSDR (Agency for Toxic Substances and Disease Registry). 2012. Toxicological Profile for Manganese. U.S. Department of Health and Human Services, Atlanta, Georgia.

Baden, S.P., Eriksson, S.P., & Weeks, J.M. 1995. Uptake, accumulation and regulation of manganese during experimental hypoxia and normoxia by the decapod Nephrops norvegicus (L.). Marine Pollution Bulletin, Vol. 31, No. 1-3, 93-102

Beukes, N.J. Swindell, E.P.W. Wabo, H. 2016. Manganese deposits of Africa. Episodes 39 (2): 285-317.

Brimblecomb, P. and Grossi, C.M. 2010. Potential Damage to Modern Building Materials from 21st Century Air Pollution. The Scientific World Journal 10: 116-125.

Boone, C.; Bond, C.; Cross, A.; Jenkins, J. 2017. National Pesticide Information Center, Oregon State University Extension Services. npic.orst.edu/factsheets/sulfurgen.html.

Deane, J.G., 1995. The structural evolution of the Kombat deposits, Otavi Mountainland, Namibia. Communications of the Geological Survey of Namibia, 10: 99-107.

Eckardt, K. Soderberg, L. Coop, A. Muller, K. Vickery, R. Grandin, et al. 2013. The nature of moisture at Gobabeb, in the central Namib Desert J. Arid Environ., 93, pp. 7-19

EPA. 2003. Health Effects Support Document for Manganese. U.S. Environmental Protection Agency Office of Water, Washington. https://www.epa.gov/sites/production/files/2014-09/documents/support_cc1_magnese_healtheffects_0.pdf Accessed 2018-12-07

Government of the Republic of Namibia. 2004. Namibia Vision 2030: Policy Framework for Long-Term National Development. Office of the President, Windhoek.

Geological Survey of Namibia, 1999.Regional geological map of Namibia. Ministry of Mines and Energy, Windhoek, Namibia.

Government Gazette, 27 December 2007. No. 3966, Act No. 7, 2007 Environmental Management Act 2007.

Henderson, L. 2001. Alien Weeds and Invasive Plants: A Complete Guide to Declare Weeds and Invaders in South Africa. Plant Protection Research Institute: Agricultural Research Council.

Herbarium of Namibia (WIND). 2015. BRAHMS Database. National Herbarium of Namibia (WIND), National Botanical Research Institute, MAWF, Windhoek, Namibia.

JICA. 2015. An International Logistics Hub for SADC Countries in the Republic Of Namibia. The Government of the Republic of Namibia, Windhoek.

Klaassen, E. & Kwembeya, E. 2013.A Checklist of Namibian Indigenous and Naturalized Plants. National Botanical Research Institute: Windhoek.

Lenntech, 2020. Manganese removal by physical-chemical way. Accessed online (22/02/2020) at: https://www.lenntech.com/processes/iron-manganese/manganese/manganese-removal-physical-chemical-way.htm

Lenntech, 2021a. Chemical properties of lead - Health effects of lead - Environmental effects of lead. Accessed online (10/11/2021) at: https://www.lenntech.com/periodic/elements/pb.htm

Lenntech, 2021b. Zinc and water: reaction mechanisms, environmental impact and health effects. Accessed online (10/1/2020) at: https://www.lenntech.com/periodic/water/zinc/zinc-and-water.htm

Mannheimer, C. & Curtis, B. A. (eds) 2009. Le Roux and Müller's Field Guide to the Trees and Shrubs of Namibia. Windhoek: Macmillan Education Namibia.

Mendelsohn, J., Jarvis, A., Roberts, C. & Robertson, T. 2003.Atlas of Namibia. David Philips Publisher. Cape Town.

Ministry of Environment and Tourism, 2018. *Sixth National Report to the Convention on Biological Diversity (2014-2018)*, Windhoek: Republic of Namibia.

Ministry of Environmental Affairs, 2008. Procedures and Guidelines for Environmental Impact Assessment (EIA) and Environmental Management Plans (EMP), Directorate of Environmental Affairs, Ministry of Environment and Tourism, Windhoek.

Ministry of Environment and Tourism, 2002.Atlas of Namibia. Comp. J. Mendelsohn, A. Jarvis, T. Roberts and C. Roberts, David Phillip Publishers, Cape Town.

Müller, M.A.N. 1984. Grasses of South West Africa/Namibia. John Meinert Publishers (Pty) Ltd, Windhoek, Namibia.

National Planning Commission, 2017. *Namibia's 5th National Development Plan (NDP5). ,* Windhoek: Republic of Namibia

Namibia Statistics Agency, 2014. Namibia Intercensal Demographic Survey 2016 Report. Namibia Statistics Agency, Windhoek

Namibia Statistics Agency, 2013. Profile of Namibia: Facts, Figures and other Fundamental Information. Namibia Statistics Agency, Windhoek

Olivier. J., 1995. Spatial distribution of fog in the Namib. Journal of Arid Environment. 29:129-138

Pinsino A, Matranga V and Roccheri MC. 2012. Manganese: A New Emerging Contaminant in the Environment, Environmental Contamination, Dr. Jatin Srivastava (Ed.), ISBN: 978-953-51-0120-8, Intech, Available from: http://www.intechopen.com/books/environmental-contamination/manganese-a-new-emerging-contaminant-in-the-environment

Rao C.S. (2014), Environmental Pollution Control Engineering, New WHO (2003) Manganese in drinking-water. Background document for preparation of WHO Guidelines for drinking-water quality. Geneva, World Health Organization

Robertson, A., Jarvis, A., Mendelsohn, J. and Swart, R. 2012. Chapter 2: Weather and Water in: Namibia's Coast: Ocean Riches and Desert Treasures. Directorate of Environmental Affairs, Ministry of Environment and Tourism, Namibia, pp. 20-45

Turpie et al. (2007). Climate Change Vulnerability and Adaptation Assessment for Namibia's Biodiversity and Protected Area System.

University of Gothenburg, 2009. "Manganese Damages Immune Response In Marine Animals, Research Finds." ScienceDaily. ScienceDaily, accessed online on: 19 November 2019 at. www.sciencedaily.com/releases/2009/08/090811143956.htm

Van Wyk, B. and Van Wyk, P. 1997. Field guide to trees of Southern Africa. Cape Town: Struik Publishers.

Zeng GM, Liang J, Guo SL, Shi L, Xiang L, Li XD, Du CY (2009) Spatial analysis of human health risk associated with ingesting manganese in Huangxing town, middle China. Chemosphere 77:368–375

APPENDIX A – ENVIRONMENTAL CONTIGENCY PLAN

EMERGENCY RESPONSE / CONTIGENCY PLAN

Proposed Alliance LC's Dry Bulk (Mineral Ore) Loading and Export Operations utilizing a Transshipment Facility at the Port of Lüderitz, Namibia

April 21

Compiled for: Mr. Vyacheslav Lobikov
Alliance LLC
11B Komendantsky propsekt
Saint-Petersburg, Russia

Authored by: Mr. Titus Shuuya

АЛЬЯНС

P. O. Box 25874, Windhoek +264 81 232 6843 eap.trigen@gmail.com

DOCUMENT INFORMATION AND APPROVAL		
Title	Environmental Clearance Certificate for the Proposed Alliance LC's Dry Bulk (Mineral Ore) Loading and Export Operations utilizing a Transshipment Facility at the Port of Lüderitz, Namibia	
ECC Application Reference number	APP- 002862	
Location	Lüderitz Port, Namibia	
Proponent	LLC Alliance 11B Komendantsky propsekt Saint-Petersburg, Russia P. O. Box 25874, Windhoek	
Author:	Signature	Date
Mr. Titus Shuuya (EAP) 1		13 April 2022
Mr. Shadrag Tjiramba (EAP – Internal reviewer) 2		18 April 2022
Approval – Client 1		
Mr. Vyacheslav Lobikov		20 April 2022

1.0 RESPONSE CONCEPT

Possible accidents involving spill of hazardous chemical substances may include:

- Release of hazardous chemicals as a result of tankers accidents
- Release as a result of capsized or damaged wagons, containers and or tankers carrying the respective commodity (Mineral Ore (Manganese, Lead and Zinc)) of hazardous substance or dust particles
- Accompanied by fire, explosives, property damage and involving environmental pollution with corrosive or toxic products resulting from vehicle collision
- As a result of handling of hazardous substances while in transit

Barges / Vessels accidents may occur within the harbour during the handling (loading) of the commodities and such accident may impose threats on the health and lives of marine and terrestrial communities operating within the port (should such occurs near/within inhabited areas) as well as on the natural environment.

Faulty automated or mechanical accessories safety measures on the wagons, barges and cranes used for handling the commodity may also cause spills of dangerous amounts of hazardous substances.

When hazardous substances spills into the marine environment, the particulate matter in granule form may tarts to dissolve and dilute the sea water. The diffusion rate is proportional to ambient temperature and the size of the particulate, which releases the granules.

Additionally, potential spillage of fuels i.e. diesel and engine oil from the vessels / barge into the marine environment may cause harm or disturbance to the vegetation or living microorganisms that it comes into contact with.

Objectives

The purpose of the emergency response plan for cases involving spill of hazardous substances is as follows:

- Provide the required means to protect people's health
- Make personnel familiar with the emergency procedures and response measures
- Provide the best organizational arrangements to support the operations
- Response tasks are efficiently coordinated and managed
- Provide a procedure for resuming the normal operations.

2.0 SETTING UP EMERGENCY RESCUE CREWS

Alliance LLC shall set up the following emergency response steps:

- Incident Alert and Mobilisation – accident reported to key authorities for recourses mobilisation
- Emergency Response – emergency response and first aid to injured employees and in case another vehicle(s), other casualties
- Reconnaissance and rescue team – reconnaissance and rescue of injured persons
- First-aid team – first aid to injured employees and other persons
- Emergency Rescue Service – fire fighting

Manpower of the authorities providing a joint response to emergency situation according to its complexity:

- Manpower and equipment of the **Department of Environmental Affairs**
- Manpower and equipment of the **Emergency Rescue Services**
- Manpower and equipment of the **Fire Safety Local Authority Department**
- Manpower and equipment of the **Regional Police Unit**
- Manpower and equipment of the **Emergency Medical Care**

3.0 TASKS

3.1 Tasks of Officials Involved in the Emergency Response Operations. Method of Action

Operations Manager of Alliance LLC (accountable manager):

- Becomes familiar with the situation
- Arranges for accident notification to relevant national and regional level authorities
- Designates a location for meeting and directing the manpower and equipment
- Provides directions for the actions of the emergency response units
- Requests additional manpower and equipment, if necessary
- Specifies measures ensuring the safe performance of the emergency response operations
- Supervises the task performance

Independent Environmental Officer – Alliance LLC:

- Receives information about the situation and suggests measures for emergency response and recovery of damaged equipment
- Ensures the availability of the equipment, materials and manpower required for conducting the emergency recovery works
- Assumes the duties of a person in charge of the emergency response
- Implements any instructions the accountable manager may give

Employees of Alliance LLC:

- Notify the appropriate persons and agencies as envisaged in the plan
- Take actions to rescue injured persons
- Apply preliminary emergency response measures to address the incident or limit the scope of the incident envisaged in the plan
- Inform the accountable manager about the measures implemented
- Follow the instructions of the accountable manager of the rescue operations.

3.2 Tasks of the Managing Authorities; Response to Fuels or Hazardous Substance Spills.

The overall management of the rescue operations on the site is a responsibility of the appointed emergency response service provider with supervision of Alliance LLC Operations Manager and in collaboration with relevant authorities.

The direct operational management of the rescue personnel is a responsibility of Alliance LLC accountable manager on the site who interacts with the emergency response forces at a regional and or local level (affected Regional / Town Council or Municipality), organizes the operations of the emergency teams for response to disasters, and accidents, rescue and emergency recovery operations and provides assistance to the Technical Supervision Authorities to establish the reason for the incident.

3.3 Tasks of the Company Teams. Response to Fuels or Chemical Spills

3.3.1 Tasks of the Service Personnel:

- Take measures as per the operating instructions
- Notification of authorities.

3.3.2 Tasks of the Emergency Response Units:

- Task of the reconnaissance-rescue team: Immediately start observation of the situation, notify all personnel about the evacuation order issued by the Manager along with any other instructions issued.
- Task of the first-aid team: Receive materials and medicines and immediately start to provide first aid to injured persons;
- Task of the **Emergency Rescue Service** (ERS) team: Immediately start fire suppression, evacuate any personnel from the premises close to fire, and rescue people from vehicle wreckages.
- The tools and equipment to be used for emergency response include: tools from the fire-extinguisher cabinets; other suitable tools and materials in place, including the first-aid kits with the Emergency Rescue Service.

4.0 EMERGENCY NOTIFICATION AND ALERT CALL

Any member of the Company personnel must immediately notify the site manager if an incident or fire occurs. Once an emergency notification is received, the Emergency Rescue team must be immediately notified by calling, the relevant nearest local authority and police departments.

5.0 ORGANIZATION

5.1 Clarify the Situation.

The emergency team will conduct visual inspection of the affected area in order to collect full and objective information about the type, scope and original location of the incident, and the impact (vehicle wreckage, victims, chemical spills etc.).

5.2 Protection of Employees and Population

Accidents involving spills of flammable liquids will require evacuation of victims from impact areas according to evacuation plans. Employees must be evacuated opposite the wind direction. Evacuation of accident victims must be done with care and by persons trained to provide first aid, hence all drivers must undergo a first aid train and at all time carry with them a valid first aid certificate.

PPEs must be used by rescue teams where high concentrations of hazardous substances are in place. PPEs will include breathing apparatus, skin protection, protective glasses, gloves, etc.

5.3 Isolation of the Accident Scene

Isolation will be applied to limit the impact of chemical spills as follows:

- Cease any handling of hazardous chemical substances
- Activate all shut off valves at the facility
- Isolate the spill with sand or lime, manually collect the spilled material, place in buckets or bins and if still usable, use accordingly. Any residual traces of the material will be treated with sand

and sawdust to the point where the area is completely dry and clean. Any waste from the cleaning will be kept in bins at the temporary storage facility for later treatment.

These operations are a responsibility of the emergency team, emergency rescuers and manpower and equipment of the ERS, Fire Safety Department of any relevant local authority along the route and other forces and equipment involved in the rescue operations.

5.4 Rescue Operations

Rescue operations include:

- Search and evacuation of victims to a safe place. This is a task of the reconnaissance-rescue team of the Company, together with manpower and equipment of the ERS, Fire Safety Department of any relevant local authority along the route
  , and other forces and equipment involved in the rescue operations;
- Administration of first aid - task of the first-aid team together with manpower and equipment of the ERS Fire Safety Department of any relevant local authority along the route
- In case of hazardous substance spill, take the victims out, place comfortable and expose to fresh air; loosen any tight clothing. Apply CPR or oxygen breathing apparatus where necessary. Immediately remove any contaminated clothes. Rinse any affected body parts with plenty of water and soap. In case of eye contact, flush victim's eyes with water for 10-15 minutes while making sure the eye lids are kept open with the thumb and the index finger and eyeballs are rolling around. To transport a victim who is at risk of seizure, place them in a stable position sideways;
- Gas removal from rooms or sites - task of the emergency team together with manpower and equipment of the ERS, Fire Safety Department of any relevant local authority along the route
- Fire suppression – see FIRE PLAN.
- In case of hazardous chemical spill, if a source of ignition is in place, it may cause fire and/or explosion, which may take victims and damage property. This is mostly a responsibility of the Company's fire-fighting unit and the Fire Safety Department of any relevant local authority along the route

5.5 Recovery and Construction Works

Include a full review of the status of any damaged facilities at their recovery following completion of the rescue operations. These works are a responsibility of Alliance LLC repair teams or external contractors.

6.0 MANAGEMENT

The overall management of the rescue operations on the site is a responsibility of the company with other relevant authorities. The immediate supervision over the rescue crew and other personnel involved in the emergency and rescue operations in case of chemical spills will be a responsibility of the accountable site manager, who will also interact with the Department of Environmental Affairs, and nearest local authority.

The accountable manager of the rescue operations at the base will report to the relevant affected authorities coordinating the rescue operations about:

- Changes to the situation – immediately
- Commencement of emergency response actions
- Performed rescue operations – every 2 hours
- Termination of the emergency situation.

7.0 SUPPORT

7.1 Re-reconnaissance

7.1.1 Reconnaissance Objectives

The purpose of the reconnaissance is to provide timely and valid information about the situation as required for making an informed decision about the performing adequate rescue and emergency response operations at the accident area.

7.1.2 Reconnaissance Tasks

Obtain valid information in real time in order to support the rescue operations. Determine and post signs at safe areas for evacuation of personnel and population from the source of impact.

7.1.3 Reconnaissance Concept

These efforts must be focused on clarifying the situation at the site, together with the site authorities, and on the direction of chemical spill dispersion. Later, safe areas must be established to evacuate the population and site personnel.

7.1.4 Reconnaissance Organization

This is a responsibility of the reconnaissance-rescue team with the relevant affected authorities. Reconnaissance data will be reported in a timely manner to the accountable manager of the rescue operations at the Company and the Permanent Site Committee for management of rescue operations with the relevant affected authorities.

Water control is a responsibility of the Environmental Affairs Department and the relevant affected authorities. Without their authorization, the site may not resume operations when the emergency response operation is completed. Following reconnaissance, the team will perform partial clean-up and treatment away from the impact area.

7.1.5 Reconnaissance Tasks

- Inspect, observe and constantly monitor the situation
- Identify shortest and safest access routes for the emergency teams and equipment to the impact area in order to perform emergency response and rescue operations
- Identify the direction of cloud dispersion, if generated, and impact area growth
- Identify impact boundaries.

7.2 Chemical Reconnaissance

7.2.1 Purpose of Chemical Support

The purpose of chemical support is to ensure timely clarification of the chemical situation, prevent any damage, ensure that employees are in good condition and enable the emergency and rescue operations.

7.2.2 Main Tasks of the Chemical Support

Protection of the population and employees who are at risk from uncontrolled release of hazardous substances. Chemical support to emergency and rescue teams.

7.2.3 Concept of Chemical Support - Organization and Performance

Terms of chemical support, the emergency and rescue teams must focus their efforts on notification about the chemical hazards, clarification of the situation and efforts to limit the dispersion of the chemical cloud.

7.2.4 Organization of Chemical Support

7.2.4.1 Notification of population and employees at risk

The emergency notification is a responsibility of the site personnel on duty. The person on duty will notify the accountable manager of Alliance LLC and other relevant local, regional and or national authorities.

The Local Authority will evaluate the situation on the basis of the data provided by Alliance LLC and depending on the spill/cloud's dispersion speed and direction the headquarters will make a decision to notify and or evacuate the population at risk.

7.2.4.2 Chemical reconnaissance

This reconnaissance will focus on identifying the scope of the spill/cloud dispersion and the boundaries of any concentrations in excess to the regulated limits.

7.2.4.3 Information gathering, prognoses and analyses

The independent environmental officer with the relevant affected authorities will set up groups (within the emergency team) of two persons whose task will be to gather information, analyze the situation and suggest options for the implementation of the emergency and rescue operations.

Provision of chemical protection equipment, chemical reconnaissance devices and gas neutralization substances. The Company keeps PPEs on stock - such as helmets, oxygen breathers, skin protection (boots and gloves), protective glasses etc. PPEs will be delivered by the store supervisor.

7.4 Engineering Support

7.4.1 Purpose of engineering support:

Enables the isolation of the accident scene and assists the emergency operations. Main tasks of the engineering support:

- Conducts engineering reconnaissance and assists the access of any emergency equipment and personnel to the accident scene to enable site isolation and emergency response.

7.4.2 Concept of engineering support:

The main focus will be on assisting the special teams in their efforts to rescue any victims of the accident, isolate and address the emergency.

7.4.3 Notification about the accident

This is a responsibility of the engineering teams for the purpose of providing timely information on the nature and scope of any property damage at the work areas. The engineering support will use the access route to the accident scene and immediately the source of damage. The engineering reconnaissance process will determine:

- Victims' location, number and pending risks, if any
- Shortest and safest access routes to victims trapped in collapsed structures, if any
- Nature and scope of property damage including buildings and facilities

- Amount and methods of the required engineering works, including any clean-up required to enable victims' evacuation
- Estimate number of personnel and equipment required for the emergency operations at a core damage area
- Status of water sources, contamination level, possibility to use such water for fire suppression and any other technical purposes

7.5 Information Support

Main tasks of the information support:

- Familiarize with the alert signals of various hazards/risks and performance of regular emergency drills in order to build behavior, habits and skills required in various critical situations
- Train employees to properly use PPE
- Exercise control to ensure proper emergency behavior
- Whenever an emergency situation occurs, will provide timely information to the managing authorities about the type and scale of the accident and the initiated actions.
- Whenever rescue operations are to take place in environment with flammable vapors, which involve risk of explosions, rescue teams need to use spark-free tools and explosive-safe lighting, apparatus and facilities.
- This task is a responsibility of the core rescue teams: Alliance LLC emergency response teams, regional fire safety department, and any additional forces such as regional health inspection, teams of the power Distribution Company, water and sewage company etc.

7.6 Ensuring Order and Security

Order and security must be ensured throughout the site, along with securing the accident scene, an traffic control to support the effective emergency and rescue operations.

Order and security tasks:

- enhance the security
- secure/barricade the accident scene
- guide access of emergency personnel to the accident area
- establish the identity of any bodies
- Take part in the emergency and rescue operations.

These are tasks of the security personnel. More complicated situations may require involvement of the local police.

7.7 Medical Assistance

The purpose of the medical assistance is to provide first aid to any injured employees. The main task is to arrange for timely administration of first aid and any required medications.

These services will be provided by the first-aid teams of the ERS, the Emergency Medical Service and the hospitals will provide Civil Protection Dept. and Fire Safety Dept. Medical care. Medical specialists will take to the nearest medical centers the victims for treatment of injured persons.

7.8 Provision of Transport, Materials and Equipment

The purpose of this support is to enable the adequate and timely provision of any special equipment, PPE, food, drinking water, special automation and tools, communication devices, oil and fuel, medical supplies, engineering materials, supporting and construction materials in order to enable the timely

and effective emergency response operations and resumption of the production process, transportation of the rescue teams' personnel, delivery of construction materials, food, water and other basic items for the employees, and rescue team members and also support the evacuation process.
Tasks:

- Supply of materials for the company employees and rescue teams
- Oil and fuel supply for the vehicles and special equipment
- Supply of medical equipment, neutralizing substances and provision of their transportation
- Transportation of employees away from the accident scene
- Transportation of food supplies for the emergency response teams
- Provision of vehicles for the emergency response teams
- Arrangements to accommodate regular vehicles for transportation of injured persons.

7.9 Financial Support

The purpose of the financial support is to provide funding for the purchase of any required inventory to support the emergency operations including employee life protection, rescue and emergency response operations.

Tasks:

- Provision of funds to ensure food supplies for the emergency and rescue teams
- Provision of funds for preventive measures and emergency preparedness for cases of natural disasters and industrial accidents.

8.0 COORDINATION

If, in the course of the rescue and emergency response operations, the emergency response team and other personnel establish that they cannot handle the situation without help, they must seek help from the nearest emergency support service provider and relevant affected authorities.

9.0 PROCEDURES FOR RESUMING NORMAL OPERATION OF THE SITE

Once the emergency response operations to address industrial accident are completed (including fire), a committee will be set to determine the required recovery and construction works. The committee inspects and assesses the condition of facilities, equipment, piping, ventilation, power lines, lighting and systems to check for the full compliance with the process and fire safety requirements.

The site commissioning will follow the process requirements following coordination with the fire safety and other special authorities.

10.0 FINAL PROVISIONS

The emergency response plan for cases of industrial accidents involving spill of hazardous substances will be coordinated with the Fire Safety Department (through their management or councils) of any relevant local authority along the route.

The site employees will review this Plan and will sign to confirm they are familiar with it.

APPENDIX B – PUBLIC CONSULTATION

CALL FOR PUBLIC PARTICIPATION
ENVIRONMENTAL IMPACT ASSESSMENT FOR PROPOSED DEVELOPMENT OF MARBLE AND GRANITE MINE

This notice serves to inform interested and affected parties that an application for the environmental clearance certificate will be launched with the environmental commissioner in terms of the Environmental Management Act (No.7 of 2007) and Environmental Regulations (2012) for the proposed activity.

Project: Proposed development of a marble and granite mine/quarry.
Location: The project is situated approximately 45 km southwest of the Town of Karibib. Located on farm Etusis 75, farm Habus 77 and part of the communal area in Erongo Region.

Proponent: Tipton Investments (Pty) Ltd.
Project description: Marble and granite mining activities on Mining License 216.

All interested and affected parties (I&APs) are invited to register and submit comments, concerns and questions on or before **14/08/2021**. Contact details for registration and further information:
Ms. C. Kanyama
Tel: +264 81 316 1012
Email address: [illegible]@gmail.com

Public Participation meeting will be held on:
Date: 14 August 2021
Time: 11:00
Venue: To be communicated to all interested and affected parties (I&APs) in accordance with COVID-19 Regulations.

CPI

CITY OF WINDHOEK

The Gateway to Endless Opportunities

Vision: To be a SMART and Caring City by 2022

PUBLIC NOTICE

TOGETHER WE CAN BEAT THE VIRUS

Invitation to review the City of Windhoek Resident Occupation Policy

The department of Urban and Transport Planning is revising the existing Resident Occupation Policy and invites views from users and other stakeholders.

The draft policy document is available on the City of Windhoek website at:

www.cityofwindhoek.org.na

Home page → Info portal → documents → Windhoek Resident Occupation Policy draft version

Any comments on the draft policy are to be submitted in writing to TPComments@windhoekcc.org.na before 4 August 2021. We wish to encourage stakeholders to participate and provide any inputs relevant to the document for further consideration.

Yours faithfully,

Department of Urban and Transport Planning

Issued by: Office of the Chief Executive Officer
Corporate Communications, Marketing and Public Participation
E-mail: cowcommunication@windhoekcc.org.na

CALL FOR REGISTRATION AS INTERESTED AND AFFECTED PARTIES

PROPOSED INSTALLATION AND OPERATION OF ALLIANCE LC'S DRY BULK (MINERAL ORE) VESSEL LOADING TRANSHIPMENT FACILITY AT THE PORT OF LÜDERITZ, NAMIBIA

1. PROJECT SITE AND DESCRIPTION

Alliance LC (Pty) Ltd proposes to install and operate transhipment facility (consisting of a floating crane and two barge facilities with a capacity of between 8000 – 10 000 mt) from quayside of Lüderitz Port. Subsequently, intend to apply and obtain an environmental clearance certificate from the Department of Environmental Affairs and Forestry, thus undertaking an environmental assessment process.

2. PUBLIC PARTICIPATION PROCESS

Enviro-Leap Consulting invites all Interested and Affected Party (I & AP) to register and receive Environmental Assessment (EA), Scoping and EMP) documents relating to the proposed project for their comments and input.

3. COMMENTS AND QUERIES

Interested and Affected Parties are herewith request to register by writing to us at the address below no later than **25 AUGUST 2021.**

3. COMMENTS AND QUERIES

Please register and direct all comments, queries to:
Mr. Vilho Mtuleni, Environmental Assessment Practitioner
Email: [illegible]@gmail.com - Cell: +264 81 232 [illegible]

ENVIROLEAP CONSULTING

CALL FOR REGISTRATION AS INTERESTED AND AFFECTED PARTIES

PROPOSED MINERAL EXPLORATION ON EXCLUSIVE PROSPECTING LICENCES (EPL's) 6509 AND 7606, HARDAP AND KARAS REGIONS

1. PROJECT SITE AND DESCRIPTION

[illegible] Investment CC's proposes prospecting activity for base and rare and metals, dimension stone, industrial minerals, non-nuclear fuel mineral, precious metals and precious stones. These entails aerial and ground geological mapping and survey, manual sample collection for laboratory analysis. Subsequently, intend to apply and obtain an environmental clearance certificate from the Department of Environmental Affairs and Forestry.

2. PUBLIC PARTICIPATION PROCESS

Enviro-Leap Consulting invites all Interested and Affected Party (I & AP) to register and receive Environmental Assessment (EA), Scoping and EMP) documents relating to the proposed project for their comments and input.

3. COMMENTS AND QUERIES

Interested and Affected Parties are herewith request to register by writing to us at the address below no later than **25 AUGUST 2021.**

3. COMMENTS AND QUERIES

Please register and direct all comments, queries to:
Mr. Vilho Mtuleni, Environmental Assessment Practitioner
Email: [illegible]@gmail.com - Cell: +264 81 232 [illegible]

ENVIROLEAP CONSULTING

Taliban triumph means more worries in Africa

The return of the Taliban in Afghanistan has taken the world by surprise. In Africa, it compounds the worry and fear in countries struggling to crush Islamist insurgencies

For over a decade now, there's been a surge in the activities of extremist groups in East and West Africa, the Sahel and parts of southern Africa.

Many are Islamist militant groups with some form of affiliation to al-Qaeda, an organisation the United Nations (UN) has said shares links with the Taliban in Afghanistan.

Somalia-based media affiliated with the homegrown al-Shabab group hailed the Taliban's takeover in Afghanistan in what could be seen as a show of support, says London-based political analyst Ahmed Rajah.

"We are not so sure of the link between the Taliban and al-Shabab, whether these links are opportunistic on the part of al-Shabab or whether they are indeed organic links between the two movements," Rajah told DW.

He says it's still too early to judge, but the Taliban could even read meaning into such messages from Africa's extremists to solidify their influence.

UN Secretary-General Antonio Guterres has warned of an "alarming" expansion of affiliates of the so-called "Islamic State" throughout Africa on the back of the situation in Afghanistan.

That position is shared by Kwesi Aning, the director of the faculty of academic affairs and research at the Kofi Annan International Peacekeeping Training Centre in Ghana.

The developments in Afghanistan "can potentially put all of us in Africa and the Sahel at risk," Aning said on Accra-based Citi FM radio.

Huge extremist presence in Africa

Al-Shabab has for many years been fighting to topple Somalia's UN-backed government and impose strict Sharia law in the country. The group has been behind deadly attacks in Somalia and the East Africa region.

Likewise, Nigeria's Boko Haram group has been behind the killing of tens of thousands of people and the displacement of millions in West Africa.

Islamist militants are also active in the Sahel region and parts of the West African sub-region.

In Mozambique Islamist militants have caused havoc after seizing much of the far-north province of Cabo Delgado. More than 2,500 people have been killed and some 700,000 have fled their homes since the insurgency began in 2017, according to the UN.

Islamist extremists also operate in parts of the Democratic Republic of Congo. Political analyst Kwesi Aning stressed the need for measures to guard Africa against any new threats that may arise as a result of the current Afghan crisis.

He executive director of the West Africa Centre for Counter-Extremism (WACCE), Mutaru Mumuni Mugthar, told DW that extremists groups in Africa will only become emboldened by the happenings in Afghanistan.

There is the tendency to "offer not only hope but some sense of legitimacy, a false sense of legitimacy," for groups hoping to topple governments in the regions they operate, he said.

Avoid repeat of the Afghanistan scenario

France has announced that by 2022 it will reduce its military presence in the Sahel region with the process for closure of its bases in northern Mali earmarked to start by the end of 2021.

France, as the former colonial power in the Sahel region, has had troops in Mali since 2013. They aided local forces to oust Islamist extremists who had seized towns in Mali's north.

The Taliban takeover in the wake of the US withdrawal has raised fears that the Sahel region could suffer a similar fate after the French mission ends.

Security analyst and researcher for Signal Risk in South Africa, Ryan Cummings, told DW that France will have to reconsider its decision but said there could be other political considerations since "the French presence in the Sahel has not necessarily led to either a decrease in operational capacity of extremists groups in this region, nor has it stemmed the degree of violence."

African governments must be on high alert

The ideology of Boko Haram, al-Shabab and other extremist groups operating in parts of Africa may not be on one level with the Taliban, but for many experts, the Taliban triumph could spur them on. Experts say African governments must pay attention for that reason.

Cummings says African governments need to learn from the Afghan context and provide citizens with a better deal than what the extremists can provide.

"In many of cases, if we go into terrorism-afflicted states across the African continent, we see that these militant groups are actually surrogating the services of the state," he said.

Extremists often provide the judicial and social services that have collapsed in many African countries and then exploit that to win support.

he WACCE executive director, Mutaru Mumuni Mugthar, wants to see African governments focus on "comprehensively dealing with the drivers of terrorism, not just terrorists, because terrorists are killed on the battlefield and terrorism is killed in the local community."

Aning from the Kofi Annan International Peacekeeping Training Centre said what is happening in Afghanistan presents very useful lessons for Africa.

Western countries cannot "just come from somewhere... superimpose [their] culture, values and army in a country, and think that will work." -dw

ture-alliance/AP Photo/F. Abdi Warsameh

The extremist al-Shabaab group voiced its support of the Taliban

NOTICE FOR
ENVIRONMENTAL IMPACT ASSESSMENT

HEEC

STANDARD NOTICE -

THREE STOREY DWELLING UNIT CONSTRUCTION

Take notice that the owner **N.Hamutumwa of Erf Portion 350/57, Farm No 48 in Braakwater,** intens applying to the Windhoek Municipal Council, for the construction of a three Storey dwelling unit on Erf - Portion 350/57, Farm No 48 in Braakwater, Windhoek.

The proposed construction will allow the owner to erect a three storey dwelling unit on Portion 350/57.
The Owner's current intentions are to erect and use the building for Residential Purposes.
Further, take notice that the plan of the erf lies for inspection on the town planning notice board in the Customer Care Centre, Main Municipal Office, Rev. Michael Scott Street, Windhoek.

Further, take notice that any person objecting to the proposed use of the land as set out above may lodge such objection together with the grounds thereof, with the City of Windhoek, 8th floor office 824, and with the Applicant within 14 days of the last publication of this notice.

The last day for any objection is 01 **September 2021.**

Dated on the 11th of August 2021, in Windhoek, Namibia

Name: Mr. N. Hamutumwa
POSTAL ADDRESS:
P. O. Box 41754
Ausspannplatz Windhoek, Namibia
Contact Details: 085 127 3080 / 081 122 2858

OXYGEN CYLINDERS, CONCENTRATORS AND ACCESSORIES SUPPLY

10 Litres OXYGEN CYLINDER SET AND A FREE OXIMETER
N$5 500-00

9 Litres OXYGEN CONCENTRATOR SET AND A FREE OXIMETER
N$9 500-00

DPI HEALTH
Contacts: 0812029137
Email: destinyplanners@gmail.com
Location: Number 9 Rossini Street Windhoek West

CALL FOR REGISTARTION AS INTERESTED AND AFFECTED PARTIES

PROPOSED INSTALLATION AND OPERATION OF ALLIANCE LC'S DRY BULK (MINERAL ORE) VESSEL LOADING TRANSHIPMENT FACILITY AT THE PORT OF LÜDERITZ, NAMIBIA

1. PROJECT SITE AND DESCRIPTION

Alliance LC (Pty) Ltd proposes to install and operate transshipment facility (consisting of a floating crane and two barge facilities each with a capacity of between 6000 – 16000 mt) from quayside of Lüderitz Port. Subsequently, Intend to apply and obtain an environmental clearance certificate from the Department of Environmental Affairs and Forestry, thus undertaking an environmental assessment process.

2. PUBLIC PARTICIPATION PROCESS

Enviro-Leap Consulting invites all Interested and Affected Party (I & AP) to register and receive Environmental Assessment (BD, Scoping and EMP) documents relating to the proposed project for their comments and input.

3. COMMENTS AND QUERIES

Interested and Affected Parties are herewith request to register by writing to us at the address below no later than **25 AUGUST 2021.**

3. COMMENTS AND QUERIES

Please register and direct all comments, queries to:
Mr. Vilho Mtuleni, ,Environmental Assessment Practitioner
Email: eap.trigen@gmail.com - Call: +264 81 232 6843

ENVIROLEAP CONSULTING cc

CALL FOR REGISTARTION AS INTERESTED AND AFFECTED PARTIES

PROPOSED MINERAL EXPLORATION ON EXCLUSIVE PROSPECTING LICENCES (EPL's) 6909 AND 7604, HARDAP AND KARAS REGIONS

1. PROJECT SITE AND DESCRIPTION

Omahamba Investment CC's proposes prospecting activity for base and rare and metals, dimension stone, industrial minerals, non-nuclear fuel mineral, precious metals and precious stones. These entails ariel and ground geological mapping and survey, manual sample collection for laboratory analysis. Subsequently, Intend to apply and obtain an environmental clearance certificate from the Department of Environmental Affairs and Forestry.

2. PUBLIC PARTICIPATION PROCESS

Enviro-Leap Consulting invites all Interested and Affected Party (I & AP) to register and receive Environmental Assessment (BD, Scoping and EMP) documents relating to the proposed project for their comments and input.

3. COMMENTS AND QUERIES

Interested and Affected Parties are herewith request to register by writing to us at the address below no later than **25 AUGUST 2021.**

3. COMMENTS AND QUERIES

Please register and direct all comments, queries to:
Mr. Vilho Mtuleni, ,Environmental Assessment Practitioner
Email: eap.trigen@gmail.com - Call: +264 81 232 6843

ENVIROLEAP CONSULTING cc

CALL FOR PUBLIC PARTICIPATION

ENVIRONMENTAL IMPACT ASSESSMENT FOR PROPOSED DEVELOPMENT OF MARBLE AND GRANITE MINE

This notice serves to inform interested and affected parties that an application for the environmental clearance certificate will be launched with the environmental commissioner in terms of the Environmental Management Act (No.7 of 2007) and Environmental Regulations (2012) for the proposed activity:

Project: Proposed development of a marble and granite mine/quarry.

Location: The project is situated approximately 45 km southwest of the Town of Karibib. Located on farm Etusis 75,farm Kubas 77 and part of the communal area in Erongo Region.

Proponent: Tipton Investments (Pty) Ltd.
Project description: Marble and granite mining activities on Mining Licence 236.

All interested and affected parties (I&APs) are invited to register and submit comments, concerns and questions on or before **31/08/2021**.Contact details for registration and further information:

Ms. C. Kanyama
Tel: +264 813161012
Email address: cristofinak@gmail.com

CPI

PUBLIC NOTICE

Please take note that KAMAU TOWN PLANNING AND DEVELOPMENT SPECIALIST has been appointed by the owner of Erf 1479 Extension 4 Rocky Crest, Windhoek to apply to the City of Windhoek for the following:

- **Consent to use the Erf for a fuel station, 2 quick service restaurants, a pharmacy, ATM and a car wash.**

Erf 1479 is located west of the Windhoek CBD, along the David Hosea Meroro arterial road, suburb Rocky Crest, Extension 4. The respective Erf measures 3847 sqm in extent, and is zoned 'Business'. The application stands to apply for the use of Erf 1479 for a fuel station, 2 quick service restaurants, a pharmacy, an ATM and a car wash. There is sufficient provision made for parking, the site layout plan is available for viewing at the City of Windhoek or at Kamau TPDS.

Please further take note that:

(a) For more inquiries regarding the consent use, visit the department of Urban and Transport Planning at the City of Windhoek;

(b) any person having objections to the consent concerned or who wants to comment, may in writing lodge such objections and comments, together with the grounds, with the Chief Executive Officer of the City of Windhoek, and with the applicant within 14 days of the last publication of this notice, i.e. no later than **26 August 2021.**

KAMAU

'Don't panic and get back to work', Taliban order former officials

RUPA M JAIN

Ashraf Haidari, an economist at the Afghan finance ministry, was waiting anxiously at home when a call came from the Taliban: a commander ordered him back to work so he could help run the country once the "crazy foreigners" had left.

Like thousands of others working for the outgoing Western-backed administration, swept aside by the Islamist militants' lightning conquest of Afghanistan, he worried he might be the victim of reprisals.

On the other end of the line was a Taliban commander, urging Haidari to return to his ministry where he works allocating funds to the country's 34 provinces.

"He said don't panic or try to go into hiding, the officials need your expertise to run our country after the crazy foreigners leave," Haidari, 47, told Reuters.

To fit in with the norms of the previous Taliban rule, when they brutally enforced a strict interpretation of Islamic law, Haidari grew a beard. After the phone call on Sunday, he swapped his suit for traditional Afghan robes to meet his new bosses.

Reuters spoke to three other mid-level officials at Afghanistan's finance ministry and central bank who said they had been told by the Taliban to return to work, as the country faces economic upheaval and a shortage of cash.

Sohrab Sikandar, who works in the finance ministry's revenue department, said he had not seen any of his female colleagues since he went back to the office.

During the Taliban's 1996-2001 rule, women could not work, had to cover their face and be accompanied by a male relative if they wanted to venture out of their homes.

Taliban spokespeople have sought to reassure Afghans that they were not out for revenge and that they would allow women to work, as long as their jobs were consistent with Islamic law.

But reports of house-to-house searches, women being forced from jobs and reprisals against former security officials and ethnic minorities have made people wary. The Taliban have vowed to investigate reported abuses.

Taliban spokesperson Zabihullah Mujahid told reporters in Kabul on Tuesday that it "was time for people to work for their country". He added that the Taliban were working on procedures for female government workers to return to their jobs but that for now they should stay home for "security" reasons.

STAYING PUT

Widespread destruction during a 20-year war between US-backed government forces and the Taliban, the drop in local spending due to departing foreign troops, a tumbling currency and lack of dollars are fuelling financial crisis.

An Afghanistan central bank official, who said he had returned to work and wished to remain anonymous, told Reuters the Taliban had so far only recalled a few officials, mainly in the finance and interior ministries.

Leaders of the Taliban have begun talks on forming a government that have included discussions with some former foes from past administrations, including ex-president Hamid Karzai.

The Pajhwok news agency reported that Taliban officials had been appointed to various posts including a governor of Kabul, acting interior and finance ministers and intelligence chief.

Haidari, the economist at the finance ministry, said he didn't tell his family when he left his house on Monday for his first day at work under Taliban rule to "avoid panic".

At the office he was greeted by three Taliban officials who told him he would soon be joined by other colleagues and that they needed to focus on sending money to the provinces.

One official, who said he was in charge of security for the ministry, told Haidari that prayer breaks were mandatory.

"They are not carrying guns inside the building and one of them said we can learn from your expertise," Haidari said.

Unlike some fellow citizens desperately trying to leave.

Reuters

SA's unemployment rate 'world's highest'

South Africa's unemployment rate is now the highest in the world, according to a list of 82 countries monitored by Bloomberg.

It rose to 34.4% in the second quarter from 32.6% in the three months of the year, the news agency quoted Statistics South Africa as saying in its latest report.

Unemployment has been a long-standing problem in South Africa.

But analysts say recent restrictions to curb a third wave of coronavirus and last month's riots in KwaZulu-Natal and Gauteng provinces are likely to continue harming one of Africa's biggest economies.

CALL FOR REGISTARTION AS INTERESTED AND AFFECTED PARTIES

PROPOSED MINERAL EXPLORATION ON EXCLUSIVE PROSPECTING LICENCES (EPL's) 6505 AND 7004, HARDAP AND KARAS REGIONS

1. PROJECT SITE AND DESCRIPTION

Omafamba Investment CC's proposes prospecting activity for base and rare and metals, dimension stone, industrial minerals, non-nuclear fuel mineral, precious metals and precious stones. These entails ariel and ground geological mapping and survey, manual sample collection for laboratory analysis. Subsequently, intend to apply and obtain an environmental clearance certificate from the Department of Environmental Affairs and Forestry.

2. PUBLIC PARTICIPATION PROCESS

Enviro-Leap Consulting invites all Interested and Affected Party (I & AP) to register and receive Environmental Assessment (BID, Scoping and EMP) documents relating to the proposed project for their comments and input.

3. COMMENTS AND QUERIES

Interested and Affected Parties are herewith request to register by writing to us at the address below no later than **30 AUGUST 2021.**

3. COMMENTS AND QUERIES

Please register and direct all comments, queries to:
Mr. Vilho Mtuleni, Environmental Assessment Practitioner
Email: eap.trigen@gmail.com - Cell: +264 81 232 6843

ENVIROLEAP CONSULTING cc

CALL FOR REGISTARTION AS INTERESTED AND AFFECTED PARTIES

PROPOSED INSTALLATION AND OPERATION OF ALLIANCE LC'S DRY BULK (MINERAL ORE) VESSEL LOADING TRANSSHIPMENT FACILITY AT THE PORT OF LÜDERITZ, NAMIBIA

1. PROJECT SITE AND DESCRIPTION

Alliance LC (Pty) Ltd proposes to install and operate transshipment facility (consisting of a floating crane and two barge facilities each with a capacity of between 8000 – 10 000 mt) from quayside of Lüderitz Port. Subsequently, intend to apply and obtain an environmental clearance certificate from the Department of Environmental Affairs and Forestry, thus undertaking an environmental assessment process.

2. PUBLIC PARTICIPATION PROCESS

Enviro-Leap Consulting invites all Interested and Affected Party (I & AP) to register and receive Environmental Assessment (BID, Scoping and EMP) documents relating to the proposed project for their comments and input.

3. COMMENTS AND QUERIES

Interested and Affected Parties are herewith request to register by writing to us at the address below no later than **30 AUGUST 2021.**

3. COMMENTS AND QUERIES

Please register and direct all comments, queries to:
Mr. Vilho Mtuleni, Environmental Assessment Practitioner
Email: eap.trigen@gmail.com - Cell: +264 81 232 6843

ENVIROLEAP CONSULTING cc

COMMENT FORM

APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE FOR LC ALLIANCE'S DRY BULK (MINERAL ORE) LOADING AND EXPORT OPERATIONS UTILIZING A TRANSSHIPMENT FACILITY AT THE PORT OF LÜDERITZ, NAMIBIA

Please submit the comment form via e-mail or post by 25 August 2020.

Attention: Enviro-Leap Consulting cc
Tel No: 08181 232 6843 / 0853013777
Email: eap.trigen@gmail.com
Postal Address: P.O. Box 25874, Windhoek

TITLE	Mrs	FIRST NAME	Herta
INITIALS		SURNAME	Kolberg
ORGANISATION	HKBC	E-MAIL	boscia@afol.com.na
POSTAL ADDRESS	Box 97424, Maerua Mall	POSTAL CODE	
TEL NO.		FAX NO.	
CELL NO.	081 214 4156		

Please list any colleagues/friends or organizations that you feel should also be registered as Interested or Affected Party for the proposed project (with contact details if available).

Name / Organisation	Postal Address	Tel No.	E-mail

1. *Please provide your comments below 3, write a formal letter or simply send an e-mail to: eap.trigen@gmail.com*

2. *Your comment should not be limited by the space provided & you may submit as many pages, as necessary*

I am interested in any development on the Lüderitz Peninsula because of the high plant diversity and number of species of concern there. Since this development will not be land-based, I have no further comments, except that everyone should be aware of the rich flora of the Lüderitz area.

Thank you for the comments

APPENDIX C – RESUME OF EAP'S

...a leap towards better environmental compliance

PROFESSIONAL PROFILE

Mr. SHADRACK TJIRAMBA
Research and Environmental Management Specialist

ID Number :	80011910445	EMAIL:	eap.trigen@gmail.com
Country of Residence :	Namibia	Cell:	+264-816229933
Nationality:	Namibian		

PROFESSIONAL OVERVIEW

Experience Internationally:

Countries worked: Namibia, South Africa.

Languages: English (*fluently written, spoken and read*);
Otjiherero (fluently spoken, written and read)
Afrikaans (*well spoken, fairly written and read*),

ACADEMIC QUALIFICATIONS:

2009	The University Western Cape	*Post-Graduate Diploma Sustainable Land Management (NQA Level 8) Sustainable Development, Resource Economics, 2009), South Africa*
2007	University of South Africa (UNISA)	*Bachelor of Laws (LLB)*
2005	Polytechnic of Namibia	*B-Tech Land Management, 2005*

EMPLOYMENT RECORD:

May 2020-Current: Enviro-Leap Consulting Cc
Position: Lead Consultant Environmental Management

- Compile and review environmental assessment reports (environmental scoping and management plans (EMP)) for our clients in accordance with the requirements of the Environmental Management Act, No.7 of 2007 and its regulations of 2012
- Compile and review environmental policies and audits
- Reviewed and updated the Solid Waste Management Policy for Dundee Metals Mining
- Conduct environmental compliance inspections and audits
- Facilitate stakeholder engagement
- Coordinate closure and rehabilitation of development projects, such as mining sites, hazardous substance spill sites
- Prepared training manuals and facilitated workshops for Communal Land Boards

August 2015 – July 2018 (fixed- term 3 years)
Position: Project Coordinator-Basket Fund, GIZ (Deutcshe Gesellschaft Fur Internationale) Responsibilities:

- Coordinate project activities in the Omaheke and Otjozondjupa Region's
- Provide technical expertise/advise to various regional councils, land boards, traditional authorities, local level planning committees
- Coordinate the processes of revising and developing the Namibian environmental legislations (plans, strategies, regulations and Act amendments), as well as dissemination of information on these tools
- Prepare tender documents
- Coordinate project procurement needs in line with GIZ procurement policies.
- Financial reporting in line with financial guidelines for grant agreement GIZ
- Coordinate, manage the planning and implementation of project consultants' key performance areas.
- Supervise project staff and resource allocation
- Reporting in line with donor requirements

P. O. Box 25874, Windhoek +264 81 622 9933 eap.trigen@gmail.com

January 2019 – June 2019
Position: Social Policy Consultant – Gender Mainstreaming: Benguela Convention Commission. Responsibilities:

- Conducted and compiled a draft Situation Analysis Report, summarizing the findings of desk review, gender survey through the field mission and interviews
- Compiled a draft Action Plan for BCLME III Project and Gender Policy for BCC
- Hosted and facilitated a situation analysis findings validation workshop
- Produced final Situation Analysis Report, Gender Action Plan for BCLME III Project, including a proposed gender-responsive Project Results Framework with gender-responsible outputs, sex- disaggregated indicators, baseline and targets. Gender Policy for BCC

August 2011 to Dec 2012
Project Coordinator-MCA Agriculture & Environment:

- Managed the Millennium Challenge Accounts Namibia Agriculture and Environment project's activities.
- Co-Developed, implemented and monitored local-level integrated activities and annual work plans for the CBNRM.
- Undertook and provided training and technical support to the targeted conservancies as per the objectives of the CBNRM
- Ensured project compliance with donor requirements through production of and submission of technical reports according to Donor procedures trainings for land management for farmers

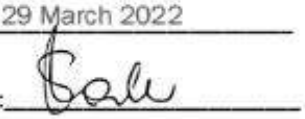
February 2004 – March 2009
Researcher: Land, Environment and Development Project-Legal Assistance Centre. June 2006 – November 2009

- Assist with desktop and field research on land, environmental and urban housing (informal settlements).
- Assist in the compilation of research questionnaires
- Conduct interviews
- Assist with project administration
- Laise with stakeholders NGO's, Government Agencies, Farmer's Associations, Ministry of Environment
- Draft research reports

CERTIFICATION

I, the undersigned, Shadrack Tjiramba, hereby certify to the best of my knowledge that the information provided herein correctly describe me, my qualifications and experience.

Date: 29 March 2022

Signature: 

RESUME

Mr. TITUS SHUUYA
Ecological Research and Monitoring Specialist

ID Number :	830414 10117	EMAIL:	eap.trigen@gmail.com
Country of Residence :	Namibia	Cell:	+264- 85 301 3777
Nationality :	Namibian		

PROFESSIONAL OVERVIEW

Experience in Countries:

Countries worked in: Namibia

Languages: English (*fluently written, spoken and read*); Oshiwambo (*mother toungue*)

Professional affiliations: Environmental Assessment Practitioners Association of Namibia (EAPAN)

ACADEMIC QUALIFICATIONS:

2017	Namibia University of Science and Technology	*Masters of Science; Natural Resources Management (NQA Level 9), 2014 - 2016, Namibia*
2010	The University of Namibia	*Bachelor of Science; Environmental Management (NQA Level 8), 2008 – 2013, Namibia*
2009	Ogongo Agricultural College	*National Diploma in Agriculture, NQA Level 6), 2002 – 2005, Namibia*

EMPLOYMENT RECORD:

September 2020 – Current
Position (Part-time): Environmental Assessment Practitioner: Enviro-Leap Consulting cc
Responsibilities:

- Conduct environmental impact assessment (EIA) and compliance auditing;
- Collect, record and interpret data and report writing;
- Participate in environmental components of projects including environmental management plans, scoping reports, public participation processes water quality monitoring and reporting, rehabilitation and landform management plans for progressive rehabilitation, air quality and noise data;

August 2019 – March 2021
Position: Senior Environmental Practitioner and Consultant: Environmental Compliance Consultancy.
Responsibilities:

- Conduct environmental impact assessment (EIA);
- Compliance auditing;
- Collect, record and interpret data and report writing;
- Participate in the environmental requirements of projects, including licences, permits, approvals, environmental monitoring and reporting;
- Participate in environmental components of projects including environmental management plans, scoping reports, public participation processes water quality monitoring and reporting, rehabilitation and landform management plans for progressive rehabilitation, air quality and noise data;
- Ensure compliance with relevant legislation.

April 2012 – July 2019
Position: Independent Senior Researcher
Responsibilities:

- Managing all planning and logistical implementation of field projects, particularly with reference to the Biodiversity Research and Monitoring Program;
    - Collection of data for specific projects;
    - Develop long-term monitoring program for the mine as stipulated within their environmental management plan;
    - Maintenance of all field equipment, including vehicles and electronic or other measuring instruments;
    - Develop and implement the field safety program;
    - Use the database to design projects;
    - Interact with industry and government and influence science and conservation policy and practice.

December 2015 – April 2016
Position: Part-time Ecological Consultant – Cheetah Conservation Fund:

- Assist in all aspects of CCF's ecology research;
- Coordinate the de-bushing project (BUSHBLOK) harvest activities and horticulture activities;
- Assist CCF staff and interns with project planning and data analysis;
- Assist in writing scientific publications, research proposals, and grant applications.

November 2010 to January 2011
Intern: **Environmental Impact Assessment Unit, Ministry of Environment and Tourism - Department of Environmental Affairs. Responsibilities:**

- Reviewing the environmental biannual reports
- Screening Exclusive Prospecting license;
- Assist in a strategic planning meeting and other administrative work.

REFERENCE CONTACTS

1. **Dr. Gillian Maggs-Kölling.** Executive Director. Gobabeb Training and Research Centre, Republic of Namibia. Email: gillianm@gobabebtrc.org and Cell: + 264 813323576

2. **Mr. Christian Nekare.** Lecturer. University of Namibia. E-mail: cnekare@unam.na Cell: +26481308774

3. **Mr. Isac Kaholongo Kaholongo.** Lecturer. Integrated Environmental Science University of Namibia, Ogongo Campus. E-mail: ikaholongo@unam.na Cell: +264812771097

CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications and experience.

Date: 21 September 2020

Signature: T Shuuya

RED-DUNE CONSULTING CC

CURRICULUM VITAE FOR IPEINGE E. MUNDJULU

PERSONAL INFORMATION

First names:	Ipeinge Etuwete
Surname:	Mundjulu
Identity Number:	840805 1009 8
Citizenship:	Namibian
Membership in Professional Bodies:	None (There is no established existing Regulatory Body for Environmental Practitioners under any Act of Parliament in Namibia).

EDUCATION / ACADEMIC QUALIFICATIONS

Year:	Institution/school	Qualification obtained
2018 -2018	Center of Environment Institute (India)	Certificate, Environmental Management and its Compliances in Mine
2017-2017	Center of Environment Institute (India)	Certificate of Mining Inspection and Compliance Assurance
2007-2009	University of Tromsø (Norway)	Master of Science Degree, International Fishery Management
2003-2006:	University of Namibia	Bachelor of Science Degree, Natural Resources; Fisheries and Aquatic Sciences
2001-2002:	Oshakati Senior Secondary School	Grade 12 IGCSE certificate
1997-2000:	Oshatotwa combined school	Grade 10 JSC certificate
1990-1996:	John Shekudja combined school	Primary education

EMPLOYMENT RECORD:

Period	Institution	Position	Core Functions
Nov 2018-Todate	Red-Dune Consulting CC	Director and Lead Consultant	• Conducting Environmental Impact Assessment and Developing Environmental Management Plans • Environmental Inspections and Auditing • Natural Resource Management

Master of Science Degree International Fisheries Management, TROMSO, NORWAY
Bachelor of Science Degree Natural Resource: Fisheries and Aquatic Sciences, UNAM

CURRICULUM VITAE FOR IPEINGE E. MUNDJULU

Period	Institution	Position	Core Functions
01 August 2016- November 2018	Ministry of Environment and Tourism	Senior Conservation Scientist (DEA)	• Reviewing of Environmental Impact Assessment and Environmental Management Plans Reports • Make Recommendations to Environmental Commissioner for the issuing of the Environmental Clearance Certificates • Carrying out Environmental Inspections at new and old development sites around the country • Raising awareness on the implementation and procedures of the Environmental Management Act 2007 (Act No. 7 of 2007) to various Institutions. • Technical Person for Sand Mining in the Country • Member of the technical committee that developed the National Solid Waste Management Strategy.
01 July 2012 – 30 July 2016 01 Jan 2010 – 29 June 2012	Ministry of Fisheries and Marine Resources	Senior Fisheries Biologist Fisheries Biologist	• Technical Focal Person for the review of Environmental Impact Assessment under which the Ministry of Fisheries is a Competent Authority. Amongst the reviewed EIA project; - EIA Application for Namibian Phosphate Project - EIA Application for various Oil and Gas Offshore prospecting - EIA Application for Desert Rose Project - EIA Application for the Proposed Cape Cross Salt Project - EIA Application for Solar Power at Henties Bay etc. **Research** • Supervised scientific sampling programs • Supervised research onboard the vessel for Sardine survey • Prepare and present research findings for in-house reports and discussions and for scientific publications and presentations. • Present research findings for in-house discussions and to the Marine Advisory Council as was as Ministerial Management and to the small pelagic Industry. • Participate in relevant regional and international research initiatives

Master of Science Degree International Fisheries Management
Bachelor of Science Degree Natural Resource: Fisheries and Aquatic Sciences

CURRICULUM VITAE FOR IPEINGE E. MUNDJULU

Period	Institution	Position	Core Functions
			• Conduct in-house training for technical staff within the section
02 Apr 2007-31 July 2007	Walvis Bay Salt Refiners	Oyster Supervisor	• In charge of oyster farm administration such as employees leave and Overtime claims
On Job Training			
Dec 2005-Feb 2006	Namsov Fishing Company	Student (Onboard the Vessel)	• Sorting of Fish on conveyer belts and Fish packaging • Biological data collection and analysis
Dec 2004-Feb 2005	Seagull Abalone Farm (Lüderitz)	Student	• Management of Aquaculture operation

CONSULTANCY EXPERIENCE

Period	Institution	Position	Assignments
Nov 2018-todate	Red-Dune Consulting CC	Lead Consultant	1. Environmental Impact Assessment and Environmental Management Plan for UNAM's proposed Solar Powered Desalination Plant at Sam Nuyoma Campus, Henties Bay Campus (March 2. Environmental Management Plan for the Brick Making at Epalela 3. Environmental Management Plant for the Seal Processing Factory at Henties Bay 4. Development Environmental Management Plan and Decommissioning Plan of existing Waste Disposal site (C2 – Waste Disposal site) (UNAM Neudamm Campus) 5. Development of Environmental Management Plan Experimental Farming Waste Disposal site (UNAM Neudamm Campus) 6. Development of Environmental Management Plan for the Incinerator (UNAM Neudamm Campus) 7. Undertake Environmental Impact Assessment and develop an Environmental Management Plan for the New Waste Disposal Site (UNAM Neudamm Campus) 8. Development of an Environmental Management Plan for the Sewerage water treatment (Sewerage pond) (UNAM Neudamm Campus) 9. Undertake Environmental Impact Assessment and develop an Environmental Management Plan for the New Waste Disposal Site for Eenhana Town Council 10. Development of Environmental Management Plan

CURRICULUM VITAE FOR IPEINGE E. MUNDJULU

Period	Institution	Position	Assignments
			and Decommissioning Plan of existing Waste Disposal site for Eenhana Town Council 11. Undertake Environmental Impact Assessment and develop an Environmental Management Plan for the New Waste Disposal Site for Eenhana Town Council 12. Development of an Environmental Management Plan and Rehabilitation plan of existing gravel burrow pits for Eenhana Town Council 13. Undertake Environmental Impact Assessment and develop an Environmental Management Plan for Sand Mining Site for Eenhana Town Council

LANGUAGES

Language	Speak	Write	Read
Oshiwambo	Excellent		
English	Excellent	Excellent	Excellent
Afrikaans	Good	Fair	Fair

REFERENCES

Mr. Teofilus Nghitila,
EXECUTIVE DIRECTOR,
Ministry of Environment and Tourism,
Tel: +264 61 284 2111,
Email. Teofilus.Nghitila@met.gov.na

Mrs. Graca D'Almeida,
DIRECTOR;
Ministry of Fisheries and Marine
Resources Resource Management,
Tel: +264 61 2053911,
Email: Graca.D'Almeida@mfmr.gov.na

CERTIFICATION

I, the undersigned certify that to the best of my knowledge and belief, these data correctly describe me, my qualification, and experience.

Signature of Consultant
Full Name of Consultant: MUNDJULU IPEINGE ETUWETE

Master of Science Degree International Fisheries Management
Bachelor of Science Degree Natural Resource: Fisheries and Aquatic Sciences