UPGRADE AND OPERATIONS OF THE DICLASS WASTE OIL MANAGMENT IN WALVIS BAY

ENVIRONMENTAL MANAGEMENT PLAN

Application No. 004801

Assessed by:

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October 2024

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EXECUTIVE SUMMARY

DICLAS Waste Oil Management cc has requested NamXperts Consultancy CC to undertake an Environmental Impact Assessment (EIA) for the planned upgrade and continued operations of their used oil management facility in the light industrial area of Walvis Bay. DICLAS Waste oil Management cc operates under a used hydrocarbon permit from the Ministry of Mines and Energy but plans to upgrade their facility in order to handle more volumes of used oil. The upgrade and operational activities of the facility include the following:

1. Installation of two additional aboveground 19.309 m3 illuminating paraffin (IP) steel storage tank inside a concrete bund area;
2. Receipt and storage of used oil in the two 19.309 m3 steel storage tanks;
3. Recycling of used oil;
4. Sale of used oil to customers at customer own collection
5. Safe disposal of sludge.

This study is conducted to determine all environmental, safety, health and socio-economic impacts associated with the proposed upgrade and continued operations of the facility. Relevant environmental data has been compiled by making use of secondary data and from a reconnaissance site visit. Potential environmental impacts and associated social impacts will be identified and addressed in this report.
Due to the nature and location of the development most minor impacts can be expected on the surrounding environment as the site is within an industrial area. It is still however recommended that environmental performance be monitored regularly to ensure compliance and that corrective measures be taken if necessary.
The operations of the used facility will contribute to the local economy by ensuring jobs and providing opportunities for continued diversification of economic activity.

The major concerns related to the upgrade of the facility is that of, noise and increased traffic while operational impacts include noise, traffic and hydrocarbon pollution. Both upgrade and operations may have positive and negative impacts. Noise pollution should meet the minimum requirements of the municipality or world health regulations. Traffic management must be conducted to reduce traffic impacts. Hydrocarbon pollution will be prevented by adhering to SANS 10089 standards regulating the petroleum industry in Namibia. All polluted soil or groundwater encountered during any phase of the development must be reported to the relevant authorities and the contaminated soil and or groundwater must be remediated in an applicable manner. By appointing local contractors and employees and implementing educational programs the positive socio-economic impacts can be maximised while mitigating any negative impacts.

The Environmental Management Plan should be used as an on-site reference document during all phases (Planning, Upgrading, Operations and Decommissioning) of the facility. Parties responsible for the transgression of the EMP should be held responsible for any rehabilitation

that may need to be undertaken. A Health, Safety, Environment and Quality (HSEQ) policy as well as Environmental Policy could be used in conjunction with the Environmental Management Plan. Operators and responsible personnel must be taught the contents of these documents. Municipal or national regulations and guidelines must be adhered to and monitored regularly as outlined in the environmental management plan.

LIST OF ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
AST:	Above Storage Tanks
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EMS	Environmental Management System
HESMS:	Health, Safety and Environmental Management System
HIV	Human Immunodeficiency Virus
I&APs	Interested and Affected Parties
IP	Illuminating Paraffin
IUCN	International Union for Conservation of Nature
MIA	Matrix Impact Assessment
m/s	Meter per second
MSDS	Material Safety Data Sheet
PPE:	Personal Protective Equipment
SABS:	South Africa Building Standards
SANS:	South African National Standards
SHE	Safety, Health and Environment
UNCCD	United Nations Convention to Combat Desertification
WHO	World Health Organization

1 Background and Introduction

1.1 Introduction

DICLAS Waste Oil Management cc has requested NamXperts Consultancy CC to undertake an Environmental Impact Assessment (EIA) for the planned upgrade and continued operations of their used oil management facility in the light industrial area of Walvis Bay. DICLAS Waste oil Management cc operates under a used hydrocarbon permit from the Ministry of Mines and Energy but plans to upgrade their facility in order to handle more volumes of used oil. The upgrade and operational activities of the facility include the following:

1. Installation of two additional aboveground 19.309 m3 illuminating paraffin (IP) steel storage tank inside a concrete bund area;
2. Receipt and storage of used oil in the two 19.309 m3 steel storage tanks;
3. Recycling of used oil;
4. Sale of used oil to customers at customer own collection
5. Spill recoveries, diesel and oil storage, sewage and sludge disposal, oil disposal and tank cleaning the storage of used oil mainly from the fishing industry, the recycling resell and safe disposal of sludge.

DICLAS Waste Oil Management cc has been operating at Erf R 3423, at No 118, Circumferential Road, Walvis Bay, Erongo Region (Figure 1) for many years and it is an important player in the management of waste used oil

In terms of Section 9.4 of the Environmental Management Act, 2007 the storage and handling of dangerous goods such as diesel/petrol may not be carried out without an Environmental Clearance Certificate (ECC) being obtained. Since the development sites are already zoned for similar activities (fuel storage/service stations) in terms of the Walvis Bay Town Planning Scheme and that it is favorably located in the industrial area, the preparation of an Environmental Management Plan (EMP) was deemed sufficient.

The EMP is an environmental tool that is used to ensure that undue or reasonably avoidable adverse caused by the proposed project are minimized or prevented and the positive benefits of the project are enhanced. It is important to note that an EMP is a legally binding document and has been drafted in accordance with the Environmental Management Act (No. 7 of 2007) and its Environmental Impact Assessment Regulations (2012).

1.1 Purpose of the EMP

This EMP was prepared for the operation of upgrading an existing waste oil management facility for storage and handling of more waste oil up to 39 m^3 above ground steel tanks at Erf Erf R 3423, at No 118, Circumferential Road, Walvis Bay, Erongo Region. The EMP is an environmental tool that is used to ensure that undue or reasonably avoidable adverse caused by the proposed project are minimized or prevented and the positive benefits of the project are enhanced. The EMP is therefore important in ensuring that the management actions of potential environmental impacts are clearly defined and implemented through all phases of the project life cycle.
The objectives of an EMP are:

- Ensuring compliance with regulatory stipulations and guidelines which may be local, provincial, national/international.
- Define details of who, what, where and when environmental management and mitigation measures are to be implemented.
- Formulate measures which will mitigate adverse impacts on various environmental components, protect environmental resources where possible, and enhance the value of environmental components where possible; and
- Providing feedback for continual improvement in environmental performance.

1.2 EMP Methodology

The stipulated environmental impact assessment procedure in terms of the Environmental Management Act, 2007 was followed. The following key activities and tasks have been undertaken as part of the EIA and EMP development process, namely to:

- Solicited initial input from relevant stakeholders. This is essential toward the development of a sound plan. Since no resource sits in isolation, an environmental management plan can affect a number of other parties. For the best adherence and acceptance of a plan, input is needed to address concerns early in the planning process.
- Identify the problems and or questions associated with the facility. Clearly defined objectives were identified in order to remain centered on a management plan. Only in this way can the success of this environmental management plan be gauged.
- Made a list of applicable criteria, standards and principles for construction as required by legislation, regulation, policies and etc. As standards include criteria to fit various types of projects, much of the information is often irrelevant to any particular one. Went through any standards or reference guides to be complied with and marked all requirements applicable to each situation.
- Established the extent of the management plan and what the client must do on its own. It is easy for a management plan to end up in someone's hands and never be executed. Inform the client that creating the plan is an iterative process requiring routine correspondence to tailor it to Project Contractor's specific needs.
- Seek public input through advertisement of the EIA process in the two widely circulated newspapers and continuous engagements with registering as I&APs. An attempt to gather public input is always required.

This EMP was written to guide short-term goals and decision making and will provide environmental related guidelines. By having this plan in place, the site manager will have means to make good decisions. With public input, the plan helps agencies measure public opinion. It can help to guide future management decisions, especially when citizens are affected. It creates focus within an agency, guiding it through management changes

1.3 EMP Involvement

The implementation of the EMP also requires the involvement of role players, each with specific responsibilities to ensure that the development is operated in an environmentally sensitive manner.

NO.	SPECIFIC PROJECT ROLE	ADDRESS AND CONTACTS
1.	Proponent	**DICLAS Waste Oil Management CC** **P. O. Box 9100.** **Walvis Bay. Namibia** **management@dclaswom.com**
3.	Environmental Assessment Practitioner	ENVIRONMENTAL CONSULTANCY| CC/2017/03718 P.O. Box 5166 Walvis Bay, Namibia +264813699088 namxperts@gmail.com
4.	Local Authority	Municipality of Walvis Bay
5.	**Regulatory Authority**	Ministry of Environment and Tourism Department: Environmental Affairs Tell: +264612842746

2 Proposed Development and Related Activities

2.1 Locality

The development sites (Erf 3423) are in Walvis Bay Extension 1, on the following center coordinates -22.953161’”” S; 14.520152” E -S,

2.2 Land use zone and use

The development sites (Erf 3423W) are in Walvis Bay Extension 1, is currently zoned for as Light Industrial

.

2.3 Site description

The one property is measuring 1201.74m² in extent. The Walvis Bay Extension 1, where the development is located, is fully serviced with all Municipal services such as water, electricity, sewerage networks and tarred roads network.

Figure 1: Project Site

2.4 Existing Infrastructure

The current facility has five (5) aboveground 1000 L storage tanks contained inside a concrete bund are currently used to store used oil. There is a skip container for solid waste. Garages, storerooms, offices and ablution facilities are additional buildings present on site (Figure 2).

Figure 2:Infrastructure on site

2.5 Proposed Upgrade and Construction Activities

Diclas intend to add one two above ground 19.303 m^3 steel IP tanks. The tanks are currently on site already, just not in use yet. The first tank is a self-bund tank contained inside a concrete bund area (Figure 3). The second tank will require a bunding wall. (Figure 4) A bund area will be connected to a new gravity oil water separator. A pump house for delivering IP to tanker trucks will be built and a gantry consisting of a spill control slab with a sand trap connected to the oil water separator. Additional firefighting equipment will be installed. All designs and construction activities will be done according to SANS 10089. The two aboveground tanks are currently on site (although not in use yet) and the bunding wall will be constructed.

Minor excavations will be done for the construction of the oil water separator and foundations of the tank bund area. Concrete will be cast for the spill control slab, oil water separator and bund area. A brick pump house will be constructed, and all electrical and reticulation infrastructure required for operations will be installed.

Figure 3: a self-bund tank contained inside a concrete bund

Figure 4:Second tank which will require a bunded wall

2.6 Operational Activities

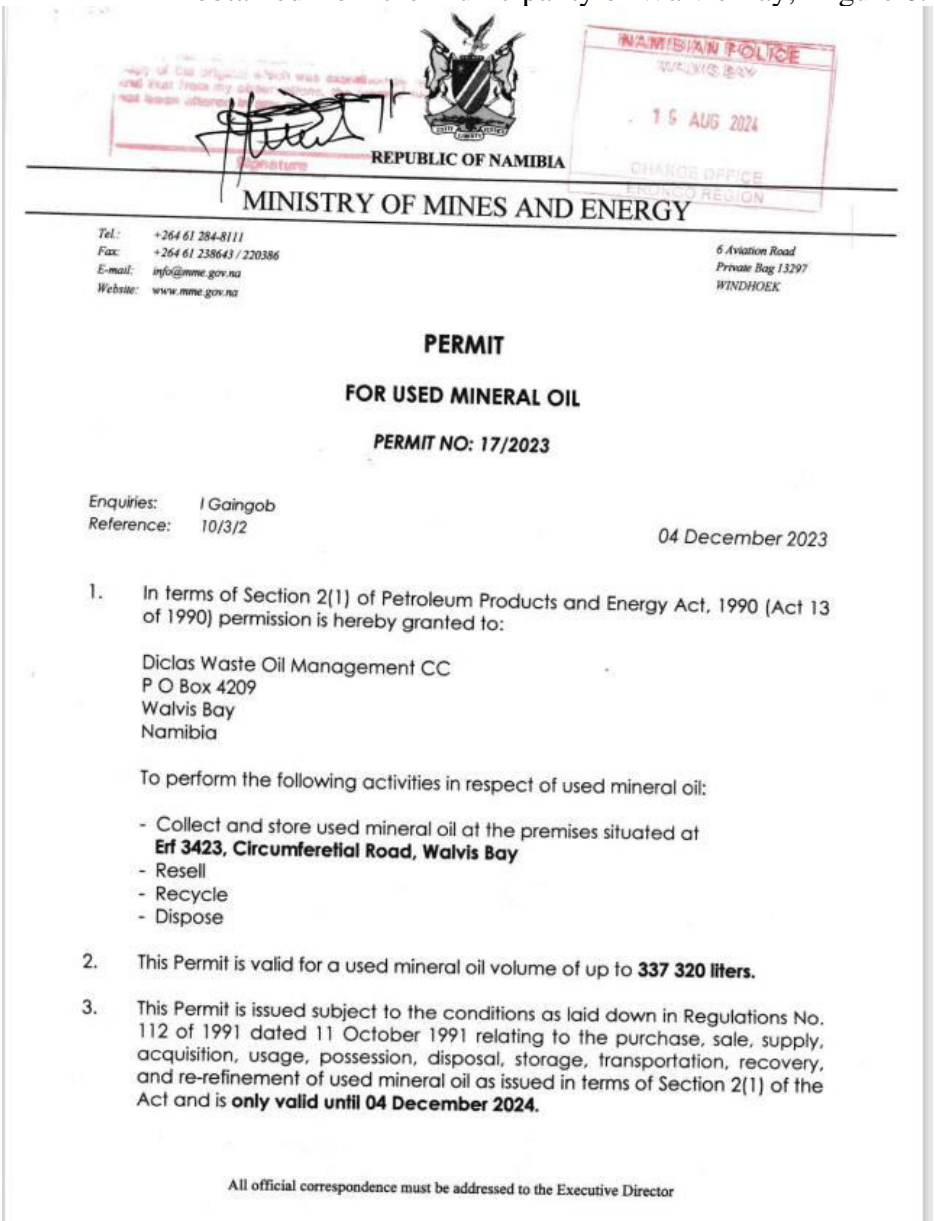
2.6.1 Site operational procedures

Currently the main operational activities performed on site are

- Spill recoveries, diesel and oil storage, sewage and sludge disposal, oil disposal and tank cleaning the storage of used oil mainly from the fishing industry, the recycling resell and safe disposal of sludge. The oil is being transported with a tanker truck and then stored on site.

The current operational activities are happening with the:

- Permit (Permit No. 17/2023 for used oil from the Ministry of Mines and Energy and – the permit is for resell, recycle and disposed used mineral oil volume of up to 337 320 Liters or 337.320 m^3, Figure 5.
- Also, with a business registration certificate (certificate No. 2020/0156) obtained from the Municipality of Walvis Bay, Figure 6.



REPUBLIC OF NAMIBIA

MINISTRY OF MINES AND ENERGY

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Private Bag 13297
WINDHOEK

NAMIBIAN POLICE
WALVIS BAY
16 AUG 2024
CHARGE OFFICE
ERONGO REGION

PERMIT

FOR USED MINERAL OIL

PERMIT NO: 17/2023

Enquiries: I Gaingob
Reference: 10/3/2

04 December 2023

1. In terms of Section 2(1) of Petroleum Products and Energy Act, 1990 (Act 13 of 1990) permission is hereby granted to:

   Diclas Waste Oil Management CC
   P O Box 4209
   Walvis Bay
   Namibia

   To perform the following activities in respect of used mineral oil:

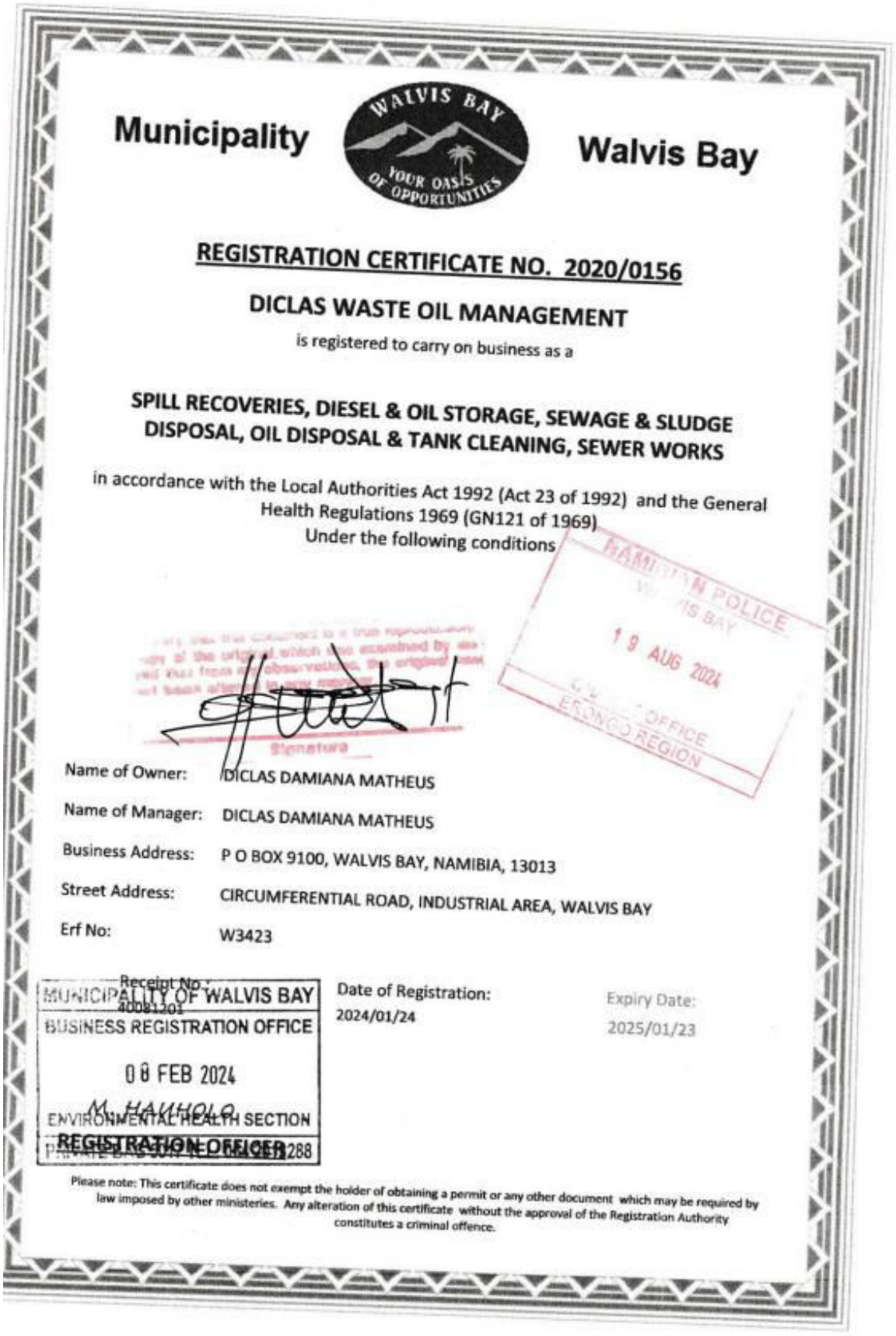
   - Collect and store used mineral oil at the premises situated at **Erf 3423, Circumferetial Road, Walvis Bay**
   - Resell
   - Recycle
   - Dispose

2. This Permit is valid for a used mineral oil volume of up to **337 320 liters.**

3. This Permit is issued subject to the conditions as laid down in Regulations No. 112 of 1991 dated 11 October 1991 relating to the purchase, sale, supply, acquisition, usage, possession, disposal, storage, transportation, recovery, and re-refinement of used mineral oil as issued in terms of Section 2(1) of the Act and is **only valid until 04 December 2024.**

All official correspondence must be addressed to the Executive Director

Figure 5: Permit for used oil from the Ministry of Mines and Energy



Municipality Walvis Bay

WALVIS BAY YOUR OASIS OF OPPORTUNITIES

REGISTRATION CERTIFICATE NO. 2020/0156

DICLAS WASTE OIL MANAGEMENT

is registered to carry on business as a

SPILL RECOVERIES, DIESEL & OIL STORAGE, SEWAGE & SLUDGE DISPOSAL, OIL DISPOSAL & TANK CLEANING, SEWER WORKS

in accordance with the Local Authorities Act 1992 (Act 23 of 1992) and the General Health Regulations 1969 (GN121 of 1969)
Under the following conditions

NAMIBIAN POLICE WALVIS BAY 19 AUG 2024 OFFICE ERONGO REGION

Signature

Name of Owner: DICLAS DAMIANA MATHEUS

Name of Manager: DICLAS DAMIANA MATHEUS

Business Address: P O BOX 9100, WALVIS BAY, NAMIBIA, 13013

Street Address: CIRCUMFERENTIAL ROAD, INDUSTRIAL AREA, WALVIS BAY

Erf No: W3423

Receipt No.: 40081201
MUNICIPALITY OF WALVIS BAY
BUSINESS REGISTRATION OFFICE
08 FEB 2024
M. HAUHOLO
ENVIRONMENTAL HEALTH SECTION
REGISTRATION OFFICER

Date of Registration: 2024/01/24

Expiry Date: 2025/01/23

Please note: This certificate does not exempt the holder of obtaining a permit or any other document which may be required by law imposed by other ministeries. Any alteration of this certificate without the approval of the Registration Authority constitutes a criminal offence.

Figure 6: Business registration certificate from the Municipality of Walvis Bay

3 EMP Implementation: Roles and Responsibilities

The role players listed in Table 1 above have different responsibilities to play during the operation of the facility as outlined below.

3.1 The Proponent:

Responsibilities

The proponent is represented by a Site Manager who oversees the operation of the site. The Site Manager on behalf of the proponent should

a) Implement the final EMP after approval by MEFTand ensure the project complies with the conditions therein.
b) Ensure environmental training and awareness of the EMP to all contractors, sub-contractors and employees.
c) Notify MEFT and the authorities of any proposed changes to the proposed project.
d) Ensure that appropriate compliance monitoring is executed
e) Handle grievances in the prescribed manners as outlined in Section 9.
f) Appoint an Environmental Control Officer (ECO)

3.2 Environmental Control Officer (ECO)

The proponent should appoint an Environmental Control Officer (ECO) to oversee the implementation of the EMP during the operation phase and possible decommissioning phase. The ECO should be responsible for the following tasks.

- Ensure that all contractor and sub-contractors are complying with the content of this EMP.
- Keep record of incidences during and take corrective actions i.e., issuing of penalties in case of transgressions etc. during project implementation.
- That all environmental impacts are managed according to the environmental principles of avoiding, minimizing, mitigating, and rehabilitation as contained in this EMP.
- Conduct monitoring and review of the on-site environmental management and implementation of the EMP by the Contractor and sub-contractors.
- Audit the implementation of the EMP on a regular basis
- Compile and submit Environmental Reports (biannually) to the Authority

3.3 Site Operator

It is expected that various contractors and sub-contractors will be appointed at various stages and for various tasks during different phases of this project. All appointed contractors and sub-contractors involved in the project shall ensure to comply with the EMP and its conditions, thus the proponent must ensure that a copy of the EMP is given to all contractors involved. The contractor upon receiving this EMP should ensure:

- To undertake their activities in an environmentally sensitive manner and within the context of this EMP.
- To undertake good housekeeping practices during duration of their activities; and

- To ensure that adequate environmental awareness training takes place in the language of their employees.

3.4 Authorities

a) Local Authority: Municipality of Walvis Bay

- Provide authorization for the proposed activities by
- Issuing Consents for the ECC application
- Approve Building Plan and site layout
- Issue Fitness Certification in terms of the Local Authorities Act of 1190
- Conduct monitoring during site establishment and operation phase
- Ensure the operation of the activities are within the Walvis Bay Town Planning Scheme No.35
- Notify the proponent of any changes to land uses thereof and address dispute that may arise between the proponent (occupier) and adjacent properties owners.

b) Competent Authority: Ministry of Mines and Energy

Provide authorization through certifications and issuing permits and renewals thereof, required in terms of the Petroleum Products and Energy Act No. 13 of 1990 and its Regulations.

c) Regulatory Authority: Ministry of Environment, Forestry and Tourism (MEFT)

Issue the Environmental Clearance Certificate for the establishment and operation, conduct compliance monitoring, review biannual reports and renewal of the ECC.

4 Environmental Management Requirements

The successful implementation of this EMP is depends on various factors, training and awareness, a good record keeping, enforcements and monthly reporting.

4.1 Environmental awareness training

All employees, contractors and sub-contractors involved in any work at the project should be briefed on their obligation towards environmental protection and methodologies in terms of the EMP prior to work commencing. The briefing should be done by the proponent prior to any work in the form of an on-site talk. Record of such trainings should be kept.

4.2 Record keeping

There should be an up-to-date filing system for the project whereby method statements, environmental incidents report, training records, audit reports and public complaints register are kept. It is advised that photographs of the site should be taken as a visual reference. These records should be kept for a minimum of **two (2) years**.

4.3 Enforcements: Non-compliance and penalties

This EMP upon approval by MEFT shall be considered a legally bidding. In cases of transgressions and non-compliance to the EMP, the transgressor should be liable to a penalty fine. Transgressions should be recorded in a dedicated register and be filed. The Proponent shall issue the penalties in terms of the severity of the environmental damages.
Adherence to this EMP during the operation of the project will ensure that the environmental

impacts associated with the project will be mitigated to a greater extent thus promoting sustainable development. The commitment and co-operation of the identified responsible person(s) will ensure effective implementation of the EMP.

4.4 Environmental Reports

The proponent shall, in the project completion report, indicate the environmental performance and matter of incidental. The EAP shall conduct regular monitor of project activities during all project phases and keep records. These records may be required by the competent authority when deemed necessary.

5 Legal Requirements

5.1 Environmental Management Requirements

The activities related to storage and handling of petrol/diesel is part of the activities listed under Schedule 1 of the Environmental Management Act, 2007 that cannot be undertaken without an Environmental Clearance Certificate being obtained as follow.

9.1 "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.

9.4 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.

5.2 Applicable legislation

As part of the implementation of this EMP, the proponent must comply with the requirements of various national legislations and municipal by-laws as outlined in the Scoping Report and also briefly presented below.

6 Legal Requirements

This section provides a review of applicable and relevant Namibian legislation, policies, guidelines and standards regarding the environment which were considered while conducting the EIA for the proposed project.

Table 1: Legislation, Polices and Standards considered for the proposed development

Legislation/guideline	Provision
The Namibian Constitution	Article 95 of Namibia's constitution provides that: "The State shall actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at the following: (l) management of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future; in particular the Government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory." This article recommends that a relatively high level of environmental protection is called for in respect of management of ecosystems, pollution control and waste management. Article 144 of the Namibian Constitution deals with environmental law and it states: "Unless otherwise provided by this Constitution or Act of Parliament, the general rules of public international agreements binding upon Namibia under this Constitution shall form part of the law of Namibia" This article incorporates international law, if it conforms to the Constitution, automatically as "law of the land". These include international agreements, conventions, protocols, covenants, charters, statutes, acts, declarations, concords, exchanges of notes, agreed minutes, memoranda of understanding, and agreements (Ruppel & Ruppel-Schlichting, 2013).
Environmental Management Act of Namibia (2007)	In terms of section 58 of this Act it commenced on the 6th February 2012 as determined by the Minister of Environment and Tourism (Government Notice No. 28 of 2012). Under section 56 of the Environmental Management Act, 2007 (Act No. 7 of 2007), the Minister has made the regulations for Environmental Impact Assessment as set out in the Schedule of Government Notice

Legislation/guideline	Provision
	No. 30 (2012). These regulations require that all PPPPs that have a detrimental effect on the environment must be accompanied by an EIA. Under section 27 of the Environmental Management Act, 2007 (Act No. 7 of 2007), and after following the consultative process referred to in section 44 of that Act, the Minister lists in the Annexure to the above mentioned Schedule, activities that may not be undertaken without an environmental clearance certificate (Government Notice No. 29 of 2012). Development is listed as a project requiring an impact assessment as per the following points from section 9 in the Government Notice No. 29 (2012): • "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."
Petroleum Products and Energy Act of Namibia (Act No. 13 of 1990)	The Act makes provision for impact assessment for new proposed fuel facilities and petroleum products known to have detrimental effects on the environment. The Act prescribes the SANS standards, as listed in section 4.19, as the criteria to which bulk storage facilities for petroleum products must be constructed, operated and decommissioned.
The Water Act, 1956 (Act No. 54 of 1956)	The Water Act remains in force until the new Water Resources Management Act (Act No. 11 of 2013) comes into force. The Water Act of 1956, generally referred to as the Old Water Act, gives the Minister the power to, amongst others, investigate water resources, plan water supply infrastructure, develop water schemes, control water pollution, protect, allocate and conserve water resources, inspect water works, levy water tariffs, in certain respects make provision for the control of the use of sea water for certain purposes and advise on all matters related to the water environment in general. It further controls the disposal of effluent. It basically makes the Department of Water Affairs responsible for the use, allocation, control, and conservation of Namibia's surface and groundwater resources. It clearly defines the interests of the state in protecting water resources.
Water Resources Management Act, 2013 (Act No. 11 of 2013)	Although this act is not in force yet, it is mentioned here. The act provide for the management, protection, development, use and conservation of water resources; and provide for the regulation and monitoring of water services and to provide for incidental matters. The objects of this Act are to ensure that the water resources of Namibia are managed, developed, used, conserved and protected in a manner consistent with, or conducive to, the fundamental principles set out in section

Legislation/guideline	Provision
	3. Of special note is two principles: "3. (k) prevention of water pollution and implementation of the principle that a person disposing of effluent or waste has a duty of care to prevent pollution; (l) a polluter is liable to pay all costs to clean up any intentional or accidental spill of pollutants."
Atmospheric Pollution Prevention Ordinance of Namibia (No. 11 of 1976)	Part 2 of the Ordinance governs the control of noxious or offensive gases. The Ordinance prohibits anyone from carrying on a scheduled process without a registration certificate in a controlled area. The registration certificate must be issued if it can be demonstrated that the best practical means are being adopted for preventing or reducing the escape into the atmosphere of noxious or offensive gases produced by the scheduled process.
Hazardous Substances Ordinance (No. 14 of 1974)	well as their import and export and is administered by the Minister of Health and Social Services. Its primary purpose is to prevent hazardous substances from causing injury, ill- health or the death of human beings.
Public Health Act (No. 36 of 1919)	Under this act, in section 119: "No person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health."
Labour Acts and Regulations	The Labour Act of 1992 (act 6), the New Labour Act of 2007 (act 11) and Government Notice 156 of 1997: Labour Act, 1992: Regulations Relating to the Health and Safety of Employees at Work, governs working conditions of employees. These regulations are prescribed for among others safety relating to hazardous substances, exposure limits and physical hazards. Special consideration must be given to: Chapter 3: Welfare and Facilities at Work-Places Chapter 4: Safety of Machinery Chapter 5: Hazardous Substances Chapter 6: Physical Hazards and General Provisions
Urban and Regional Planning Act (Act of 2018)	To consolidate the laws relating to urban and regional planning; to provide for a legal framework for spatial planning in Namibia; to provide principles and standards of spatial planning Namibia; and to provide for the preparation, approval, review and amendment of zoning schemes.
South African National Standards	Mention is made here of the Standards referring to bulk storage of Liquid Fuels noting its relevance to fire

Legislation/guideline	Provision
(SANS) and Codes of Practice	safety and contamination through spillages. SANS 10089-1:2008 (ED. 4.03): The petroleum industry Part 1: Storage and distribution of petroleum products in above-ground bulk installations Spillage control procedures must be in place according to SANS 10089-1:2008 (ED. 4.03), standards, or better, including impounding around the loading areas by bunding with appropriate slopes of 1:100, construction of bund walls and/or floors that are liquid tight and that are not prone to deterioration under the effects of any petroleum product.
ISO 14001 Environmental Management System ISO 9001 Quality Management System ISO 50001 Energy Management System	Provide guidelines and frameworks for effective waste management practices related to the oil and gas waste management
Municipal By-laws, Guidelines and Regulations	Integrated Urban Spatial Development Framework for Walvis Bay The Integrated Urban Spatial Development Framework for Walvis Bay (IUSDF) has been completed during 2014 and is in the final stages of acceptance. The overall vision presented by the IUSDF is to transform Walvis Bay from being a combined tourism and semi-industrial port town to being the primary industrial city in Namibia. The IUSDF further sets out the following objectives for the commerce and industrial sector of the town: • To create and nurture a healthy business environment for the town; • To facilitate and control the supply of business and industrial land in accordance with market needs; • To improve the quality and reliability of utility services to the business sector; • To create opportunities for industrial investment, especially for energy efficient and clean processing and manufacturing activities; • To integrate informal business areas into the structure, administration, and control of the town; • To create opportunities for small businesses. Furthermore the IUSDF aims to ensure that appropriate levels of environmental management is enforced for all developments in Walvis Bay.

7 Management and Mitigation Measures

The proponent should play a pivotal role in implementing this EMP. This section provides a way the EMP is to be implemented and also outlining responsibilities of all parties involved perform their respective roles in accordance with this EMP.

7.1 Potential impacts and measures during operation

Table 2: Proposed Mitigation Measures: Operation phase

Environmental Issue/Impacts	Mitigation Measures	Monitoring	Responsibilities
Legal compliance	Meet the legal requirements by obtaining the following • Permit from Ministry of Mines and Energy • Fitness Certificate from the Municipality Swakopmund • Environmental Clearance Certificate from MEFT	That documents are obtained and valid	**Proponent**
Used Oil **Storage**	• The fuel storage tank provided should be as per the Petroleum Industry Part 1: Storage and distribution of petroleum products in above-ground bulk installations. • Although the tank is surrounded by a bund wall, put additional measures in place to collect any oil in the event of a leak, i.e. addition of a drip tray. . • Sufficient space should be left in fuel tanks to allow fuel expansion and to prevent leakage of fuel from any underground tanks.	Fuel spills and leakages	**Site Manager**
Oil **Spillage**	• If any spillage occurs, contaminated soil shall be collected in a holding tray or drum and disposed at a licensed hazardous waste site.	Fuel spills and leakages	**Site Manager**

Environmental Issue/Impacts	Mitigation Measures	Monitoring	Responsibilities
	• Any spillage of more than 200 liters must be reported to		
	the Ministry of Mines and Energy as per the Petroleum Products Act, 2000.		
Site Management	• Staff at the site and contractors should be educated and informed of their environmental obligations.	Awareness among all staff	**Site Manager**
Fire control and management	• A holistic fire protection and prevention plan is needed. This plan must include an emergency response plan, firefighting plan and spill recovery plan. • Special note must be taken of the regulations stipulated in sections 47 and 48 of the Petroleum Products and Energy Act, 1990 (Act No. 13 of 1990). • Maintain firefighting equipment, good housekeeping and personnel training (firefighting, fire prevention and responsible housekeeping practices). • Ensure all chemicals are stored according to MSDS and SANS instructions. • Maintain regular site, mechanical and electrical inspections and maintenance. • Clean all spills / leaks. • Special note must be taken of the regulations stipulated in sections 47 and 48 of the Petroleum Products and Energy Act, 1990 (Act No. 13 of 1990). • Follow SANS standards for operation and maintenance of the facility.	A register of all incidents must be maintained on a daily basis. This should include measures taken to ensure that such incidents do not repeat themselves. A report should be compiled every 6 months of all incidents reported. The report should contain dates when fire drills were conducted and when fire equipment was tested, and training given.	**Site Manager**

Environmental Issue/Impacts	Mitigation Measures	Monitoring	Responsibilities
	• All dispensers must be equipped with devices that cut fuel supply during fires.		
Public Health and Safety	• Ensure general cleanliness of the building, most importantly the sanitary facilities • Selected personnel should be trained in first aid and a first aid kit must be available on site. • The contact details of all emergency services must be readily available. • Implement and maintain an integrated health and safety management system, to act as a monitoring and mitigating tool, which includes: colour coding of pipes,	Any incidents must be recorded with action taken to prevent future occurrences. A report should be compiled every 6 months of all incidents reported. The report should contain dates when training was conducted and when	**Site Manager**
	operational, safe work and medical procedures, permits to work, emergency response plans, housekeeping rules, MSDS's and signage requirements (PPE, flammable etc.). • Security procedures and proper security measures must be in place to protect workers and clients.	safety equipment and structures were inspected and maintained.	
Groundwater, Surface Water and Soil Contamination	• Spill control structures and procedures must be in place according to SANS standards or better and connection of all surfaces where fuel is handled, with an oil water separator. • All fueling should be conducted on surfaces provided for this purpose. E.g., Concrete slabs with regularly maintained seals between slabs. • The procedures followed to prevent environmental damage during service and maintenance, and compliance with these procedures, must be audited and corrections made where necessary.		

Environmental Issue/Impacts	Mitigation Measures	Monitoring	Responsibilities
	• Proper training of operators must be conducted on a regular basis (Fuel handling, spill detection, spill control). • Any spillage of more than 200 liters must be reported to the relevant authorities. • Spill clean-up means must be readily available on site as per the relevant MSDS. • Any spill must be cleaned up immediately. • The spill catchment traps, and oil water separator should be cleaned regularly, and waste disposed of at a suitably classified hazardous waste disposal facility. • Surfactants (soap) may not be allowed to enter the oil water separator e.g., soap usage on spill control surfaces. • No direct discharge of pollution (wastewater or solid waste) into the waterbodies. • Do not park vehicles or implements with leaking oils next to the waterbodies. • Ensure that sanitary facilities are frequently cleaned and		
	regularly monitored. • Only use cleaning detergents that are environmentally friendly		
Water and Energy demand	• Ensure supply of potable water • Enforce energy and water conservation measures	A report should be compiled every 6 months of all complaints received and actions taken.	**Site Manager**
Air Quality	• Personnel issued with appropriate masks where excessive dust or vapours are present. • Employees should be coached on the dangers of fuel vapours.	A complaints register should be kept for any dust-related issues and mitigation steps taken to address	**Site Manager**

Environmental Issue/Impacts	Mitigation Measures	Monitoring	Responsibilities
	• Vent pipes must be properly placed as per SANS requirements.	complaints where necessary e.g., dust suppression. Any complaints received regarding dust or fuel vapours should be recorded with notes on action taken. All information and reporting to be included in a bi-annual report.	
Waste generation	• Waste should be disposed of regularly and at appropriately classified disposal facilities, this includes hazardous material (empty chemical containers, contaminated rugs, paper, water and soil). • The spill catchment traps, and oil water separator should be cleaned regularly, and waste disposed of appropriately. Surfactants (soap) may not be allowed to enter the oil water separator. • See the material safety data sheets available from suppliers for disposal of contaminated products and empty containers. • All hazardous waste should be transported to Walvis Bay	A register of hazardous waste disposal should be kept. This should include type of waste, volume as well as disposal method/facility. Any complaints received regarding waste should be recorded with notes on action taken. The oil water separator must be regularly inspected, and all	**Site Manager**
	for proper handling • Waste reduction measures should be implemented and all waste that can be re-used /recycled must be kept separate. • Ensure adequate disposal storage facilities are available. • Ensure waste is not blown away by wind. • Prevent scavenging (human and non-human) of waste storage.	hydrocarbons removed once detected. Outflow water must comply with effluent quality standards. All information and reporting to be included in a bi-annual report.	

Environmental Issue/Impacts	Mitigation Measures	Monitoring	Responsibilities
Noise	• Follow World Health Organization (WHO) guidelines on maximum noise levels (Guidelines for Community Noise, 1999) to prevent hearing impairment. • Keep the volume of public address systems on a level where neighbours are not impacted on. • Manage noise caused by clients/customers – loud music etc. • Hearing protectors as standard PPE for workers in situations with elevated noise levels.	Maintain complaints register. Bi-annual report on complaints and actions taken to address complaints and prevent future occurrences.	**Site Manager**
Traffic Impact	• Erect clear signage regarding access and exit points at the facility. Clear indications of fuel deliveries and related down-time communicated to motorists. • Tanker trucks delivering fuel should not be allowed to obstruct any traffic in surrounding streets. • Have parking spaces for motorists utilizing the shop and offices. • The placement of signs to warn and direct traffic will mitigate traffic impacts.	Any complaints received regarding traffic issues should be recorded together with action taken to prevent impacts from repeating itself. A report should be compiled every 6 months of all incidents reported, complaints received, and action taken.	**Site Manager**
Visual Impact	• Regular waste disposal, good housekeeping and routine maintenance on infrastructure will ensure that the longevity of structures is maximised and a low visual impact is maintained.	A report should be compiled every 6 months of all complaints received and actions taken.	**Site Manager**
Cumulative Impact	• Addressing each of the individual impacts as discussed and recommended in the EMP would reduce the	Annual summary report based on all other impacts	**Site Manager**
	cumulative impact. • Reviewing biannual and annual reports for any new or re- occurring impacts or problems would aid in identifying	must be created to give an overall assessment of the impact of the operational	

Environmental Issue/Impacts	Mitigation Measures	Monitoring	Responsibilities
	cumulative impacts and help in planning if the existing mitigations are insufficient	phase.	
Skills, technology and Development	• If the skills exist locally, contractors must first be sourced locally, then the region and then nationally. Deviations from this practice must be justified. • Skills development and improvement programs to be made available as identified during performance assessments. • Employees to be informed about parameters and requirements for references upon employment. Give priority to local people	Record should be kept of training provided. Ensure that all training is certified, or managerial reference provided (proof provided to the employees) inclusive of training attendance, completion and implementation.	**Site Manager**
Employment opportunities	• **The proponent must employ local Namibians where possible. Deviations from this practice must be justified.**	**Bi-annual summary report based on employee records.**	**Site Manager**

8 Decommissioning and Rehabilitation

Decommissioning of the proposed facility is not foreseen during the validity of the ECC. Should the decommissioning of the proposed facility become imminent, the proponent needs to follow the industrial standards of decommissioning fuel storage facilities as outlined by SANS 10089-3 and other applicable legislations.
The decommissioning will entail the complete removal of all infrastructure including buildings and all infrastructure. The impacts associated with the decommissioning phase will manly include nuisance to the adjacent properties dust, noise, vibration etc., as well as environmental pollution from waste production due to dismantled structures. The proponent should consult with the relevant authorities i.e. Municipality of Walvis Bay, MME, prior to any proposed demolition and removal of site infrastructure to best mitigate any potential impacts.
To avoid, lessen or mitigate the potential impacts arising from the decommissioning activities, certain measures should be applied as follows:

- All equipment and fixtures should be dismantled and removed from the site.
- Contaminated items should be disposed as hazardous waste and not general recyclables.
- Waste should be collected and disposed of accordingly. Waste produced should be contained and disposed of at the Walvis Bay landfill site and not dumped in the surrounding areas.
- Any pollution present on the site must be remediated.
- Contaminated sand/soil should be collected and disposed of as hazardous waste.
- No vehicles or machinery or equipment to be abandoned onsite.
- After structural removal, there is a need for site rehabilitation. The future land use after decommissioning should be assessed prior to decommissioning and rehabilitation initiated. The EMP for the facility will have to be reviewed at the time of decommissioning to cater for changes made to the site and implement guidelines and mitigation measures.

9 Safety, Health and Environmental Management System

Diclas Waste Oil management cc is an experienced role player in the waste oil management industry and has over the years established its own health, safety and environmental standards. The company is committed to protect the environment and to minimize the health and safety risks to our employees and public in which we operate and do business. Health, safe road transport and protecting the environment are the highest priorities of Diclas Waste Oil management.

Furthermore, Diclas Waste Oil Management have a Health, Environment and Safety Management System (HESMS) that addresses, manages and measures the key issues. Diclas Waste Oil management cc strives to continuously improve its performance in each of these areas and to meet all the demands and standards set by the oil industry. The purpose of the HESMS is to assure a safe and healthy workplace for all and responsible stewardship of the environment by establishing the goal of preventing or eliminating activities and conditions in the road transport operations which pose an unacceptable risk to human health or safety, property or the environment, and by promoting sound Health, Environment and Safety (HES) practices among all employees through regular training programs.

Diclas Waste Oil Management believes that the business place is an ever-changing environment

and through managing these changes the company adapt its strategy to conform to the latest requirements and regulations set by the government and the industry. The company wants to establish a respected appearance in the public through the management of all aspects with regards to the health and safety of all individuals who will work with the company during its daily operations and to the protection of the environment in which the company conduct its full business operations.

Moreover, Diclas Waste Oil Management cc will apply international standards as outlined in the International Standard organisation (ISO) standards related to oil and gas waste management are ISO 14001, ISO 9001, and ISO 50001.

10 Compliance Monitoring

To ensure continual improvement in environmental performance and reduce adversity of potential negative impacts, it is advisable to keep monitoring the identified environmental receptors. The proponent must ensure that compliance monitoring is conducted at different intervals/frequencies throughout the operational life span as indicated in the table below.

Table 3: Monitoring during operation phase

The issue to be monitored	Monitoring Objectives	What needs to be monitored	Frequency and means of Monitoring
Spills and leaks	Prevent environmental pollution	-Overflows, leakages, pipe bursts, etc.	**Daily inspections and meter reading**
Public Health risks	Operate the project in an environmentally friendly and socially acceptable manner.	Risk of fire and exploration, air pollution etc.	**Monthly inspections and physical observation.**
Occupational health risks	Ensure health and safe working condition	Chemical exposure and presence of health hazards	**Daily physical observations.**
Waste management	Prevent environmental pollution and contamination.	Litter chemical storage & handling, cleanliness	**Daily inspections and physical observation. -quarterly chemical testing**
Implementation of the EMP	**Ensure compliance to this EMP and adherence to the regulative measures during the operation, maintenance, and decommissioning phase**	**Implementation of specified measures and compliance to the EMP and other relevant legal requirements.**	**Biannual environmental report to MEFT.**

11 Emergency Response Plan

Emergencies can occur at any time or place either during the construction and operation of the proposed facility. Some of the emergencies which are associated with the proposed project are as follows.

- Substance spillage i.e., oil, concrete, chemicals, etc.
- Fire outbreak
- Accidents

Table 4: Emergency response plan

No.	Type of Emergency	Response actions	Responsible
1.	**Oil spills**	• Stop and control the spill at the source first. • Contain the spill/leakage with appropriate containers i.e., drip trays, sumps, etc., and in an approved manner to the satisfaction of the ECO • Clean the affected area with water or an approved cleaning product. • The contaminated soil should be removed and disposed of at the Walvis Bay landfill site. • Repair vehicle or machinery with leakage. • If it cannot be repaired, such vehicle or machinery should not be used until it is safe to do so. • Report the incident to the Construction Engineer and record it in the logbook.	**Site Manager**
2.	**Fire outbreak**	• Follow the holistic Fire Approach as presented in Annexure B	**Site Manager**
3.	**Accident i.e., injury to a person**	• **The priority after a construction accident should be to get medical attention for an injured person.** • **Assess the injured person's situation by checking breath, pulse.** • **Notify the First Aid Person** • **Assist the First Aid Personnel** • **Record in the incident report form.** • **Report incident to the Line Manager**	**Site Manager**

12 Conclusion

The objective of the amendments to the initial the EIA study was to define the range of the impacts associated with the proposed additional works and propose mitigation measures to address the identified impacts. There were no fatal flaws identified during this assessment, hence, it is

concluded that, if all mitigation measures are implemented as outlined in the EMP, it is anticipated that the consequences and/or probability of the predicted negative impacts will be managed/reduced. The proponent should play a pivotal role in the implementation of this EMP and should ensure proper coordination with other stakeholder and provide training to all employees, contractors and sub-contractors. The proponent should also ensure to avail necessary resources (i.e., human, financial etc.) and synergies to enable the implementation of this EMP.

The proponent shall also ensure to avail necessary resources (i.e., human, financial etc.,) and provide training to all parties for the full implementation of the EMP. The implementation of the EMP can be combined with the company HESMS. Monitoring of certain environmental parameters and preparation of biannual reports must be ensured as outlined in this EMP during the life span of the project.

Upon approval by the authorities, this EMP shall be considered legally bidding and any deviation or transgression is punishable by law as per the Environmental Management Act, No. 07 of 2007. The preparation of this EMP is based on the current information provided, any changes or deviation from the initial plan of this project shall trigger changes to this EMP.

Lastly, this EMP is valid until the project has been successfully implemented. A copy of this EMP shall be kept onsite. The competent authority is mandated to conduct regular monitoring and inspections on this project and to provide regular (annually) reports on this project or as required by the authority.

13 Annexure A: Environmental Compliance Monitoring Checklist

PART 1: ADMINISTRATIVE INFORMATION

Project Title:		**Date:**
Project location:	Reporting period	**Individual Preparing Checklist:**
Region:		**Department:**
Line Manager		**Phone No.:**

PART 2: ENVIRONMENTAL ASPECTS

	ENVIRONMENTAL COMPLIANCE (AS PER EMP REQUIREMENT?)		
ENVIRONMENTAL ASPECT/IMPACT	***YES***	***NO***	***Remarks (specify the location, a good practice observed, causes of non-conformity, and proposed action)***

PART 3: RECOMMENDATION

FOR EACH ITEM CHECKED IN PART 2, DESCRIBE THE CORRESPONDING CONTROLS TO BE IMPLEMENTED TO REDUCE POTENTIAL ENVIRONMENTAL IMPACTS (e.g., spill prevention, erosion controls, air emission controls including dust suppression, selection of materials, etc.). Provide details of the activities and impacts for each box and the proposed mitigations. Include attachments where appropriate. Use the same number system for your input.

ECO: Signature: _ Date: ___
Line Manager Signature: _ Date: ___

14 Annexure B: Fire response Plan