Draft Environmental Management Plan (EMP) for:

Environmental Audit Report for the Operation of a Fuel Retail Facility for NAMCOR at the Hosea Kutako International Airport in Windhoek, Khomas Region

Document Type: **EMP**

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August 2022

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1 INTRODUCTION

1.1 Project Background and Locality

This updated environmental management plan report is prepared on behalf of the National Petroleum Corporation of Namibia (Pty) Ltd (hereinafter referred to as *NAMCOR* or *The Proponent*). NAMCOR is the national distributor of a diverse range of products from its network of facilitys around the country supplying diesel, petrol, paraffin, lubricants and engine oils.

NAMCOR was issued an Environmental Clearance Certificate (ECC) on 08 May 2017, to permit for the operation of a fuel retail facility at Hosea Kutako International Airport (22°29'22.57"S; 17°27'53.39"E) within the extended Windhoek Municipal Area in the Khomas Region. The facility is 0.68 Ha in size. The locality map of the facility is shown in **Figure 1**.

The updated environmental management plan report provides a summary of the environmental performance of the fuel retail property/facility. The audit report is prepared as per the requirements of the Environmental Impact Assessment (EIA) Regulations No. 30 of 2012 gazetted under the Environmental Management Act, (EMA), 2007, (Act No. 7 of 2007), and a condition of the Environmental Clearance Certificate (ECC) issued for operation of the facility.

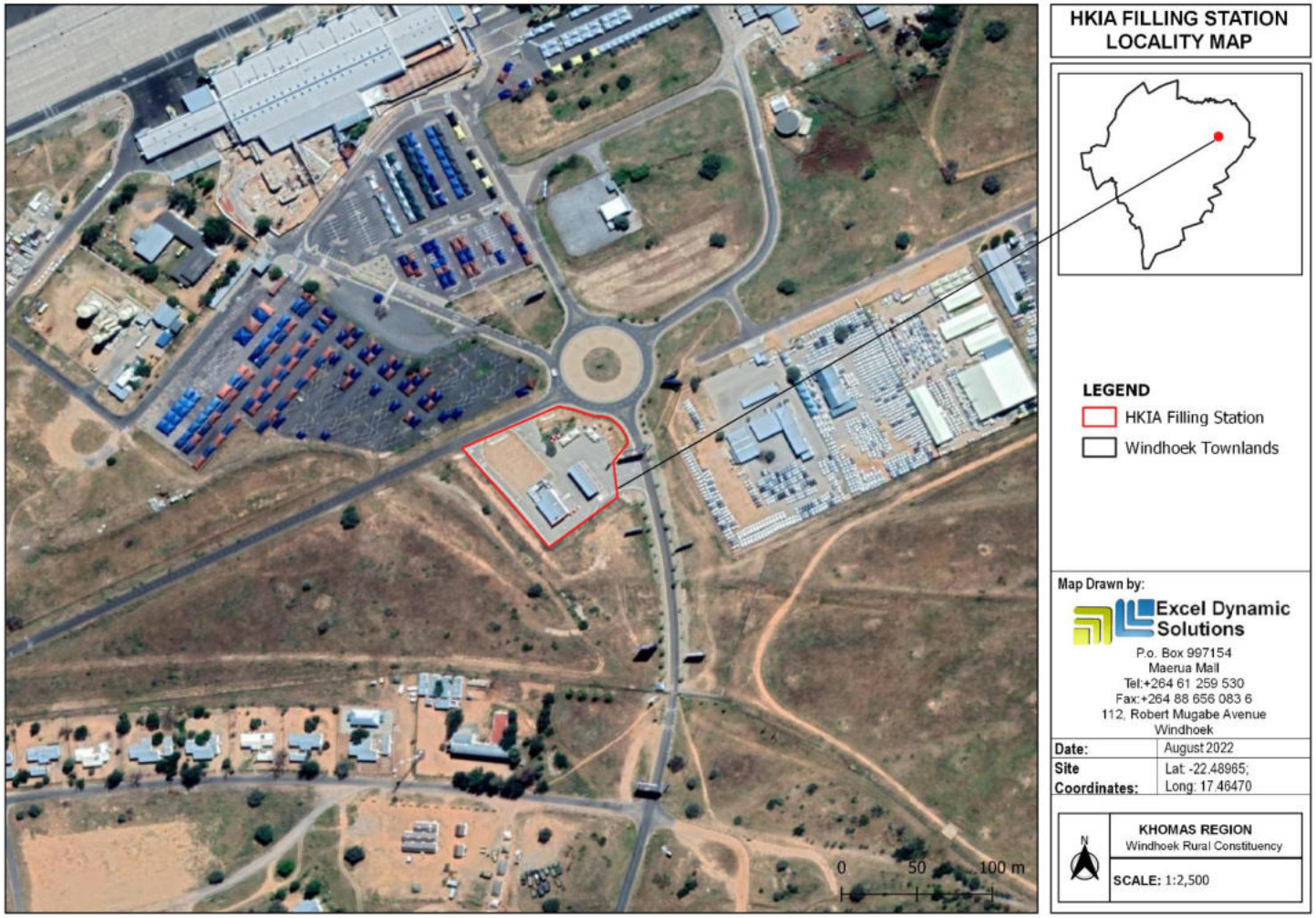

Figure 1-1: The Locality of the Fuel Retail Facility at Hosea Kutako International Airport

1.2 The Purpose of the Draft Environmental Management Plan (EMP)

An Environmental Management Plan Report provides the link between the impacts identified in the EIA Process and the required environmental management measures and preparedness responses on the ground during project implementation and operation, as assessed during compliance monitoring.

The compilation of this updated Environmental Management Plan and/or Audit Report is one of the requirements (scope of work) presented to EDS by NAMCOR, to ensure environmental compliance with reference to the Environmental Management Plan (EMP), which was prepared as a legal requirement by Section 8 of the Environmental Management Act (EMA), No.7 of 2007 and its 2012 Environmental Impact Assessment (EIA) Regulations.

The Report serves to document the progress made, in terms of environmental compliance, on the operations of the fuel retail facility. The phases of the project are summarized below:

- **Operation and maintenance -** This is the phase during operation where the Proponent carries out fuel retailing activities and undertakes related activities on site. It is also the phase during which maintenance of the area, equipment and machinery is expected to be done by the Proponent.

- **Environmental Monitoring Requirements** - In order to support and ensure that the proposed mitigation measures are achieving the desired results, a monitoring plan must be implemented alongside the mitigation plan.

- **Decommissioning and Rehabilitation** – This is the phase during which operations at the fuel retail facility cease. The decommissioning of operations may be considered once the need for the fuel retail facility diminishes. During the operational phase and before decommissioning, the Proponent will need to put site rehabilitation measures in place.

It is expected of NAMCOR and their employees and/or contractors, in guiding them during the operations on site, to ensure that impacts on the environment are avoided or limited if they cannot be avoided completely.

1.3 Appointed Environmental Assessment Practitioner

Excel Dynamic Solutions (Pty) Ltd has been appointed as the external Environmental Control Officer (ECO) to ensure EMP compliance of operations at the Hosea Kutako International Airport Fuel Retail Facility, with the conditions of authorization, in performing environmental monitoring and auditing, in order to produce an updated EMP and environmental compliance report for NAMCOR. The audit period is June 2017 – December 2022.

This document was compiled by Mr. Nerson Tjelos.

The purpose of this document is, therefore, to guide environmental management throughout the operation and maintenance phase (including upgrading works), and decommissioning phase:

2 LEGAL FRAMEWORK: PERMITTING AND LICENSING

The Proponent has the responsibility to ensure that the project activities conform to the principles of the EMA and must ensure that employees act in accordance with such principles. Table 2-1 below lists the requirements of an EMP as stipulated by Section 8 (e) of the EIA Regulations, primarily on specific approvals and permits that may be required for the project activities.

Table 2-1: The list of applicable of legal requirements and permits to the project activities

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Project Activity Licensing and Contact Details
Environmental Management Act (No. 7 of 2007) and its 2012 Environmental Impact Assessment (EIA) Regulations (Government Gazette (GG) No. 4878 Government Notice (GN) No. 30)	The EMA has stipulated requirements to complete the required documentation to obtain an Environmental Clearance Certificate (ECC) for permission to undertake certain listed activities.	The ECC should be renewed every 3 years, counting from the date of issuance. Contact details at the Department of Environmental Affairs and Forestry (DEAF), Ministry of Environment, Forestry and Tourism (MEFT), Office of the Environmental Commissioner **Mr. Timoteus Mufeti** **Tel: +264 61 284 2701**

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Project Activity Licensing and Contact Details
Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001):	Regulation 3(2)(b) states that "No person shall possess or store any fuel except under authority of a licence or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 litres or less in any container kept at a place outside a local authority area"	The Proponent should obtain the necessary authorisation form the MME for the retailing and storage of fuel on-site. **Mr. Carlo Mcleod (Ministry of Mines and Energy: Acting Director – Petroleum Affairs)** **Tel: +264 61 284 8291**
Road Traffic and Transport Act 52 of 1999 and its 2001 Regulations	Provides for the control of traffic on public roads and the regulations pertaining to road transport, including the licensing of vehicles and drivers.	A site access road permit from the existing road should be formalized by applying for it and obtained from the Roads Authority. **Mr. Eugene de Paauw (Roads Authority – Specialist Road Legislation)** **Tel.: +264 61 284 7027**

3 EMP IMPLEMENTATION ROLES AND RESPONSIBILITIES

The Proponent has the overall responsible for the implementation of the EMP. However, the Proponent may delegate this responsibility or part of it to someone else at any time, as they deem necessary. The roles and responsibilities of all delegates/parties involved in the effective implementation of this EMP are set in Table 3-1.

Table 3-1: The list of responsible parties and their roles in implementing the EMP

Role (Person and or Institution)	Responsibilities
The Proponent	-Managing the implementation of this EMP and updating and maintaining it when necessary. -Management and monitoring of individuals and/ or equipment on-site in terms of compliance with this EMP and issuing fines for contravening EMP provisions.

Role (Person and or Institution)	Responsibilities
Environmental Control Officer (ECO) or Safety, Health & Environmental (SHE) Officer	Environmental Control Officer (ECO) or SHE Officer. The ECO will have the following responsibilities: -Management and facilitation of communication between the Proponent and Interested and Affected Parties (IAPs) regarding this EMP. -Conducting site inspections of all areas with respect to the implementation of this EMP (monitor and audit the implementation of the EMP). -Advising the Proponent on the removal of person(s) and/or equipment not complying with the provisions of this EMP. -Undertaking an annual review of the EMP and recommending additions and/or changes to this document.
Site Operator	-Collaborate with the ECO to ensure the implementation of the EMP, especially on the technical aspects and operations of the project operations.

4 IMPACTS AND ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURES

4.1 Key Identified Negative Impacts

Potential Negative impacts:

- Improper handling fuels may lead to pollution of soil and water resources.
- Noise (nuisance)
- Vehicular traffic: potential increase in local traffic during fuel delivery and loading/offloading of other services and goods.
- Waste generation leading to environmental pollution.
- Occupational / community health & safety risks
- Accidental fire outbreaks and Site safety and security

The recommended measures to be implemented to mitigate and manage the adverse negative impacts listed above are provided under the next chapter and Tables.

4.2 Environmental Management and Mitigation Measures- Operation and Maintenance

The management actions are aimed at avoiding the above-listed potential negative impacts, where possible. Where it is impossible to avoid these impacts, measures are provided to reduce the impacts' significance. The measures recommended (Table 4-1) for the potential impacts are as described and assessed in the Scoping Report were based on the operations phase.

Table 4-1: The Environmental management and mitigation measures for the Operational and Maintenance Phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Site Operations and Maintenance Phase					
EMP implementation and training	Lack of EMP awareness and implications thereof	-EMP trainings should be provided to all new workers on site. -All site personnel should be aware of necessary health, safety, and environmental considerations applicable to their respective work. -The implementation of this EMP should be monitored. The site should be inspected, and a compliance audit done throughout **the project activities, monthly.** -Implement an EMP non-compliance penalty system onsite.	-Compliance monitoring conducted bi-annually and should be recorded. -The ECC is renewed every 3 years -Bi-annual reports -Records of EMP training conducted.	-ECO	Throughout the project cycle
Fuel supply	Insufficient and inconveniences due to the unavailability of fuel supply would lead to interruption of services	-Ensure that the Fuel Facility has sufficient fuel always. -The Facility should consider putting up business arrangements with airport operators that are interested in buying fuel for further supply in their areas	-There is always sufficient fuel supply for customers -Information is shared with regional business to enter into supply agreements with NAMCOR for their businesses	-Proponent	Throughout the project cycle and when deemed necessary
Employment opportunities	Unfair practices of labour recruitment an opportunity may lead to conflicts	-It should be mandatory to contractors to give all unskilled and semi-skilled work to be given to the locals before considering outsiders (anyone from outside Windhoek). -There should be transparency in the notification of anticipated work opportunities and number of positions onsite.	-There is a fair recruitment process -Locas are given preference for the work they can perform (positions they can occupy).	-Proponent (Human Resources Department)	When deemed necessary during operations

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Equal opportunities should be given to both men and women, where possible. -Have a plan to meet the Labour Act's requirements when retrenchment of staff is considered. -Where possible staff can be relocated to another facility or town where business continues in the same way.			
Goods and services procurement	The procurement of goods and service from outsiders over local business may lead to conflicts and overlooking local suppliers	-The procurement of goods and services should follow a fair and transparent process. -Procurements for goods and services should be open only to local and Namibian companies with strong local participation. A percentage of the scope should be reserved for Small-Medium Enterprise (SME) contractors who may be recruited on a sub-contract basis to build local capacity. -The business opportunities such as cleaning services and site maintenance should be given to local companies	-Goods and services are procured from Windhoek -Local businesses are considered for procurement opportunities	-Proponent (Procurement Department)	When deemed necessary during operations
Soils	Physical soil / land disturbance and loss of topsoil during continual site improvements	-The topsoil that was stripped from certain site areas to enable project works and can be returned to its initial position, should be returned. This is to avoid unnecessary stockpiling of site soils which would leave them prone to erosion. -All trenches and pits excavated on site should be backfilled and areas rehabilitated.	-No proliferation of informal vehicle tracks. -No new erosion gullies.	-ECO	Throughout the project cycle
Site Fires	Accidental fire outbreaks and Explosion risks	-Safe Offloading Procedures must be followed: -Coupling of hoses should be tight and old perished materials should be replaced before leaks occur.	-No wildfires recorded caused by site personnel	-Proponent -ECO	Throughout the project cycle

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Use non-sparking tools and explosion-proof equipment. Use in well-ventilated area away from all ignition sources. -Keep product away from high-energy ignition sources, heat, sparks, pilot lights, static electricity, and open flames. -Warning signs of ''NO SMOKING'' and ''NO THROWING USED CIGARETTES near or inside the site'' should be clearly written and pasted around the site. -Consider fencing the site using concrete wall (instead of a see-through fence) to reduce the risk of smokers throwing newly used cigarettes into the Facility or even tanks. -The site fire extinguishers should be serviced accordingly, and personnel trained on how to use them. -No open fires to be created by project personnel onsite. -Potential flammable areas and structures such as fuel storage tanks should be marked as such with clearly visible signage. -The contact details of fire services should be readily and visibly displayed in both the office and warehouse buildings for site personnel. -All fire precautions and fire control at the site must be in accordance with SANS 089-1, or better. Firefighting measures as per the Material Safety Data Sheets of the product should be adhered to. -All personnel must be sensitised about responsible fire protection measures and good housekeeping such as the removal of flammable materials (e.g., rubbish, dry vegetation, and hydrocarbon-soaked soil) from the vicinity	-Fire extinguishers are readily available and up to date with service	-Site Operator	

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		of the gantry and tank areas. Regular inspections should be carried out to check for these materials at the site. - The site must have an alarm siren			
Storage and handling of hydrocarbons in relation to fire hazards	The risk of fire outbreaks due to poor storage and handling of hydrocarbons and other flammables substances	-Electrical equipment and fittings must comply with local fire prevention regulations for this class of product. Refer to national or local regulations covering safety at petroleum handling and storage areas for this product -Emergency training and an emergency drill program must be implemented to be given at least every 6 months on Emergency Procedures.	-All fire procedures and measures are implemented -All personnel are trained and understand these requirements	-ECO -Site Operator	Throughout the project cycle
	Safe Offloading Distance in relation fire occurrences	-The distance from the tanks and the offloading tankers must meet the required safety distance for offloading. -Regular testing of automated fire and leak response systems. -Record any irregularities and refer to operation manuals provided by MME for the monitoring of bulk fuel tanks.	-The safe offloading and loading distances are adhered to -Fire emergency procedures are understood by site personnel and personnel trained on responsiveness.	-ECO -Site Operator	Throughout the project cycle
Site safety and security	Compromising site security and safety	-The entrance should be equipped with an alcohol testing device to ensure that no visitor or employee is allowed onsite when under the influence of alcohol or any narcotic substances. -A warning siren should be installed at the site office building to notify the site employees, contractors, and visitors of danger.	-The site fencing and all raised security concerns are up to standards	-Proponent -Site Operator	Throughout the project cycle

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-the site should be equipped with 24-hour security surveillance in case of opportunistic activities such as theft and vandalism.			
Occupation and community health and safety	Project related injuries and other health and safety related issues on personnel and locals	-As part of their induction, the Project personnel should be provided with an awareness training of the risks of mishandling equipment and materials on site as well as health and safety risk associated with their respective jobs. -The contact details of ambulance and other extensive health care services should be readily and visibly displayed in both the office and warehouse buildings for site personnel. -the First aid kit should always be fully furnished and ensure that 2 or 3 site personnel ate trained on administering first aid. -Employees and visitors should be properly equipped with adequate personal protective equipment (PPE) such as coveralls, gloves, safety boots, earplugs, or safety glasses (depending on the job and site area visited, etc. -The heavy vehicle, equipment and fuel storage area should be properly secured to prevent any harm or injury to the Proponent's personnel. -Protective equipment such as handrails should be installed on top of road tankers. -The Material Safety Data Sheets (MSDS) should be reviewed, and training provided to all site personnel. -An emergency preparedness plan should be compiled, and all personnel appropriately trained.	-Comprehensive health and safety plan for all project activities compiled. -Occupational Health and Safety Personnel -Health and Safety Trainings -Fully equipped first aid kits onsite -Trained workers to administer first aid	-ECO -Site Operator	Throughout the project cycle

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Personnel should not be allowed to drink alcohol prior to and during working hours nor allowed on site when under the influence of alcohol as this may lead to mishandling of equipment which results into injuries and other safety risks. -The site areas that are considered risks should be equipped with "danger" or "cautionary" signs written in English, Afrikaans and Otjiherero for easy understanding by the residents (locals).			
Stormwater management	rainwater stagnation and possible overtopping during rainy seasons (site damage and flooding)	-Stormwater management systems should be improved and incorporated into the site layout to ensure that the rainwater is collected and diverted to specific rainwater collection area (point) and not idle on site. -A runoff diversion ditch must be constructed and maintained.	-Stormwater discharge systems are improved and incorporated in the continued site improvements	-Proponent	During site improvement
Water Resources Use	Over-abstraction (water demand and availability)	-Water reuse/recycling methods should be implemented as far as practicable. -Project water storage tanks should be inspected daily to ensure that there is no leakage, resulting in wasted water. -Water conservation awareness and saving measures training should be provided to all the project workers in both phases so that they understand the importance of conserving water and become accountable	-No water leakages from site water storage tanks -Water is recycled where possible	-ECO	Throughout the project life cycle
Soils and water resources	Soils and water resources pollution	-Spill control preventive measures should be in place on site to management soil pollution, thus preventing and or minimizing soil and water resources pollution.	-No complaints of pollutants on the soils and eventually in the	-ECO	Throughout the project life cycle

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-The underground storage tanks should be equipped with double layer to minimize the pollution of groundwater in case of tank burst or leaks. -The fuel tanks should be equipped with fuel leakage detectors to ensure that the leak is detected on time to avoid major leakage leading to significant pollution to soil and groundwater. -Spill control structures and procedures must be in place according to SANS 089-1 and SANS 089-3 standards or better, including impounding around the loading areas by bunding with appropriate slopes of 1:100. -All fuelling should be carried out on dedicated surfaces, i.e., concrete slabs with regularly maintained seals between slabs. -Any spillage of more than 200 litre must be reported as per the Petroleum Products License. -Spill clean-up kit must be available on site as per the relevant Material Safety Data Sheets. -Personnel should be sensitized on the impacts of soil pollution and advised to follow appropriate fuel delivery and handling procedures. -Ensure basic Spill Prevention, Control, and Countermeasure (SPCC) Plan training for all personnel. -Position tankers over bunded areas to prevent soil contamination, especially during rainy season to prevent runoff to nearby drainage systems or infiltration towards the water table.	water due to project activities -No visible oil spills on the ground or pollution spots. -Sufficient waste containers provided onsite -Non-permeable material to cover the ground surface at areas where hydrocarbons and potential pollutants are utilized.		

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Polluted soil should be removed immediately and put in the designated hazardous waste storage containers for later disposal. -Drip trays must be readily available at filling areas and monitored to ensure that accidental fuel spill is cleaned on time (soon after the spill has happened). -Polluted soil must be collected and transported away from the site to an approved and appropriately classified hazardous waste treatment facility. -The oil-water separator should be properly and regularly maintained (drained and cleaned) by a specialized contractor to ensure that the levels of oil in the released water do not go beyond the limits of the pit. -Washing of equipment contaminated hydrocarbons, as well as the washing and servicing of vehicles should take place at a dedicated area (impervious surface), where contaminants cannot contaminate soil or water resources.			
Biodiversity	Loss Fauna and Flora	-Avoid unnecessary removal of nearby vegetation, thus promoting a balance between biodiversity and project operations. -Avoid the killing or hurting of all kinds of animals, birds and reptiles encountered onsite. -Environmental awareness on the importance of biodiversity preservation should be provided to workers.	-No killing or disturbance of biodiversity -Visible preservation of onsite vegetation	-Site Operator -ECO	Throughout the project cycle
Road use and safety	Increase in vehicular traffic flow	-The transportation of fuel should be limited to twice a week only to reduce the pressure on local roads.	-No complaints from members of the public regarding vehicular	-Proponent -ECO	Throughout the project life cycle

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Ensure that the access roads are frequently maintained and have sufficient road signs. -Ensure that the fuel trucks do not use roads that pass-through town to avoid traffic congestions owing to slow moving heavy trucks. -The heavy truck loads should comply with the maximum allowed speed limit for respective vehicles while transporting materials and equipment/machinery on the public and access roads is 40km/h. -Vehicles drivers should be in possession of valid and appropriate driving licenses and adhere to the road safety rules. -Drivers should drive 40km/hour and be on the lookout for people on roadsides, especially children. -Vehicle's drivers should not be allowed to operate vehicles while under the influence of alcohol. -The deliveries and collection to and from site should be done during weekdays between the hours of 8am and 5pm.	traffic issues related to the project activities. -A formal road access permit has been obtained from Roads Authority -All personnel operating the project vehicles and machinery are appropriately licensed and possession of valid driving licenses. -Demarcated areas for parking, offloading, and loading zones are on sites.		
Archaeology and heritage	Accidental disturbance of archaeological or heritage objects	-Adhere to the provisions of Section 55 of the National Heritage Act in event significant heritage and culture features are discovered when conducting site upgrading works that require digging or trenching. -When the removal of topsoil and subsoil on the site for site upgrading purposes, the site should be monitored for subsurface archaeological materials by Environmental personnel.	-Preservation of all artefacts and objects that are discovered on and around project site during earthworks	-Site Operator -ECO	As and when required, i.e., and during site upgrading works

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Littering and waste management (general waste and sanitation)	Environmental Pollution	-Project personnel should be sensitized to dispose of waste in a responsible manner and not to litter. -Ensure that there are no wastes left on the sites at the end of each day. -All domestic and general operational waste produced daily should be contained onsite until such that time it is removed by the Municipal waste removal staff / contractor. -No waste may be buried or burned on site or anywhere else. -Maintain separate waste bins for different wastes, i.e., hazardous, and general/domestic waste should be in separate waste bins. -A penalty system for irresponsible disposal of waste on site and anywhere in the area should be implemented. -Used fuels should be contained on site and disposed of in accordance with municipal waste disposal standards. -An emergency plan should be available for major/minor spills at the site during operations and maintenance.	-No visible litter within and around the Project area owing to the Project -Provision of sufficient waste storage containers -Waste management awareness -Waste disposal permits to municipalities -Environmental, Health and Safety Statements and Policy in place -Waste storage containers	-ECO	Throughout the project cycle
	Wastewater (sewage)	-Ensure that there are sufficient and accessible toilets for both day and night shift (for security guards)	-Adequate toilet and basic ablution facilities on site.	-Proponent -ECO	Throughout the project cycle
Air Quality	Dust generation, fumes and fuel vapours	Vehicles should only be driven at the authorized site speed to avoid dust generation onsite and surroundings. -Ensure that the fuel refill and delivery is limited to working days to minimize heavy vehicle-related dust level in the area from the unpaved/untarred access roads.	-No complaints from the public about vehicle emissions and dust generation.	-Site Operator -ECO	Throughout the project cycle

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
	emission (poor air quality)	-The heavy vehicles and fumes generating equipment (during maintenance) should not be left idling when not in use. -The venting systems and procedures should be designed according to South African National Standards to minimize fuel vapour emissions	-Visible efforts to curb dust		
Noise	Nuisance	-Noise from operations' vehicles and equipment on the sites should be at acceptable levels. -The project activities should not be carried out during the night or before 08h00 in the morning and should be carried out during weekdays only. -Working hours, including site upgrading works should be restricted to between 08h00 and 17h00 to avoid noise and vibrations generated by equipment and the movement of vehicles before or after hours. -Site workers and contractors should be equipped with personal protective equipment (PPE) such as earplugs to reduce exposure to excessive noise.	-No complaints from local communities such as neighbours about excessive noise from site -Noise protective equipment for workers	-Site Operator -ECO	Throughout the project cycle

4.3 Environmental Management and Mitigation Measures- Decommissioning

The measures provided in Table 4-2 below are aimed at decommissioning the Facility and associated infrastructure, when the Proponent can no longer operate or supply fuel from the Facility. These measures will be implemented to ensure that the Facility site does not pose an environmental and social risk post its operations.

The first step to decommissioning a Facility and its infrastructures, particularly the fuel tanks is to:

- Notify to the licensing authority: The Petroleum Officer / Commissioner at the Ministry of Mines and Energy must be advised on which course of action it is proposed to take to render a decommissioned tank safe and can be in attendance when tanks are filled.

Table 4-2: The Environmental management and mitigation measures for the Decommissioning Phase (as adopted from DP Fuel Tank Services, 2016)

Aspect	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Decommissioning Phase and Site Rehabilitation				
Fuel tanks	**1. Abandoning tanks in-situ**:[1] Any tank to be abandoned in place should be rendered safe by one of the following methods: -by filling with cement slurry using the following procedure: -drain back all pipelines associated with the tank and remove all residual petrol the tank must then be bottomed out which involves the removal of that quantity of petrol and deposits which remain below the pump suction pipeline, using a hand pump or a flame-proof electrical pump. This procedure should be performed by a specialist contractor -the atmosphere in the tank must inerted by means of nitrogen, nitrogen foam or carbon dioxide (see guidance on these inerting methods in HSE Guidance Note CS 15) -disconnect all pipework entering the tank via the tank lid. Flush through and cap at each end all pipelines previously connected to the tank or compartment -remove the tank lid. (It should be remembered that this can be a hazardous exercise unless great is care taken.) In the case of old tanks without tank	-Implementation of the measures	-Proponent (by appointing a specialized contractor for decommissioning fuel tanks)	Upon cessation of operations

[1] DP Fuel Tank Services. (2016). Methods of Fuel Tank Decommissioning: https://dptanks.co.uk/methods-fuel-tank-decommissioning/

Aspect	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
	lids the suction pipe should be unscrewed leaving a hole approximately 75mm through which slurry of a thin consistency can be poured -the area surrounding the tank as far as boundaries permit should normally be classed as a hazardous area whilst filling the tank is taking place and all necessary precautions should be taken to prevent any source of ignition -fill the tank with 20 to 1 mix of concrete slurry. Wherever possible the slurry should be assisted to the extremities of the tanks by means of a vibrating device. (It is important to remember the previous point). It is essential that a Petroleum Officer of the Trading Standards Service is in attendance when the slurry fill takes place. Only when the slurry filing has been completed to the satisfaction of the Petroleum Officer is the manhole chamber to be filled with concrete. **2. Removal of tanks** Before excavation work starts, any tank to be removed from the ground should be rendered safe. For a tank without leaks the following initial procedure should be followed: -drain all pipelines associated with the tank and remove all residual petrol -the tank must then be bottomed out which involves the removal of that quantity of petrol and deposits which remain below the pump suction pipeline, using a hand pump or a flame-proof electrical pump. This procedure should be performed by a specialist contractor -fill the tank or compartment with water to ensure a liquid seal -disconnect all pipelines (except vent pipes) and add water to the tank or compartment until clear water appears at the vent pipe opening -cap or blank off all openings to the tank or compartment flush through and cap at each end all pipelines previously connected to the tank or compartment			

Aspect	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Disposal of tanks	-Any tank which has been removed from its excavation should be disposed of safety as soon as possible. Preparation for and removal by road should be in accordance with the provisions of the current legislation in force at the time. -The person responsible for removal of a tank from a filling station should ensure that the recipient of the tank is made aware of the tank's previous use and of the need to take adequate precautions against fires and explosions when dealing with it. -Cleaning or demolition of any tank on site should not take place without the agreement of the appropriate authority. -The location of any abandoned tank should be recorded in the site register and brought to the attention of any person who subsequently becomes responsible for the site. -Further, the Trading Standards Service (in this case MME) should be made aware of the destination of any tank which has been removed from the ground.	-Implementation of the measures	-Proponent (By appointing a specialized contractor for decommissioning fuel tanks)	Upon cessation of operations
Alternative use of tanks	The tank may be used for the storage of diesel or gas oil providing the petrol tank has had all residual of petrol removed from it and been bottomed out (which involves the removal of that quantity of petrol and deposits which remain below the pump suction pipeline, using a hand pump or a flame-proof electrical pump.) This procedure should be performed by a specialist contractor. -The tank must be filled totally to dispel any petroleum vapour. It is important to remember to drain down the pump and pipelines thereby removing all petrol before introducing an alternative fuel	-Implementation of the measures	-Proponent (By appointing a specialized contractor for decommissioning fuel tanks)	Upon cessation of operations
Infrastructure and structures:	-Dismantling of temporary structures and office spaces and donate them to the Municipality to be utilized for other purposes in the town. Or if cannot	-Structures are sold or donated to the Municipality	-Proponent	At the end of the

Aspect	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Decommissioning of services and infrastructures	be donated, these structures can be sold o interested buyers to use for other similar projects within the zoning type of the site area. -All the waste generated from leading to the last days on site should be transported to the municipal dumpsite. -Transport all machinery and equipment as well as vehicles to designated offsite storage facilities.	-Waste transported to approved dumpsites	-ECO	project operations
Rehabilitation funds: The lack of planning for financial and technical resources	-Make provision of both financial and technical resources for decommissioning.	-Records of finances set aside for decommissioning	-Proponent	Updated throughout the project phase
Generated and Accumulated Waste	-All re-usable pipelines, pumps, tanks, valves and other equipment must be removed to another site or sold. -Those items that cannot be used again must be scrapped in the appropriate manner. -Upon demolition of buildings and concrete, the rubble must be removed from the property and taken to an approved dumpsite designated by the Windhoek Municipality. -Site Rehabilitation, if necessary, is to be done using the designated funds. -Waste should be sorted accordingly and disposed of at the Municipal waste management sites/facilities. -No waste should be buried nor left scattered on site.	-All waste is disposed of at the respective waste facilities (based on waste types)	-Proponent -ECO	Before complete site closure

Further readings on Decommissioning can be found on some of the following websites:

- https://www.epa.nsw.gov.au/-/media/21p3279-decommissioning-underground-petroleum-storage.pdf

- https://www.nqpetro.com.au/tank-decommissioning/ and https://jwhinchliffetanks.co.uk/fuel-oil-tank-decommissioning-guide/.

Environmental Audit Report for the Operation of a Fuel Retail Facility for NAMCOR at the Hosea Kutako International Airport in Windhoek, Khomas Region

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September 2022

TABLE OF CONTENTS

LIST OF FIGURES

1 INTRODUCTION

1.1 Project Background

This environmental management plan report is prepared on behalf of the National Petroleum Corporation of Namibia (Pty) Ltd (hereinafter referred to as *NAMCOR* or *The Proponent*). NAMCOR is the national distributor of a diverse range of products from its network of facilitys around the country supplying diesel, petrol, paraffin, lubricants and engine oils.

NAMCOR was issued an Environmental Clearance Certificate (ECC) on 08 May 2017, to permit for the operation of a fuel retail facility at Hosea Kutako International Airport (22°29'22.57"S; 17°27'53.39"E) within the extended Windhoek Municipal Area in the Khomas Region. The facility is 0.68 Ha in size. The locality map of the facility is shown in **Figure 1**.

The updated environmental management plan report provides a summary of the environmental performance of the fuel retail property/facility. The audit report is prepared as per the requirements of the Environmental Impact Assessment (EIA) Regulations No. 30 of 2012 gazetted under the Environmental Management Act, (EMA), 2007, (Act No. 7 of 2007), and a condition of the Environmental Clearance Certificate (ECC) issued for operation of the facility.

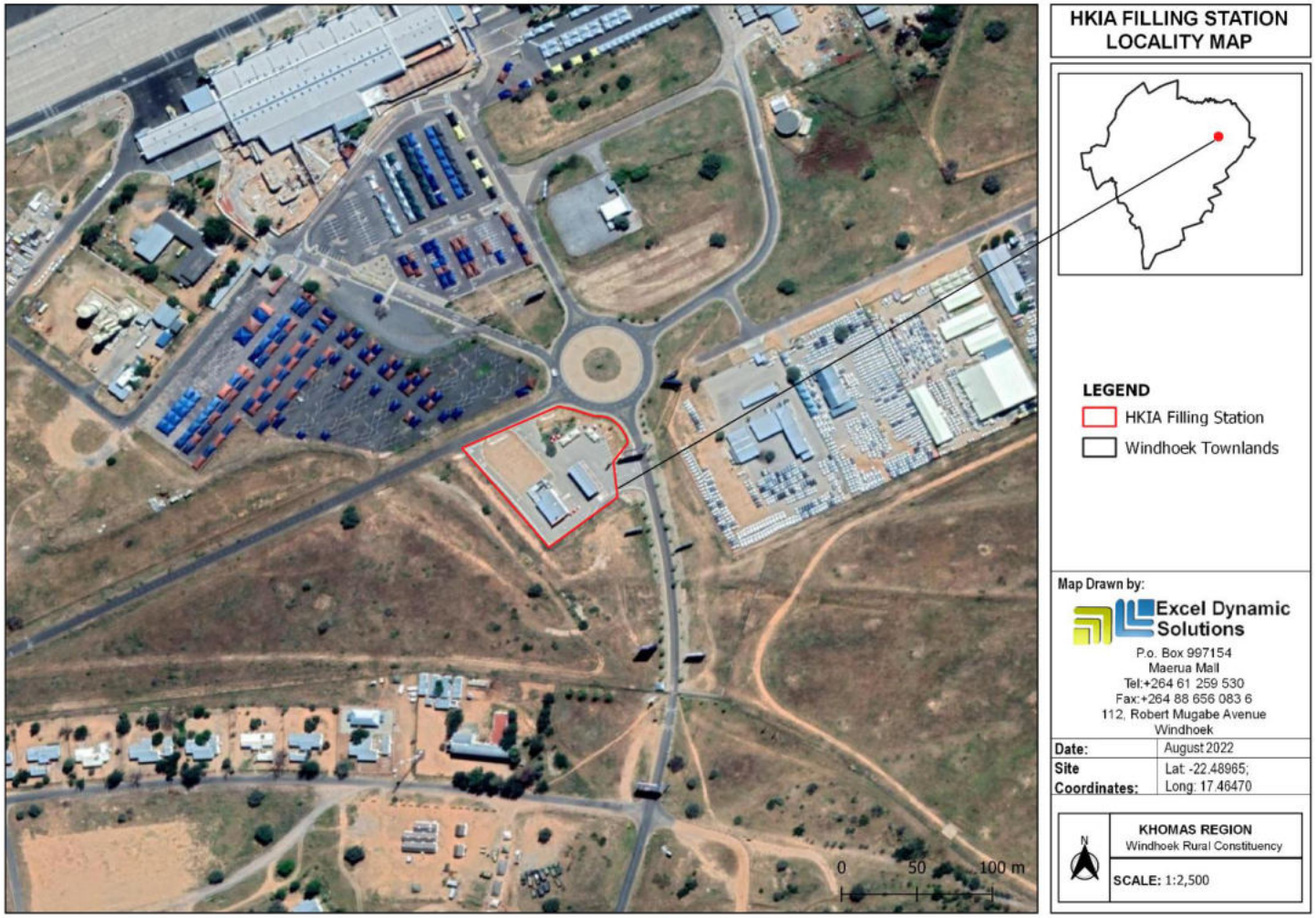

Figure 1: Location of the fuel retail facility at Hosea Kutako International Airport

1.2 Purpose of the updated Environmental Management Plan Report

An Environmental Management Plan Report provides the link between the impacts identified in the EIA Process and the required environmental management measures and preparedness responses on the ground during project implementation and operation, as assessed during compliance monitoring.

The compilation of this updated Environmental Management Plan and/or Audit Report is one of the requirements (scope of work) presented to EDS by NAMCOR, to ensure environmental compliance with reference to the Environmental Management Plan (EMP), which was prepared as a legal requirement by Section 8 of the Environmental Management Act (EMA), No.7 of 2007 and its 2012 Environmental Impact Assessment (EIA) Regulations.

The Report serves to document the progress made, in terms of environmental compliance, on the operations of the fuel retail facility. The phases of the project are summarized below:

- **Operation and maintenance -** This is the phase during operation where the Proponent carries out fuel retailing activities and undertakes related activities on site. It is also the phase during which maintenance of the area, equipment and machinery is expected to be done by the Proponent.
- **Environmental Monitoring Requirements** - In order to support and ensure that the proposed mitigation measures are achieving the desired results, a monitoring plan must be implemented alongside the mitigation plan.
- **Decommissioning and Rehabilitation** – This is the phase during which operations at the fuel retail facility cease. The decommissioning of operations may be considered once the need for the fuel retail facility diminishes. During the operational phase and before decommissioning, the Proponent will need to put site rehabilitation measures in place.

It is expected of NAMCOR and their employees and/or contractors, in guiding them during the operations on site, to ensure that impacts on the environment are avoided or limited if they cannot be avoided completely

1.3 Appointed Environmental Assessment Practitioner

Excel Dynamic Solutions (Pty) Ltd has been appointed as the external Environmental Control Officer (ECO) to ensure EMP compliance of operations at the Hosea Kutako International Airport Fuel Retail Facility, with the conditions of authorization, in performing environmental monitoring and auditing, in order to produce an updated EMP and environmental compliance report for NAMCOR. The audit period is June 2017 – December 2022.

This document was compiled by Mr. Nerson Tjelos.

2 EMP ROLES AND RESPONSIBILITIES

As the ECC holder, NAMCOR is ultimately responsible for the implementation of the updated EMP and has delegated the responsibility for the effective implementation of the EMP to Excel Dynamic Solutions (Pty) Ltd, through the time period covered by this audit.

2.1 Environmental Management Plan Actions and Audit

The aim of the management actions of the EMP is to avoid potential negative impacts where possible. Where impacts cannot be avoided, measures are provided to reduce the significance of these impacts. It is therefore important for the Proponent/Environmental Manager to ensure adherence to the management actions.

Management actions recommended for the potential impacts rated in the EIA carried out for the prospecting and exploration activities were based on the three project phases listed below:

- Phase 1: Planning (completed),
- Phase 2: Construction (completed),
- Phase 3: Operational (current and active phase) - **Table 1**, and
- Phase 4: Decommissioning and Rehabilitation (**Table 2**).

The responsible persons at NAMCOR should assess these commitments in detail and should acknowledge their commitment to the specific management actions detailed in the EMP. The compliance, thereof, is measured in **Tables 1** and **2**.

3 ENVIRONMENTAL AUDIT

3.1 Project Activity Summary and Compliance Audit

There is no environmental audit conducted on the Property since June 2017 (i.e., since the issuing of the ECC in May 2017). Therefore, this audit assessment and updating of EMP covers the period June 2017 – December 2022.

EDS has performed an Environmental Site Audit, in conformance with the Scope of Work developed in cooperation with the client and the provisions of EMA 7 of 2007. This assessment has revealed no evidence of Recognized Environmental Conditions (RECs) in connection with the retail facility.

Site observation details are presented in **Appendix A**.

3.2. Management Action Plan: Operation (and Maintenance) Phase

The management actions recommended for this phase are presented in **Table 1** below.

Table 1: Audit on Management Action Plan for the Operation and Maintenance Phase

Environmental Feature	Management Actions	Observations	Compliance comment	Corrective Action/Recommendation
EMP availability	Employees appointed for operation and maintenance on respective site must ensure that all personnel have access to a copy of the EMP	Personnel on the site have been informed of all the OHS&E issues in the EMP	**NON-COMPLIANT**	Environmental Coordinator/Proponent to ensure a copy of the updated EMP is made available at the Property
EMP training	Employees appointed for operation and maintenance on respective site must ensure that all personnel are aware of necessary health, safety and environmental considerations applicable to their respective works.	Personnel on the site have been informed of all the OHS&E issues	**NON-COMPLIANT**	Environmental Coordinator/Proponent to ensure Property employees and contractors are afforded training opportunities on the updated EMP.
Employment and skills transfer	Provision of employment to residents of Windhoek	Employment of residents is prioritised	**COMPLIANT**	N/A

Environmental Feature	Management Actions	Observations	Compliance comment	Corrective Action/Recommendation
Visual Impacts (sense of place)	All the necessary options to improve the aesthetic of the site should be considered and incorporated in the activities of the operation of the facility.	The site is kept tidy and shows consideration of the natural aesthetic of the site and conforms to the standard industrial set up of the neighbourhood.	**COMPLIANT**	N/A
Ecological Impact	All the necessary options to preserve the natural ecological settings	Due to the nature of the operation, there environment is not in the natural state. No fauna or flora on site.	**COMPLIANT**	N/A
Air Quality	All venting systems and procedures must be designed according to SANS standards	Vapour emissions are minimal and site specific and pose a limited threat to personnel on site.	**COMPLIANT**	N/A

Environmental Feature	Management Actions	Observations	Compliance comment	Corrective Action/Recommendation
hydrocarbon vapours are released during delivery due to incomplete containment of fuel and venting of tanker's compartments. Vapours can also be released during the filling of road tankers.				
Waste Generation	Contaminated fuel products that can no longer be used in the market must be disposed of in the hazardous waste section of a municipal dump or wherepossible transferred to waste oil recycling facilities.	Hazardous waste is collected and removed from the site regularly.	**COMPLIANT**	N/A
	All other domestic waste should be disposed of timeously tomaintain visual orderliness, but more importantly, to avoid liquid waste entering the soil substrate		**COMPLIANT**	N/A

Environmental Feature	Management Actions	Observations	Compliance comment	Corrective Action/Recommendation
	Contaminated soil can be remediated in accordance with accepted procedures at a site dedicated for this purpose.		**COMPLIANT**	N/A
	Liaise with the Municipality regarding waste and handling of hazardous waste.		**COMPLIANT**	N/A
	A register of hazardous waste disposal should be kept. This should include type of waste, volume as well as disposal method/facility.		**COMPLIANT**	N/A
	Any complaints received regarding waste should be recorded with notes onaction taken		**COMPLIANT**	N/A
Health and Safety	Implementation of a health and safety management systemwill reduce health and safety related risks. Typical mitigating measures within the health and safetymanagement systems are:- • Job hazard analysis • Operational and procedural manuals • NEBOSH (or equivalent) certified Health and Safetytraining of staff • Regular inspections and maintenance of all safety equipment and structures	Implemented. A bi-annual report of all incidents reported is compiled, including inspection and maintenance dates of equipment and structures . Health and Safety Training is conducted	**COMPLIANT**	N/A

Environmental Feature	Management Actions	Observations	Compliance comment	Corrective Action/Recommendation
	• Implement housekeeping rules • Colour coding areas, pipes, equipment and substances • Signage for Personal Protective Equipment (PPE) (e.g., protective clothing like safety boots and hard hats) • Safe work procedures and permits to work • Clearance certificates for confined spaces • Emergency response plans • Regular reviews of Material Safety Data Sheets(MSDS) in training • First aid training of supervisors and volunteering staffand treatment • Medical procedures and emergency services must beavailable on site or close by • Daily safety moments and/or drills • Protective equipment e.g., handrails on top of rail orroad tankers • Implement regulations for handling fuel			

Environmental Feature	Management Actions	Observations	Compliance comment	Corrective Action/Recommendation
Noise	The World Health Organization (WHO) guideline on maximum noise levels (Guidelines for Community Noise Levels, 1999) to prevent hearing impairment must be followed. Noise levels in industrial areas are limited to an average of 70 db over a 24-hour period with maximum noise levels not exceeding 110 db during the period. All noise complaints and additional data must be included in the health and safety report.	A bi-annual report of all incidents reported is compiled, including inspection and maintenance dates of equipment and structures	**COMPLIANT**	N/A
Groundwater Contamination	Spill control structures and procedures must be in place according to SANS 089-1 and SANS 089-3 standards or better, including impounding around the loading areas by bunding with appropriate slopes of 1:100.	Spill contigency plan not in place	**PARTIALLY COMPLIANT**	N/A
	All fuelling should be carried out on surfaces provided for this purpose. E.g., Concrete slabs with regularly maintained seals between slabs.	Spot spills were observed on site during the audit visit	**PARTIALLY COMPLIANT**	N/A
	The procedures followed to prevent environmental damage during service and maintenance, and compliance with these procedures, including the correct use of		**COMPLIANT**	N/A

Environmental Feature	Management Actions	Observations	Compliance comment	Corrective Action/Recommendation
	sumps and regular reporting of spillages, must be audited and corrections made where necessary.			
	Proper training of operators must be conducted on a regular basis.		**COMPLIANT**	N/A
	Any spillage of more than 200 litre must be reported as per the Petroleum Products License. Spill clean-up kit must be available on site as per the relevant Material Safety Data Sheets		**COMPLIANT**	N/A
	Contingencies for the changes in pressure and temperature between facility storage tanks and the dispensing pipes must be in place when offloading tankers at the facility. Avoid overfilling of tanks Position tankers over bunded areas to prevent soil contamination, especially during rainy season to prevent runoff to nearby drainage systems or infiltration towards the water table.		**COMPLIANT**	N/A
Fire and Explosion Hazard	***Safe Offloading Procedures must be followed:*** • Coupling of hoses should be tight and	No alarm siren on site	**PARTIALLY COMPLIANT**	N/A

Environmental Feature	Management Actions	Observations	Compliance comment	Corrective Action/Recommendation
	old perished materials should be replaced before leaks occur. • Tanks should not be overfilled as the changes in pressure and temperature may cause leakages at the release valves on top of the tankers.	A bi-annual report of all incidents reported is compiled, including inspection and maintenance dates of equipment and structures		
	Safe Handling Procedures must be followed: • Use non-sparking tools and explosion-proof equipment. Use in well-ventilated area away from all ignition sources. • Keep product away from high-energy ignition sources, heat, sparks, pilot lights, static electricity, and open flames.	A bi-annual report of all incidents reported is compiled, including inspection and maintenance dates of equipment and structures	**COMPLIANT**	N/A
	All liquid hydrocarbon storage containers should be grounded and bonded. Products must be stored where they are not affected by heat.		**COMPLIANT**	N/A
	Storage and Handling Procedures must be followed:	A bi-annual report of all incidents reported is compiled, including inspection and maintenance dates of equipment and structures	**COMPLIANT**	N/A

Environmental Feature	Management Actions	Observations	Compliance comment	Corrective Action/Recommendation
	• Electrical equipment and fittings must comply with local fire prevention regulations for this class of product. Refer to national or local regulations covering safety at petroleum handling and storage areas for this product • Emergency training and an emergency drill program must be implemented to be given at least every 6 months on Emergency Procedures.			
	Safe Offloading Distance must be adhered to: • The distance must meet the required safety distance for offloading. If the distance does not meet the stipulated requirements • Regular testing of automated fire and leak response systems. • Record any irregularities and refer to operation manuals provided by MME for the monitoring of Retail fuel tanks.	Offloading specifications are adhered to according to site observations	**COMPLIANT**	N/A

Environmental Feature	Management Actions	Observations	Compliance comment	Corrective Action/Recommendation
	Fire Fighting and Fire Prevention: • All fire precautions and fire control at the site must be in accordance with SANS 089-1, or better. Firefighting measures as per the Material Safety Data Sheets of the product should be adhered to. • All personnel must be sensitised about responsible fire protection measures and good housekeeping such as the removal of flammable materials (e.g., rubbish, dry vegetation, and hydrocarbon-soaked soil) from the vicinity of the installation. Regular inspections should be carried out to check for these materials at the site. • All fuel storage and handling facilities in Namibia must comply with strict safety distances as prescribed by SANS. • There must be sufficient water available for firefighting purposes, as according to the SANS 089-1 specifications • A holistic fire protection and prevention plan, including an emergency response plan, a firefighting plan and a spill recovery plan is needed. • Regular surveys of the fire-fighting equipment and water supply should be conducted. • The operations must have an integrated fire prevention plan, which considers the regulations stipulated in sections 47 and 48 of the Petroleum	A bi-annual report of all incidents reported is compiled, including inspection and maintenance dates of equipment and structures	**COMPLIANT**	N/A

Environmental Feature	Management Actions	Observations	Compliance comment	Corrective Action/Recommendation
	Products and Energy Act, 1990 (Act No. 13 of 1990).			
Traffic	Offloading of fuel should remain within the working hours as agreed upon in writing for operations of the facility, in order to limit traffic congestion.	Operating hours in the EMP are adhered to according to records audited	**COMPLIANT**	N/A
	An efficient fuel offloading schedule must be implemented	Operating hours in the EMP are adhered to according to records audited	**COMPLIANT**	N/A
Security	Strict security at entry points to prevent unauthorised entry into the facility must be in place. 'Fitness for work' certificates for every security officer to be issued on a monthly basis. Daily alcohol testing should be carried out by an authorised person at the start and end ofashift.	Proponent is compliant based on site observations	**COMPLIANT**	N/A
Terrorism	A comprehensive the emergency plan is communicated to all staff and relevant outside institutional bodies. Scheduled drills must include all stakeholders Suspicious persons, vehicles and activities should be noted and approached with caution.	Proponent is compliant based on secondary information	**COMPLIANT**	N/A
COVID-19	• The workers should be engaged in health talks and training about the dangers of infections such as COVID-19.	Included in Induction	**COMPLIANT**	N/A

Environmental Feature	Management Actions	Observations	Compliance comment	Corrective Action/Recommendation
	• Provision of any available public health education information to workers.	Included in induction	**COMPLIANT**	N/A

3.3 Management Action Plan: Decommissioning Phase

Table 4: Management action plans for the Decommissioning Phase

Environmental Feature	Management Actions/Monitoring Objectives	Observation	Compliance	Recommended Action
Waste production	All re-usable pipelines, pumps, tanks, valves and other equipment must be removed to another site or sold. Those items that cannot be used again must be scrapped in the appropriate manner. Upon demolition of buildings and concrete, the rubble must be removed from the property and taken to an approved	The project has not reached this stage	**COMPLIANT**	N/A

Environmental Feature	Management Actions/Monitoring Objectives	Observation	Compliance	Recommended Action
	dumpsite designated by the Windhoek Municipality. Rehabilitation, if necessary, is to be done using funds designated for the purpose.			
Ecological Impact	Dismantling and removal of any structure should not affect any faunal or floral habitats formed during operation, or any organism that has become dependent on those structures for survival, shelter or breeding.	. The project has not reached this stage	**COMPLIANT**	N/A
	The possibility of relocating the fauna or flora must be investigated and executed. Should the species be listed as vulnerable to extinction, the MEFT must be contacted, in order to determine the appropriate handling of the situation		**COMPLIANT**	N/A

Environmental Feature	Management Actions/Monitoring Objectives	Observation	Compliance	Recommended Action
Employment	Have a plan for meeting the Labour Act's requirements, in the case where the Proponent is considering retrenching of staff. Where possible staff can be relocated to another facility or town where business continues in the same way.	The project has not reached this stage	**COMPLIANT**	N/A
Dust generation	Regular dust suppression should be included in the Decommissioning Plan, for cases of excessive dust. Personnel should be issued with dust masks for health and safety reasons. Accumulation of rubble that may cause dust must be taken to the dumpsite within reasonable time	The project has not reached this stage	**COMPLIANT**	N/A

Environmental Feature	Management Actions/Monitoring Objectives	Observation	Compliance	Recommended Action
Noise	The World Health Organization (WHO) guideline on maximum noise levels (Guidelines for Community Noise, 1999) to prevent hearing impairmentcan be followed during the decommissioning phase.	The project has not reached this stage	**COMPLIANT**	N/A
Visual Impact	Visual impacts could be limited through keeping all decommissioned areas clean and orderly always. Good housekeeping also reduces the risk of injuries	The project has not reached this stage	**COMPLIANT**	N/A
	Notice of the commencement of the decommissioning should be given to the local authorities with an invitation to give feedback at any time with regards the visual impact	The project has not reached this stage	**COMPLIANT**	N/A

Environmental Feature	Management Actions/Monitoring Objectives	Observation	Compliance	Recommended Action
	Avoid combining of hazardous and non-hazardous waste by providing separate waste containers (bins) for hazardous and domestic / general waste	The project has not reached this stage	**COMPLIANT**	N/A
Surface and groundwater contamination	Pollutants in the soil and building rubble must be transported away from the site to an approved, appropriately classified, waste disposal site. Confirm MSDS information of any remaining fuels, oils or lubricants that must be discarded. Regulations on sewerage discharge and the chemicals that may and may not be put into the sewerage system must be followed.	The project has not reached this stage	**COMPLIANT**	N/A
Health, Safety and Security	Adequate health and safety measures must be included in the decommissioning plan to ensure safety of staff on site, and include:	The project has not reached this stage	**COMPLIANT**	N/A

Environmental Feature	Management Actions/Monitoring Objectives	Observation	Compliance	Recommended Action
	• Proper training of operators; • First aid treatment; • Medical assistance; • Emergency treatment; • Prevention of inhalation of fumes (fuel); • Protective clothing, footwear, gloves and belts; safety goggles and masks; • Manuals and training regarding the correct handling of materials should be in place and updated as new or updated material safety data sheets become available; Risks might be lower, but still exist especially if tanks must be entered for inspections. Confined space training will be required. • 24-hour security surveillance in case of opportunistic activities.			

Environmental Feature	Management Actions/Monitoring Objectives	Observation	Compliance	Recommended Action
Fire and Explosion Hazard	All relevant regulations and precautions should be in place as it was during the Operational Phase. All personnel must be sensitised about responsible fire protection measures and good housekeeping Regular inspections should still be carried out to inspect and test firefighting equipment and pollution control materials at the fuel retail facility. All fire precautions and fire control at the fuel retail facility must be in accordance with SANS or better. The holistic fire protection and prevention plan should still be utilised.	The project has not reached this stage	**COMPLIANT**	

SUMMARY OF COMPLIANCE

This environmental audit has identified 24 management actions. After on site observation, two (2) out of the 24 management actions have been identified as ***Non Compliant***. Three (3) management actions were identified as ***Partially Compliant***. Nineteen (19) of the management actions were observed as ***Compliant***. All 18 monitoring actions were identified as ***Compliant***. The large proportion of *Compliant* action recorded for the environmental site audit, therefore, renders the Proponent generally Compliant to the management and monitoring action plans for the project.

NAMCOR has, thus far, paid attention to the environmental aspects and compliance of this project. There were no serious issues of Non-Compliance identified during this Environmental Audit

The 2 non-compliances may be regarded jointly as one issue, requiring a single solution/intervention. The identified issue has, thus far, had no significant negative effects to the fuel retail operations, the employees and the environment; and is, therefore, regarded as minor. The issue of Partial Compliance identified is:

1. ***Absence of the EMP copy on site and training of employees on its content that needs to be done by a qualified environmental professional.***
2. ***Absence of alarm siren for warning or notification of safety issues***

Although, considered minor at this stage, training of employees and readily access to a copy of the EMP will be relevant in the cases of observed irresponsible and/or unsustainable activity in the environment.

Additionally, the proponent is expected to make an urgent investment in the installation of a siren.

4 CONCLUSION AND RECOMMENDATIONS

The minor non-compliances identified in this environmental site audit report need corrective action for the operations of NAMCOR Hosea Kutako International Airport Facility to reach a 100% Compliance rate. The assessment has revealed no evidence of HRECs in connection with the facility. Recommendations for corrective action are as follows:

- Provide a copy of the updated EMP and follow up with training of all involved employees and stakeholders on the EMP content
- Implement a penalty system for EMP Compliance to enforce accountability towards environmental management within facility operations.

The potential positive and negative impacts stemming from the fuel retail activities were identified, assessed and mitigation measures made thereof. Mitigation measures need to be always adhered to. Most importantly, monitoring of the environmental components described in the Environmental Management Plan should be conducted by the Proponent and an appointed Environmental Officer or any applicable Competent Authority.

The next site inspection will be undertaken in January 2023, and a resultant biannual report will be produced thereafter.

APPENDIX A: ENVIRONMENTAL SITE VISIT AUDIT AND INTERVIEW REPORT

July 2022

1 EXECUTIVE SUMMARY

Excel Dynamic Solutions Pty Ltd (EDS) has performed a Phase I Environmental Site Audit ("ESA") of the Commercial Fuel Retail Facility located at 22°29'22.57"S; 17°27'53.39"E at Hosea Kutako International Airport within the extended Windhoek Municipal Area in the Khomas Region. EDS was authorized to perform this work on August 2, 2022, by National Petroleum Corporation of Namibia (NAMCOR). The ESA was performed in conformance with the scope and limitations of Environmental Management Act No. 7 of 2007 and the EIA Regulations of 2012, the Petroleum Products and Energy Act of 1990 and its regulations, and the South African National Standards (SANS) 10089.This ESA has been performed by an independent and qualified environmental professional.

As shown in Figures 2 the HKIA facility consists of a rectangular shaped parcel of land totaling 0.68 Ha. The facility comprises of the forecourt area, dispensers area (island), the convenience shop/office area, the storage tanks and offloading points, the general parking and assembly area and the store room area.

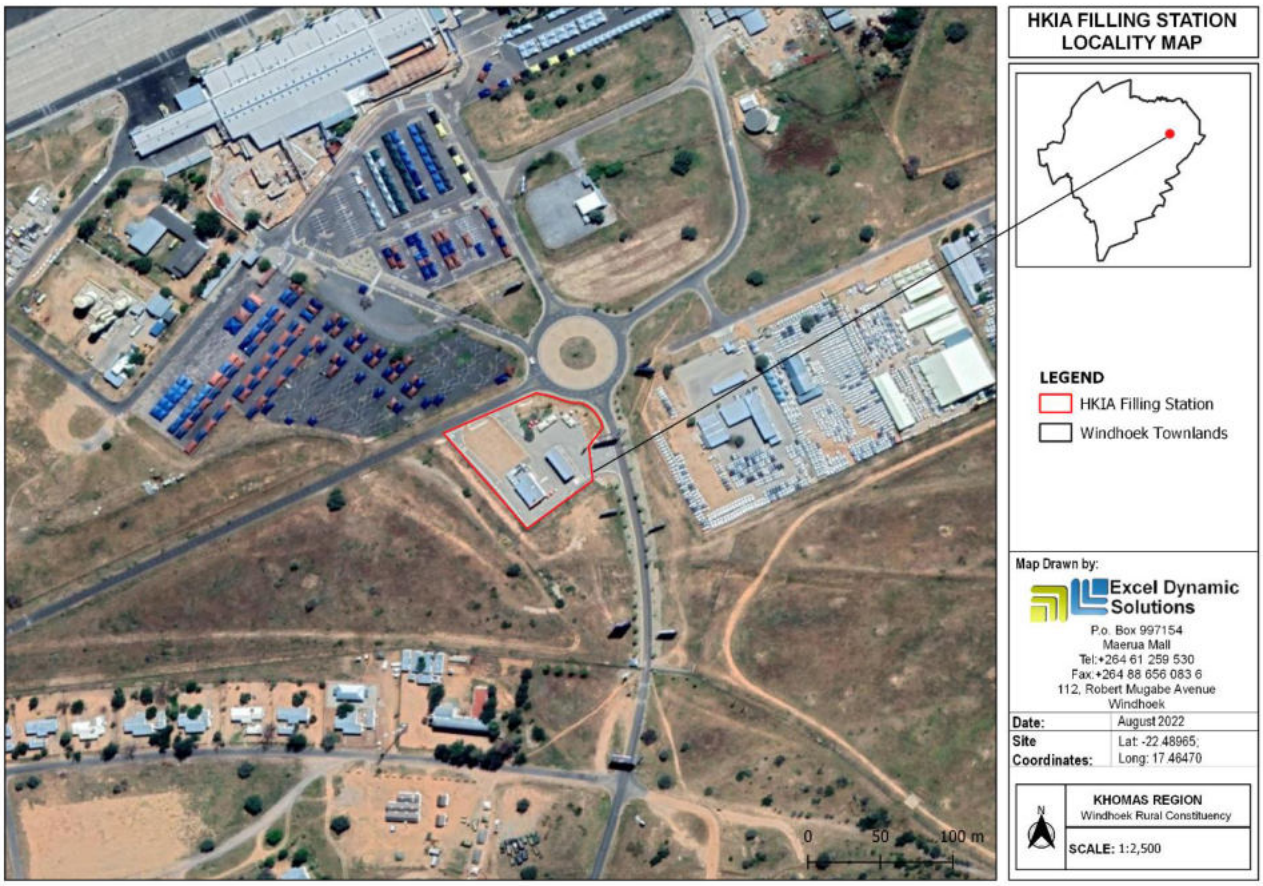

Figure 2. Location of the fuel retail storage facility at Hosea Kutako International Airport

1.1 Summary of the findings of this ESA of the Subject Facility

EDS has performed an Environmental Site Audit, in conformance with the Scope of Work developed in cooperation with the client and the provisions of EMA 7 of 2007. This assessment has revealed no evidence of Recognized Environmental Conditions (RECs) in connection with the facility.

A de minimis condition is a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental competent bodies. This assessment has revealed no evidence of de minimis conditions.

An historical recognized environmental condition (HREC) refers to an environmental condition which would have been considered a REC in the past, but which is no longer considered a REC based on subsequent assessment and/or remediation of any contaminants to below the most restrictive (generally residential) cleanup target concentrations or regulatory closure with no formal or implied restricted uses. The assessment has revealed no evidence of HRECs in connection with the facility.

1.2 Recommendations and Conclusions

Based on the information provided in this report, EDS recommends that No Further Action is required at the facility and that the MEFT renews the Environmental Clearance Certificate (ECC).

2. INTRODUCTION

2.1 Purpose of the Assessment

Excel Dynamic Solutions Pty Ltd (EDS) has performed a Phase I Environmental Site Audit (“ESA”) of the Commercial Fuel Facility located at 22°29'22.57"S; 17°27'53.39"E at Hosea Kutako International Airport within the extended Windhoek Municipal Area in the Khomas Region. EDS was authorized to perform this work on August 2, 2022, by National Petroleum Corporation of Namibia (NAMCOR).

This ESA has been performed by an independent environmental professional as described in the Environmental Management Act, No.7 of 2007. Any exceptions to, or deletions from, this practice are

described Section 1.0 of this report. The location of the Subject Facility and surrounding properties is shown on Figures 1.

The purpose of the ESA is to identify Recognized Environmental Conditions (RECs), Controlled Recognized Environmental Conditions (CRECs) and Historical Recognized Environmental Conditions (HRECs) and de minimis conditions normally associated with petroleum products facilities, and as stipulated in the EMA of 2007.

The term REC is defined as “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a facility: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.”

The term CREC is defined as “a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.”

The term HREC is defined as “a past release of any hazardous substances or petroleum products that has occurred in connection with the facility and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the facility to any required controls.”

The term de minimis condition is defined as “a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not RECs nor CRECs.”

The term Business Environmental Risk (BER) is used to describe environmental risks considerations that do not rise to the level of a REC, but which EDS is of the opinion should be brought to the attention of Client and addressed during this assessment.

Typically, a Phase I ESA does not include sampling or testing of air, soil, groundwater, surface water, or building materials. These activities would be carried out in a Phase II ESA, if required.

2.2 Special Terms and Reliance

It is EDS's understanding that this report is to be used and distributed exclusively for purposes of renewing the ECC. This report of findings was prepared for the exclusive use of the NAMCOR, their contractors and competent government bodies such as the Ministry of Environment, Forestry and Tourism (MEFT) and the Ministry of Mines and Energy (MME). The contents of this report may not be copied, provided or otherwise communicated to any party other than those associated with NAMCOR and without the express written consent of NAMCOR.

2.3 Significant Assumptions

The following assumptions are made by EDS in this report. EDS relied on information derived from secondary sources including the project coordinator, governmental agencies, the Client (Coordinator), designated representatives of the Client and personal interviews. Except as set forth in this report, EDS has made no independent investigation as to the accuracy and completeness of the information derived from secondary sources including government agencies, the Client, designated representatives of the Client, facility personal interviews and has assumed that such information is accurate and complete. EDS assumes information provided by or obtained from the client is accurate and complete. EDS assumes that the Client Coordinator, Client representatives including the Site Manager used good faith in answering questions and in obtaining information for the subject facility. This would also include obtaining those helpful documents from previous consultants, etc. EDS also assumes the Client will designate appropriate and knowledgeable people for performance of the Phase II Environmental Assessment including the Site Managers if required in the future.

3. SCOPE OF WORK:

The scope-of-work for this investigation was consistent with the Environmental Management Planning Practice and SANS and was designed to meet the objective above by performing the following tasks:

- Environmental Records (i.e., EMP and previous audit report) Review;
- Site Reconnaissance; and
- Interviews.

Each of these tasks is more specifically described in greater detail below.

Task 1: Records Review

EDS examined reasonably available records namely the environmental scoping study performed in 2017 by Geo Pollution Technologies CC and other environmental reports produced in the Hosea Kutako International Airport area to evaluate current and historic activities that suggest the potential for recognized environmental conditions at the site. The specific items implemented under this task were as follows:

- Review databases of national and/or local agencies to identify past and current activities at the site, to the extent possible, with respect to the generation, treatment, storage, disposal and/or release of hazardous substances and/or petroleum products;
- Review and summarize of at least one of the following readily available sources: historic topographic maps, aerial photographs, and/or other historic data of the site to identify previous uses; and
- Review of available national and/or local publications regarding hydrogeology.
- Review of available national and/or local publications regarding health and safety.

Task 2: Site Reconnaissance

EDS conducted a site reconnaissance of the facility to identify recognized environmental conditions as indicated by:

- Stained or disturbed soils and/or pavement;
- Stressed vegetation;
- Sheen or iridescence on surface water;
- Unusual odors;
- Unusual corrosion;
- Drums and containers;
- Storage tanks;
- Pits, ponds, pools, drains and sumps;
- Landfilling;
- Spills or releases;
- Storage, treatment and/or disposal of hazardous substances and/or petroleum products;
- Wastes generated at the subject site and associated waste disposal practices;
- Level of EMP knowledge and implementation status quo; and
- Health, safety, and environment (HSE) preparedness

EDS performed a visual reconnaissance of adjacent properties and observed for similar obvious concerns referenced above. Additionally, the general surrounding area land usage was observed to the extent identified while accessing the fuel retail facility.

Task 3: Interviews

EDS contacted the client site representative(s) and readily available knowledgeable persons to obtain information indicating recognized environmental conditions in connection with past operations at the facility.

4. SITE DESCRIPTION

4.1 Subject Facility

Fuel Retail Facility is located at coordinates: 22°29'22.89"S; 17°27'53.67"E within the extended Windhoek Municipal Area in the Khomas Region.

4.2 Adjoining and Surrounding Properties (to the extent identified)

The neighbouring businesses are a tyre repair facility towards the north and car rental companies towards the south to southeast. All major infrastructure and facilities nearby belong to or are under the control of Namibia Airports Company.

5. PHYSICAL SETTING

5.1 General Topographic Setting

The site has a gentle slope to the east. The landscape is classified as being in the Khomas Hochland Plateau region, having rolling hills in the west with many summit heights equivalent reflecting older land surfaces. The site is located within the catchment of the Auob River, an ephemeral river, draining in an Eastern direction.

5.2 Surface Water

Local surface drainage is in an east –northeastely direction into the Seeis River, a tributary of the Auob River.

5.3 Geology /Hydrology

Geologically, the project area is located in the Hohewarte Complex that are of Mokolian Age, see Figure 9. The Hohewarte Complex form part of the Seeis-Rietfontein basement inliers which occurs within the Southern marginal Zone of the younger Damara Supergroup. Subsurface geology in the

area consists of para-/orthogneiss, metasedimentary rocks, granite and metabasite dykes. The surface cover at the airport consists mainly of sand, and no outcrop is visible at the site.

The site falls in the South-eastern Kalahari Groundwater Basin. Groundwater flow from the site can be expected into an easterly to south-easterly direction. Groundwater in the area is mainly used for farming purposes with at least 32 boreholes known of within a 5 km radius, of which most of them are drilled along the banks of the Seeis River. Water quality in area can be described as good and range between group A and group B of the Namibian guidelines for the evaluation of drinking- water, with some elevated levels of nitrate. This area does not fall within a Water Control Area, however groundwater remains the property of the Government of Namibia.

6. RECORD REVIEW

6.1 Environmental Records Review

Environmental records (environmental audit report) from the from the previous environmental professional were obtained for EDS by the Project Coordinator (Client).

6.2 Historical Information Review

The following historical use information was reviewed:

6.2.1 Historical Topographic Map

EDS reviewed a historical topographic map of the facility and surrounding properties for using a google earth platform. No special hazards, such as sinkholes, gravel pits, landfills, pipelines, open pits, stockpiled soils and spurs, were indicated on the facility.

6.2.2 Previous Environmental Reports

No previous environmental audit assessment was conducted for the facility since the issuing of the ECC in 2017. Therefore, no RECs were reported on until this audit stage.

Based on the environmental scoping report, EDS prepared a site assessment checklist for work carried on 2 August 2022.

7. DATA GAPS

After reviewing the above sources of information regarding the historical information on the facility, EDS determined that there were no data gaps that would affect the ability of the environmental professional involved on this project to identify RECs in connection with the facility except the absence of the Environmental Management Plan.

8. INTERVIEWS AND SPECIALIZED KNOWLEDGE

8.1 Facility Representative Interview

An interview was held with the Site Manager and the Proponent representatives from the head office in Windhoek comprising of the Environmental Coordinator and the SHEQ Acting Manager. The site manager was not aware of any other environmental issues with the facility and was not aware of any environmental violations or liens on the facility and indicated that he had no knowledge of any storage, handling or dumping of hazardous materials on the facility.

8.*2 Specialized Knowledge and Reason for Completing Phase I Audit*

Pursuant to EMA 2007, EDS asked a representative of the user of the report, the owner of the Facility, if he had any specialized knowledge of environmental conditions associated with the Subject Facility. EDS requested that he provide a completed environmental checklist that is included in **Appendix B**.

9. SITE RECONNAISSANCE

EDS conducted a site visit of the Facility and observed the condition of the facility on August 2, 2022. A depiction of the Facility and surrounding area configuration is provided in the Figures 1. Weather conditions at the time of the site reconnaissance were sunny. The visual reconnaissance consisted of observing the fuel storage tanks and systematically traversing the site to provide an overlapping field of view, wherever possible. The periphery of the on-site structures was observed along with interior accessible common areas, fill points and the forecourt areas.

During the facility reconnaissance, EDS looked for the following items, which could indicate the potential presence of RECs on the Facility.

- ***Hazardous Substances and Petroleum Products in Connection with Identified Uses***

No significant use or generation of hazardous substances is known to occur at the Facility. No manufacturing, fabrication or assembly operations are conducted on the facility.

- ***Odors***

No strong, pungent or noxious odors were noted or reported that would indicate the potential for RECs at the Facility were noted emanating from either the Facility or an adjacent facility.

- ***Pools of Liquids***

No pools containing liquids likely to be hazardous substances or petroleum products were observed or reported on or adjacent to the Facility.

- ***Drums & Hazardous Substance, Petroleum Products and Unidentified Substance Containers***

No drums containing liquids likely to be hazardous substances or petroleum products were observed or reported on or adjacent to the Subject Facility.

- ***Heating and Cooling Source***

The office area is heated by electricity supplied by NAMPOWER (through NAC) and cooled by a window-installed air conditioners located at the rear of the office/shop building.

- ***Interior Stains or Corrosion***

No evidence of stains or corrosion on the floors, walls or ceilings at the Facility were noted or reported.

- ***Drains and Sumps***

No evidence of sumps was observed.

- ***Pits or Ponds***

The site has a separator pit. No ponds associated with hazardous substance, petroleum products or industrial activities at the Facility.

- ***Stained Soil & Pavement***

Stained pavement was observed or reported at the Facility.

- ***Stressed Vegetation***

No areas of stressed vegetation were observed or reported on or adjacent to the Facility.

- ***Solid Waste***

EDS did not observe any areas that appeared to have been filled or graded that would suggest the presence of waste including, but not limited to, construction debris, demolition debris or other solid waste. No improperly stored solid waste was noted.

- ***Wastewater***

No operations, likely to require a significant wastewater discharge, were noted or reported. Waters that enter the sanitary system go to the airport's waste collection facilities.

- ***Wells***

No drinking water wells, dry wells, irrigation wells, injection wells, abandoned wells or other wells were observed or reported.

- ***Septic Systems***

EDS did not observe any on-site septic systems

- ***Copy of EMP***

There is not copy of EMP or EMP training manual on site

10. RECOMMENDATIONS AND CONCLUSIONS

EDS has performed an Environmental Site Audit, in conformance with the Scope of Work developed in cooperation with the client and the provisions of EMA 2007. This assessment has revealed no evidence of RECs in connection with the Facility.

A de minimis condition is a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. This assessment has revealed no evidence of de minimis conditions.

An historical recognized environmental condition (HREC) refers to an environmental condition which would have been considered a REC in the past, but which is no longer considered a REC based on subsequent assessment and/or remediation of any contaminants to below the most restrictive (generally residential) cleanup target concentrations or regulatory closure with no formal or implied restricted uses. The assessment has revealed no evidence of HRECs in connection with the Facility except for the following:

No significant data gaps were identified that would affect the ability of the environmental professional to identify RECs at the Facility.

It is possible for there to be business environmental risks (BERs) related to facility operations that do not meet the definition of a REC. This assessment has revealed no evidence of BERs associated with the daily operations

Based on the information provided in this report, EDS recommends that No Further Action is required at the Facility, and that the MEFT considers renewal of the ECC.

11. LIMITATIONS

No environmental assessment or investigation is infallible. Some uncertainty will always exist concerning the presence or absence of potential Recognized Environmental Conditions at a particular facility, irrespective of the rigor of the investigation. Accordingly, EDS does not warrant

that Recognized Environmental Conditions, other than those identified in this report, do not exist at the subject facility or may not exist there in the future.

The findings and opinions presented in this report are partially based on information obtained from a variety of sources which EDS has no control over but believes are reliable. Nonetheless, EDS does not warrant the authenticity or reliability of the information from these sources.

EDS believes that it has performed the services summarized in this report in a manner consistent with the level of care and skill ordinarily exercised by members of the environmental risk assessment profession practicing at the same time and under similar conditions in the area of the project.

Conclusions regarding the condition of the site do not represent a warranty. If additional information becomes available concerning this site after the date of this report, EDS is under no obligation to revise the conclusions and recommendations of this report.

APPENDIX B: Site Audit and Inspection Checklist

INSPECTION FOCUS AREA	COMMENT
FORECOURT	
Tank tops empty of water	
Tanks with caps, locks and grade labels	
Offset fills with caps, locks and grade labels	
Vapour recovery with caps, locks and warning signs	
Oil/water separators clean and free from debris	
DISPENSERS	
Panels free of leaks and seals in good condition	
Waste disposal area is clean and regularly cleared	
Fire extinguishers and sand buckets present at each dispenser island	
All public warning and information labels are posted	
Car wash area (if any) is clean and free of hazards	

Tank vents free of debris	
No audible noise from vent valves during delivery	
GENERAL AREAS	
Emergency doors free from obstruction and open outwards	
Emergency stop button working	
PA in working condition	
Electrical cupboard free of combustibles and locked	
Fire action notice displayed and complete	
Assembly point sign displayed	
OFFICE AREA	
Petroleum licence available with plans (expiry date)	
DCD licence available	
Vapour recovery authorisation (expiry date)	
Electrical test available and current	
Petroleum filling station register up-to-date and complete	

EMP/Risk assessments complete and up-to-date	
EHS Policy Statement is prominently displayed	
Emergency telephone numbers are up-to-date and displayed	
Accident book available and used (review trends)	
First aid box complete and clean	
Good housekeeping standards are maintained	
All weekly checklist actions are completed as planned	
Vapour recovery maintenance log available	
Vapour recovery instructions available	
Dispenser Islands	
Visually check dispenser housings internally for fuel	
Check hoses for kinks and damage	
Check nozzle cut-off device is working	
Individual dispenser isolation switches are working	
Pipework & Vent Pipes	

Remove any shrubs around vent pipes etc. within a 3 metre radius	
Check all pipes are adequately labelled	
Check the condition of pipes and valves for signs of leaks, corrosion or damage	
Storage Tanks & Fill Points	
Check tanks for water build up	
Check tank top manholes free from water, product and are adequately labelled	
Check tank fill pipes are locked	
Check below ground offset fill point chambers are free from product, debris and labelled adequately	
Check manhole covers are seated correctly and can easily be lifted using appropriate lifting device	
Lighting Levels	
Check lighting levels are adequate in all areas, tankfarm, forecourt, office and shop	
Fire Fighting Equipment & Emergency Equipment	

Check that all fire extinguishers are present, fully charged and the correct number are present with no signs of damage	
Check sand buckets are full of dry sand and test fire alarms are working	
Check emergency switches (panic button) and loudspeaker system are functioning properly	
Check contents of first aid box are all present and correct	
Warning / Advice Notices	
Check all notices are posted as required, are undamaged, clean and legible	
Oil/Water Separator	
Check all chambers for the presence of petrol / oil and build up of grit and debris.	
Check drains are not blocked or full	
COMPLETED BY: (Signature)	

APPENDIX C SITE PHOTOS (CAPTURED BY THE PROPONENT REPRESENTATIVE)


FIRE
Client's Bin
Service by
RENT-A-DRUM
ENGINE OIL
CONTAINERS
DISPOSAL