



RED-DUNE CONSULTING CC

## Application No: APP-001388

APPLICATION FOR THE **RENEWAL** OF ENVIRONMENTAL CLEARANCE  
CERTIFICATE FOR EHANGANO FILLING STATION AT ONANDJABA  
SETTLEMENT, OKALONGO CONSTITUENCY, OMUSATI REGION



### CONSULTANT:

Mr. Ipeinge Mundjulu (BSC, MSc)

Red-Dune Consulting CC

P O Box 27623

Cell: +264 81 147 7889

### PROPONENT

Mr. T. Kandjaba

Ehangano Filling Station

P O Box 747

Oshakati



RED-DUNE CONSULTING CC

## DOCUMENT INFORMATION

<b>DOCUMENT STATUS</b>	<b>UPDATED EMP</b>
<b>APPLICATION NO:</b>	
<b>PROJECT TITLE</b>	<b>Renewal</b> Of Environmental Clearance Certificate For Ehangano Filling Station
<b>CLIENT</b>	Mr. T. Kandjaba
<b>PROJECT CONSULTANT</b>	Mr. Ipeinge Mundjulu
<b>LOCATION</b>	Onandjaba Settlement, Okalongo Constituency, Omusati Region

## ACRONYMS

<b>DEA</b>	Department of Environmental Affairs
<b>EA</b>	Environmental Assessment
<b>EAP</b>	Environmental Assessment Practitioner
<b>ECC</b>	Environmental Clearance Certificate
<b>ECO</b>	Environmental Compliance Officer
<b>EIA</b>	Environmental Impact Assessment
<b>EMA</b>	Environmental Management Act (No. 7 of 2007)
<b>EMP</b>	Environmental Management Plan
<b>MET</b>	Ministry of Environment and Tourism
<b>PPE</b>	Personal Protective Equipment
<b>RD</b>	Red-Dune Consulting CC
<b>SM</b>	Site Manager

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## **Acknowledgements**

The renewal of an Environmental Clearance Certificate follows an existing Environmental Management Plan (EMP) that was approved by the approving authority. Red-Dune consulting has reviewed the EMP for purposes of renewing the Environmental Clearance Certificate. Red-Dune Consulting hereby acknowledges the existing EMP.

After the review of the existing EMP, it was necessary for a comprehensive update of the EMP, since an EMP is living document and has to adapt to changing times and environment.

## **Executive summary**

Ehangano filling station is a fuel retail facility located at Onandjaba settlement of Okalongo constituency, in Omusati region. The filling station has been in operation for over ten years. The filling station was initially issued with an environmental clearance certificate on 7<sup>th</sup> July 2017. In accordance with the Environmental Management Act (Act No 7 of 2007) the duration of environmental clearance certificate remains effective for a period not exceeding three years which is subject to cancellation or suspension. This provision obliges Ehangano filling station to apply for the renewal of environmental clearance certificate which is due to expire on 7<sup>th</sup> July 2020.

Overall, the environmental audit undertaken by Red-Dune Consulting on 29<sup>th</sup> April 2020 found the service station to be complying with the existing EMP. Minor non-compliance, such as the resting place for employees, provision of storm water, were noticed and rectified during the audit. In the end, this study recommends the renewal of the environmental clearance certificate for Ehangano filling station.

## 1. Introduction

Ehangano filling station is located at Onandjaba settlement of Okalongo Constituency in Omusati region (-17.444592, 15.331023). Like any other typical fuel retail facility, the service station has four canopy over pumps (forecourt), underground oil storage tanks, employees resting room and ablution facilities (Figure 1).



**Figure 1.** Forecourt and employees resting room

## 2. The environmental audit

An environmental audit was undertaken on 29<sup>th</sup> April 2020 by Red-Dune Consulting. Overall, the filling station was found to be complying with the environmental management plan (EMP) and general industry's practises. Few shortcomings were found as follows;

- **Employees were found to resting on the forecourt instead of the designated room.** Research has found that, fuel releases pollutants such as volatile organic compounds (VOCs) which is known to be harmful on human health. A group known as BTEX (benzene, toluene, ethylbenzene and the three isomers of xylene) is hazardous to human health and the environment. The International Agency for Research on Cancer (IARC) classified benzene as “carcinogenic to humans,” as it causes acute myeloid leukaemia (AML). With this finding, it is NOT recommended for employees to rest next to the fuel pumps or forecourt, especially when there is no car to fuel. The designated resting place's chairs are old and requires replacement (Figure 2).



**Figure 2.** The worn out chairs at the resting room

- **The forecourt design does not have provision for storm water drainage and general paving of the surrounding (Figure 3).** Fuel station are recommended to have provision for storm water in order to prevent water sources from contamination. With this finding, the service station management indicated that, they are at advance stage of paving the surrounding area and repair the forecourt that will accommodate a storm water system.



**Figure 3.** The concrete forecourt

### **3. The Environmental Management Plan**

This environmental management plan (EMP) plan is developed following the review of the existing EMP for the operation of Ehangano filling station. The proposed mitigation measures are practical and were developed with high level of certainty.

For ease reference, non-compliance in the EMP table are written in red, addition to the EMP highlighted in grey colour.

#### **3.1. Purpose of the EMP**

This (EMP) is a risk strategy that contains logical framework, monitoring programme, mitigation measures, and management control strategies to minimize environmental impacts. It further stipulates the roles and responsibility of persons involved in the project. These strategies are developed to reduce the levels of impacts for the projects.

#### **3.2. Compliance to the EMP**

This EMP is a legally binding document as given under the provisions of the Environmental Management Act, 2007 (Act No. 7 of 2007). Ehangano filling station and its contractors must adhere to the framework of this document.

#### **3.3. Roles and Responsibilities**

##### **3.3.1. Proponent**

The proponent (management of Ehangano filling station), shall take overall responsibility for proper implementation of the EMP. It remains the responsibility of the proponent to appoint key personnel for the implementation of the EMP such e.g. Site Manager and ensure that all employees and contractors are familiar with the EMP.



### 3.3.2. Site Manager

The Site Manager (SM) represents the proponent on site. He/she shall be responsible for daily activities in ensuring environmental protection. All communication with regard to the implementation of EMP must be channelled through the SM.

### 3.3.3. Employees

It shall be responsibility of employees to adhere to the provision of EMP. At all times when on site, employees are expected to ensure their safety by wearing personal protective equipment clothing, report worn out PPE and request for replacement.

### 3.3.4. Environmental Compliance Officer

Compliance to EMP is enforce by the Environmental Compliance Officer (ECO) or the environmental inspector as provided for under Environmental Management Act (No. 7 of 2007)

### 3.3.5. Disciplinary Action

This EMP is a legally binding document, non-compliance to the EMP is punishable in accordance to the provisions of EMA.

#### 4. Policy and legal framework

The operation shall be subject by the following national and international laws (Table 1).

**Table 1.** Policy and Legal framework governing the project

Legislation	Summary	Applicability
<b>The Namibian Constitution</b>	The Namibian constitution is the supreme law of the country which is committed to sustainable development. Article 95(1) of the Constitution of Namibia states that:- “The State shall actively promote and maintain the welfare of the people by adopting policies aimed at ... The maintenance 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”.	Contact an EIA to maintain the ecological process and diversity of the project area
<b>The Environmental Management Act</b>	The Environmental Management Act No 7 of 2007 aims to promote the sustainable management of the environment and the use of natural resources and to provides for a process of assessment and control of activities which may have significant effects on the environment; and to provide for incidental matters. The acts provides a list of activities that may not be undertake without an environmental clearance certificate.  Further, the Act ensures that;  (a) Potential threats are considers timeously	Statutory requirement of the EIA and guidelines

Legislation	Summary	Applicability
	<p>(b) A comprehensive stakeholder's consultations is conducted and all Interested and affected parties are given an opportunity to comment on the project</p> <p>(c) Decision are robust by taking into account the above mentioned activities</p>	
<p><b>Draft Pollution Control and Waste Management Bill</b></p>	<p>This Bill serves to regulate and prevent the discharge of pollutants to air and water as well as providing for general waste management. The Bill will repeal the Atmospheric Pollution Prevention Ordinance (11 of 1976) when it comes into force. The Bill also provides for noise, dust or odour control that may be considered a nuisance. Further, the Bill advocates for duty of care with respect to waste management affecting humans and the environment and calls for a waste management licence for any activity relating to waste or hazardous waste management.</p>	<p>Management of Waste, such as sewer and solid waste.</p>
<p><b>Atmospheric Pollution Prevention Ordinance Act No.11 of 1976)</b></p>	<p>This Ordinance serves to control air pollution from point sources, but it does not consider ambient air quality. This ordinance is being repealed by the proposed Pollution Control and Waste Management Bill. Any person carrying out a 'scheduled process' which are processes resulting in noxious or offensive gases typically pertaining to point source emissions have to obtain a registration certificate from the Department of Health.</p>	<p>Although it not anticipated for the fuel station to generate excessive noxious or offensive gasses, the proponent will ensure that best industry practises are followed.</p>

Legislation	Summary	Applicability
<b>Environmental Policy framework (1995)</b>	This policy subjects all developments and project to environmental assessment and provides guideline for the Environmental Assessment. Its provision mandate that Environmental Assessment take due consideration of all possible impacts and incorporate them in the development or planning stages.	General requirement of the EIA and guidelines
<b>The Occupational Safety and Health Act No. 11 of 2007;</b>	<p>Safety: A safety risk is a statistical concept representing the potential of an accident occurring, owing to unsafe operation and/or environment. In the working context “SAFETY” is regarded as “free from danger” to the health injury and to properties.</p> <p>Health: Occupational Health is aimed at the promotion and maintenance of the highest degree of physical, mental and social wellbeing of workers in all occupations. This is done by ensuring that all work-related hazards are prevented and where they occur, managed.</p>	<p>Handling of dangerous good, fire and explosion risk</p> <p>In order to maintain good and healthy standards, at the work place, cleanliness, adequate sanitary facilities, protection against dangerous substances as well as education and training of both workers and management is necessary.</p>
<b>Public Health Act No. 36 of 1919</b>	The Act serves to protect the public from nuisance and states that no person shall cause a nuisance or shall suffer to exist on any land or premises owned	The proponent should ensure that the fuel station and its associated infrastructure is

Legislation	Summary	Applicability
	or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.	designed in a way that is not unsafe, or injurious or dangerous to public health and that any emissions which could be considered a nuisance remain at acceptable levels.
<b>Water Resources Management Act (2004)</b>	This Act provides a framework for managing water resources based on the principles of integrated water resources management. It provides for the management, development, protection, conservation, and use of water resources. Furthermore, any watercourse on/or in close proximity to the site and associated ecosystems should be protected in alignment with the listed principles.	Construction activities would be conducted in accordance with the principles set out here in order to minimise any adverse effects to underground water resources
<b>Water Act No, 54 of 1956</b>	This act states that, all water resources belongs to the State. It prevents pollution and promotes the sustainable utilization of the resource. To protect this resources, this act requires that permits are obtained when activities involve the following; <ul style="list-style-type: none"> <li>(a) Discharge of contaminated into water sources such as pipe, sewer, canal, sea outfall and</li> <li>(b) Disposal of water in a manner that may cause detrimental impact on the water resources</li> </ul>	Prohibition of contaminated water in the water body

Legislation	Summary	Applicability
<b>Petroleum Product and Energy Act No, 13 of 1990</b>	This Act provides a framework for handling and distribution of petroleum products which may include purchase, sale, supply, acquisition, possession, disposal, storage or transportation thereof.	Safe handling of the fuel
<b>Labour Act No. 6 of 1992</b>	This Act aims to regulate labour in general and includes the protection of the health, safety and welfare of employees. The 1997 Regulations relating to the Health and Safety of employees at work sets out the duties of the employer, welfare and facilities at the workplace, safety of machinery, hazardous substances, physical hazards, medical provisions, construction safety and electrical safety.	No employer shall require or permit an employee to work in an environment that is deemed unfit without protective measures in place.
<b>Regional Council Act, 1992 (Act No. 22 of 1992)</b>	The Regional Councils Act legislates the establishment of Regional Councils that are responsible for the planning and coordination of regional policies and development. The main objective of this Act is to initiate, supervise, manage and evaluate development at regional level.	Adhere to regional by laws
<b>Hazardous Substances Ordinance No. 14 of 1974</b>	This ordinance gives provision to control the handling of hazardous substance in all circumstances, such as manufacturing, imports and exporting of these to ensure human and environmental safety.	Handling of fuel, Fire and explosion risks
<b>Word's Best Practises</b>	<u><i>Precautionary Approach Principle</i></u>	Fuel retail facilities are well document in Namibia. However, fuel contains Volatile Organic Compounds (VOCs) which may be

Legislation	Summary	Applicability
	<p>This principle is worldwide accepted when there is a lack of sufficient knowledge and information about the possible threats to the environment. Hence if the anticipated impacts are greater, then precautionary approach is applied. In this project, there are no eminent uncertainty however in cases when they arise, this approach should be applied.</p> <p><b><u>Polluter Pays Principle</u></b></p> <p>This principle ensures that proponents takes responsibility of their actions. Hence in cases of pollution, the proponent bears the full responsibility to clean up the environment.</p>	<p>cancerous and their amount that causes cancer are poorly documented. Therefore, precaution must be taken when dispensing fuel to vehicles.</p> <p>In the event of an accident, where spillage may occur, the establishment owner must be responsible to clean up the environment.</p>

## 5. The EMP table

The EMP is divided into three components; Physical Environment, Biological Environment, and Human Environment. This is to ensure for easy implementation.

### 5.1. Operational phase

#### 5.1.1. Human environment

<b>Environmental / Social Impact</b>	<b>Objectives</b>	<b>Proposed Mitigation Measures</b>	<b>Monitoring Indicator</b>	<b>Party Responsible</b>
<b>Employment</b>	To ensure that locals benefit from the employment opportunities to be created during construction.	<ol style="list-style-type: none"> <li>1. Ensure that all general work is reserved for local people unless in circumstances where specialized skills are required.</li> <li>2. Fair compensation and labour practises as per Namibian Labour Laws must be followed</li> <li>3. All employees must go through an induction course for the provision of the EMP</li> </ol>	<ul style="list-style-type: none"> <li>• Employees record Labour unrest over unfair compensation</li> <li>• Induction minutes, reports and attendance registers</li> </ul>	Site Manager



Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
<b>HIV/AIDS, Alcohol and Drug Abuse</b>	To sensitise employees about the dangers of alcohol, drugs and HIV/AIDS	<ol style="list-style-type: none"> <li>4. Provide awareness to the employees on dangers of HIV/AIDS, alcohol and drug abuse</li> <li>5. Provide condoms on site</li> </ol>	<ul style="list-style-type: none"> <li>• Awareness meeting minutes</li> </ul>	Site Manager
<b>Health</b>	To ensure good health and safety of the employees and public. Fuel releases pollutants such as volatile organic compounds (VOCs) which is known to be harmful on human health. A group known as BTEX (benzene, toluene, ethylbenzene and the three isomers of xylene) is hazardous to human health and the environment. The International Agency for Research on Cancer (IARC) classified benzene as “carcinogenic to humans,” as it	<ol style="list-style-type: none"> <li>1. Abide to the Occupational Health and Safety and Labour Act of Namibia and other statutory requirements such as International Labour Practise (ILO)</li> <li>2. Train employees on the possible health hazards to avoid potential risks</li> <li>3. To reduce pressure in the fuel tank, appropriate mechanical ventilation systems must be installed and properly maintained. This significantly reduce the pressure from the pump nozzle and consequently reduces the amount inhaled;</li> <li>4. <u>In the absence of vehicle to be refuelled, workers must not rest next to the pumps.</u></li> </ol>	<ul style="list-style-type: none"> <li>• Training minutes</li> <li>• Complaints of health issues by employees</li> <li>• Physical inspection</li> </ul>	Site Manager

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
	causes acute myeloid leukaemia (AML)	<p><u>this helps in reducing long term exposure to the VOCs;</u></p> <p>5. Motorist must always switch their engine off at the service station, to prevent less emission from their vehicle exhaust;</p> <p>6. <u>Employees must go for annual health checks ups.</u></p>		
<b>Safety, Fire and explosion risk</b>	Hydrocarbons are highly flammable, hence the risk of fire and explosion.	<ol style="list-style-type: none"> <li>1. Provide appropriate Personal Protective Equipment (PPE) to each employee which includes helmets, overalls, safety shoes, etc</li> <li>2. Ensure that every employee goes through an induction course about safety</li> <li>3. Staff must be properly trained on how to react and handle fire</li> <li>4. There must be automatic fire alarm system installed at the site</li> </ol>	<ul style="list-style-type: none"> <li>• PPE for all employees</li> <li>• Licensed personnel operation specialized equipment</li> <li>• Safety signs on site</li> <li>• Clear emergency toll free numbers (i.e. Okalongo Police)</li> </ul>	Site Manager

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
		5. Firefighting equipment must be on site 24hours and regularly inspected to ensure that they are working 6. <u>Emergency response numbers must be on clear and visible space</u> 7. <u>There must be clear hazard signs “NO OPEN FIRE” “NO SMOKING” “SWITCH ENGINE OFF”</u> 8. <u>There must be drills to test staff about their readiness to fight the fire</u>		
<b>Visual Impact</b>	To prevent litter/waste scattered all over and preserve aesthetic value	1. Maintain good house keeping	<ul style="list-style-type: none"> <li>Scattered litter, visual inspection</li> </ul>	Site Manager

5.1.2. Bio-Physical Environment

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
<b>Land Degradation</b>	To prevent soil erosion	1. <u>It is recommended that the surrounding area is paved to prevent land degradation by vehicles that are frequenting the filling station</u>	<ul style="list-style-type: none"> <li>Physical inspection</li> </ul>	Site Manager
<b>Oil spills</b>	Oil spills by overfilling of vehicles during fuelling and leakages of underground tanks are threats to ground water through percolation. Further wastewater used to wash the surfaces are contaminated and may percolate through the soil.	<ol style="list-style-type: none"> <li>Staff must be properly trained to avoid overfilling of vehicles.</li> <li>The fuelling pipes nozzle must be fitted with a spill detector</li> <li>The fuelling tanks must be installed on concrete bund</li> <li>The underground must be lined to prevent seepage in case of leakage</li> <li><u>Waste water from the cleaning the surface must be disposed of at appropriated site,</u></li> <li><u>Install atleast four monitoring well on both direction of the facility for underground pollution monitoring</u></li> <li>Provide and train on oil spill emergency</li> </ol>	<ul style="list-style-type: none"> <li>Physical inspections</li> </ul>	Site Manager

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
		response		
<b>Underground tanks oil leakage</b>	To prevent fuel leakages from the underground tanks	<ol style="list-style-type: none"> <li>1. There must be a stock taking reconciliation measure that ensures that the fuel sold always reconcile with the fuel brought in. This will help in detecting possible leaks;</li> <li>2. As Indicated earlier, there must be four monitoring well on both direction of the facility for underground pollution monitoring;</li> <li>3. The underground pit were fuel tanks are stored must be lined to prevent seepage in case of leakage;</li> <li>4. The installation of underground tanks must comply with SANS and national standards</li> </ol>	•	
<b>Storm water contamination</b>	To prevent surface water contamination. During rain, there is likely to be run off the water from forecourt and areas where fuel is handled. This run	<ol style="list-style-type: none"> <li>1. The service station design must ensure surface spills does not flow to surface water.</li> <li>2. <u>There must be a drainage system that caters for the collection of the spills;</u></li> <li>3. <u>The forecourt must have a gradient design to prevent uncontrolled water run offs.</u></li> </ol>	Visible storm water system	

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
	off may reach surface water sources.	4. <u>Ensure drainage receiving point are clear of any litter/object that may block the run off</u>		
<b>Waste Generation</b>	To ensure good housekeeping and prevent littering	<ol style="list-style-type: none"> <li>1. Keep ablution facilities clean</li> <li>2. Provide waste bins for general waste</li> <li>3. General waste must be separated from hazardous waste;</li> <li>4. Hazardous waste must be disposed of at an approved site;</li> <li>5. The Waste Bin for oil cans must be clearly marked Hazardous</li> </ol>	<ul style="list-style-type: none"> <li>• Waste bins on site</li> <li>• Physical inspection</li> </ul>	Site Manager

## **6. Closure / Decommissioning Plan**

At the end of the project life cycle or demolition, excessive care must be taken during the removal of underground tanks, pipes and other installation. To ensure human safety and the environment, the following must be undertaken;

1. Prior to decommissioning, the proponent must inform the office of the Environmental Commissioner;
2. All work must be supervised by qualified and competed engineers. It is recommended that an environmental specialist be hired to monitor any possible contamination during decommissioning;
3. The project areas must be cordoned off with a danger tape;
4. There must be clear signs to the public about the closure of the project;
5. During the removal of tanks, ensure that all tanks are empty of hydrocarbons and all contaminated metals must be properly cleaned before their disposal;
6. The contractor must use the right tools and equipment;
7. Workers must be provided with all necessary PPE;
8. All wasted generated must be disposed of approved sites;
9. Underground bulk installation must be removed;
10. After the removal of the tanks, the pit must be left open. Soil samples must be taken from the pit to investigate any possible contamination. In cases where contamination occurred, the soil in the pit must be dug out and disposed of to an approved site;
11. Project decommissioning must not take place during the rainy season;
12. The site must be rehabilitated and flattened;
13. All relevant authorities must be notified about the demolition;

## **7. Conclusion and Recommendations**

### **7.1. Conclusions**

Since the operation of the service station, there has never been a major oil spill, or public complain about contaminated water. The forecourt needs to be upgraded to cater for a storm water system. Employees must all wear protective clothes at all time during working hours (Overalls and safety shoes). The employees resting place must be repaired to ensure employees do not rest on pump canopies. Overall, there are not major non-compliance that may warrant halting the operation of the service station.

### **7.2. Recommendations**

This study recommends to the approving authority the followings;

- Renewal of the Environmental Clearance Certificate for the continued operation of Ehangano filling station



## **8. References:**

1. South African National Standards (SANS)