

ENVIRONMENTAL MANAGEMENT PLAN

FOR THE
PROPOSED MELODY SERVICE STATION
IN OSHIGAMBO VILLAGE IN ONIIPA CONSTITUENCY,
OSHIKOTO REGION



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Prepared by:

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Prepared for:

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Client

Name	Position/ Role	Address
Melody Trading cc	Melody Service Station (Proponent)	P. O Box 340 Ondangwa

LIST OF ABBRECIATIONS

TERM	DEFINITION
ECO	Environmental Control Officer
RoD.	Record of Decision
EO	Environmental Officer
RE	Resident Engineer
ELO	Environmental Liaison Officer
PPE	Personal Protective Equipment
EMP	Environmental Management Plan
EIA	Environmental Impact Assessment
USTs	Underground Storage Tanks

1. INTRODUCTION AND BACKGROUND

Melody Trading cc proposes to construct and operate a fuel retail facility outlet with the name (Melody Service Station) in Oshigambo village, in Oniipa Constituency in the Oshikoto Region. The retailer intends to supply fuel to the general public.

Therefore, Nghivelwa Planning Consultant has been appointed to conduct an Environmental Impact Assessment and Environmental Management Plan (EMP) for the proposed Melody Service Station at Oshigambo village along the M121 main road. The Environmental Impact Assessment has been conducted to meet the requisites of Namibia's Environmental Management Act (No. 7 of 2007) and Petroleum Products and Energy Act (Act No. 13 of 1990).

The purpose of the EMP report is to proactively address potential problems before they occur. This will ensure that unnecessary damage to the environment during the construction phase is avoided. Moreover, mitigation measures will be implemented to minimize environmental degradation.

This EMP Report was prepared by the following environmental consultants:

Name of representative of the EAP	Education qualifications	Professional affiliations
Elina SP Vakuwile	B-tech Environmental Management	Environmental Scientist (EAPAN Member)

See Appendix D for preparers' resumes

2. PROJECT DESCRIPTION

The proposed activity involves the construction of a Service Station on an intact land, in Oshigambo village 15km from Oniipa Town and 47km from Eenhana Town along the M121 main road in Oniipa Constituency, Oshikoto Region. The proposed new service station will be part of the Melody Trading cc Complex proposed to be

constructed on the site. The GPS coordinates of the location of the proposed project site are (17°47'11.31" S; 16°5'11.61" E).

The site is currently owned by Melody Trading cc. The Proponent intends to undertake the following activities;

- two underground storage tanks (fibre-reinforced resin coated steel tanks):-
 - a) (i) One 46,000-litre capacity underground fuel storage tanks for unleaded petrol
 - b) (ii) One 46,000-litre capacity underground fuel storage tank for 500ppm diesel
 - c) Two pump islands
 - d) Fire protection equipment as per project drawing plans
 - e) Necessary fittings and other works as per the project drawing plans
 - f) Canopied forecourt with dispensing pumps;
 - g) In addition, current practice is to include facilities such as a convenience store and car wash in the overall filling station design.

3. SCOPE

The framework within which this Environmental Management Plan Report (EMP) is developed includes identifying various activities, their occurrence in the construction process and the likely impacts that are associated with those activities. It is therefore necessary to subcategorize the EMP report into Pre-Construction, Construction and Post-Construction activities.

The first category of the EMP report deals with the pre-construction activities identifies the impacts and mitigation measures that will need to be employed before the construction of the proposed project commences.

The second category deals with the construction activities and the mitigation measures that will need to be applied to reduce the severity of the impacts the proposed development may have on the surrounding environment.

The third category discusses the rehabilitation measures that will need to be implemented once the construction is completed, to ensure that the impact of the proposed rehabilitation on the environment is minimized. Furthermore, it will discuss activities that need to be undertaken to ensure that no environmental degradation occurs as a result of the project.

The construction, operation and decommissioning phases involves:

- The installation of the new fuel storage facilities.
- Installation of fuel network pipelines and associated dispensing points.
- Transport of fuel with road transport tanker trucks.
- Dispensing and reticulation of fuel.
- Removal of tanks, pipelines and dispensing equipment.
- Removal of associated buildings and other infrastructure.

The fuel retail facility will be supplied with fuel via road transport tanker trucks.

This environmental management plan (EMP) aims to take a pro-active route by addressing potential problems before they occur. This should limit the corrective measures needed, although additional mitigating measures might be included if necessary.

4. POLICY AND OTHER RELEVANT LEGISLATIONS

The following are the legal instruments that govern or advocate the construction and operation of a Service Station:

4.1. The Namibian Constitution

The Constitution of Namibia encourages wise and sustainable use its resources. According to Article 95 of Namibia's Constitution provides 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 in a sustainable way for the benefit of all Namibians, both present and future.

Article 95 of Namibia's constitution stipulates that:

"The State shall actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at the following:

(l) management of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future; in particular the Government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory."

This article recommends that a relatively high level of environmental protection is called for in respect of pollution control and waste management.

4.2. Environmental Assessment Policy (1994)

The environmental assessment policy details the principles of achieving and maintaining sustainable development that underpin all policies, programmes and projects undertaken in Namibia. This is related in particular, to the wise utilization of the country's natural resources, together with the responsible management of the biophysical environment, which is intended to benefit both present and future generation. The policy also provides guidance on undertaking the assessment procedures.

It further provides a guideline list of all activities requiring an impact assessment. The proposed development is listed as a project requiring an impact assessment as per the following points in the policy:

- Transportation of hazardous substances & radioactive waste.
- Storage facilities for chemical products.
- Industrial installation for bulk storage of fuels.

The policy provides a definition to the term "environment" - broadly interpreted to include biophysical, social, economic, cultural, historical and political components and provides reference to the inclusion of alternatives in all projects, policies, programmes and plans. Cumulative impacts associated with proposed developments must be included as well as

public consultation. The policy further requires all major industries and mines to prepare waste management plans and present these to the local authorities for approval.

Apart from the requirements of the Draft Environmental Assessment Policy, the following sustainability principles need to be taken into consideration, particularly to achieve proper waste management and pollution control:

4.2.1. Cradle to Grave Responsibility

This principle provides that those who manufacture potentially harmful products should be liable for their safe production, use and disposal and that those who initiate potentially polluting activities should be liable for their commissioning, operation and decommissioning.

4.2.2. Precautionary Principle

There are numerous versions of the precautionary principle. At its simplest it provides that if there is any doubt about the effects of a potentially polluting activity, a cautious approach should be adopted.

4.2.3. The Polluter Pays Principle

A person who generates waste or causes pollution should, in theory, pay the full costs of its treatment or of the harm, which it causes to the environment.

4.2.4. Public Participation and Access to Information

In the context of environmental management, citizens should have access to information and the right to participate in decisions making.

4.3. Environmental Management Act of Namibia (2007)

The Environmental Management Act, No.7 of 2007 specifies the environmental assessment procedures to be followed and the activities that require an EIA. The Act provides a procedure for environmental assessments as indicated under Part VII and Part VIII, which is set out to:

- better inform decision makers and promote accountability in decisions taken;
- strive for public participation and involvement of all sectors of the Namibian community in the environmental assessment process;
- take into account the environmental costs and benefits of proposed policies, programmes and projects;
- take into account the secondary and cumulative environmental impacts of policies, programmes and projects; and
- Promote sustainable development in Namibia, and especially ensure that a reasonable attempt is made to minimize the anticipated negative impacts and maximize the benefits associated with the development.

4.4. Environmental Management Act Regulations (2012)

The Environmental Management Act Regulations have been finalised (February 2012) and have been used as guidance in the compilation of this scoping report. Namibia's Environmental Assessment Policy was the first formal effort in the country to regulate the application of environmental impact assessment. The regulation set out the process to be followed during the compilation of EIA reports as well as the minimum requirements for such reports.

4.5. National Heritage Act No. 27 of 2004

The Heritage Act of 2004 makes provision for the developer to identify and assess any archaeological and historical sites of significance. The existence of any such sites should

be reported to the Monuments Council as soon as possible. The Council may serve notice that prohibits any activities as prescribed within a specified distance of an identified heritage/archaeology site.

4.6. Water Resource Management Act on Namibia (2004)

The Water Resources Management Act, No.24 of 2004 provides for the management, development, protection, conservation, and use of water resources; to establish the Water advisory Council, the Water Regulatory Board and the Water Tribunal; and to provide for incidental matters.

Section 25 imposes an obligation on the Minister responsible for health to ensure that the water supply is healthy and safe.

4.7. Petroleum Products and Energy Act of Namibia (Act No. 13 of 1990)

To provide measures for the saving of petroleum products and an economy in the cost of the distribution thereof, and for the maintenance of a price therefore; for control of the furnishing of certain information regarding petroleum products; and for the rendering of services of a particular kind, or services of a particular standard, in connection with motor vehicles; for the establishment of the National Energy Fund and for the utilization thereof; for the establishment of the National Energy Council and the functions thereof; for the imposition of levies on fuel; and to provide for matters incidental thereto.

Regulated by the Ministry of Mines and Energy

4.8. Pollution Control and Waste Management Bill (guideline only)

The proposed development of the fuel retail facility (Melody Service Station) at Oshigambo village in reference to the above, only applies to Parts 2, 7 and 8 respectively.

Part 2 states that no person shall discharge or cause to be discharged any pollutant to the air from a process except under and in accordance with the provisions of an air pollution licence issued under section 23. And also further provides for procedures to be

followed in licence application, fees to be paid and required terms of conditions for air pollution licences.

Part 7 stipulate that any person who sells, stores, transports or uses any hazardous substances or products containing hazardous substances shall notify the competent authority, in accordance with sub-section (2), of the presence and quantity of those substances.

The competent authority for the purposes of section 74 shall maintain a register of substances notified in accordance with that section and the register shall be maintained in accordance with the provisions.

Part 8 provides for emergency preparedness by the person handling hazardous substances, through emergency response strategies.

4.9. Atmospheric Pollution Prevention Ordinance of Namibia (No. 11 of 1976)

Part 2 of the Ordinance governs the control of noxious or offensive gases. The Ordinance prohibits anyone from carrying on a scheduled process without a registration certificate in a controlled area. The registration certificate must be issued if it can be demonstrated that the best practical means are being adopted for preventing or reducing the escape into the atmosphere of noxious or offensive gases produced by the scheduled process.

Regulated by the Ministry of Health and Social Services

4.9.1. Hazardous Substances Ordinance (No. 14 of 1974)

The Ordinance applies to the manufacture, sale, use, disposal and dumping of hazardous substances, as well as their import and export and is administered by the Minister of Health and Social Welfare. Its primary purpose is to prevent hazardous substances from causing injury, ill-health or the death of human beings.

Regulated by the Ministry of Health and Social Services.

4.9.2. Public Health Act (Act 36 of 1919)

Section 111 makes provision that requires the local authorities to take measures for the prevention of water pollution. Section 119 provides that no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.

Section 120 requires local authorities to take measures for maintaining their district at all times in a clean and sanitary condition and for preventing the occurrence therein of, or for remedying or causing to be remedied, any nuisance or condition liable to be injurious or dangerous to health.

Various forms of nuisances are set out in section 122. For present purposes the following are most relevant:

- a) any dwelling or premises which is or are of such construction or in such a state or so situated or so dirty or so verminous as to be injurious or dangerous to health or which is or are liable to favour the spread of any infectious disease;
- (e) any accumulation or deposit of refuse, offal, manure or other matter whatsoever which is offensive or which is injurious or dangerous to health;
- g) any public building which is so situated, constructed, used or kept as to be unsafe, or injurious or dangerous to health;
- (k) any area of land kept or permitted to remain in such a state as to be offensive, or liable to cause any infectious, communicable or preventable disease or injury or danger to health;
- (l) any chimney (not being the chimney of a private dwelling) sending forth smoke in such quantity or in such manner as to be offensive or injurious or dangerous to health;
- (n) any other condition whatever which is offensive, injurious or dangerous to health.

The local authority may serve a notice on the author of the nuisance. Should the author refuse or fail to comply the local authority must approach a magistrate to lodge a

complaint where upon the latter is required to issue a summons on the author to appear before court.

5. MANAGEMENT PRINCIPLES

These guideline principles will form the basis for environmental management on site. Should these principles require modification or additions during the project this should be done at the discretion of the responsible person, who will ensure that any modifications are communicated, explained to and discussed with all affected parties (i.e. the authorities, Melody Trading/developer, the contractors and service providers, and any affected party who requests this information).

The environmental operational procedures and environmental issues are identified and managed, under different phases of the project. The different phases are:

- Pre-construction (including design);
- Construction Phase;
- Operational Phase; and
- Decommissioning Phase

5.1. Environmental Issues to be Managed

5.1.1. Pre-Construction Phase

- The Ministry of Environment and Tourism (MET) must be notified:
 - Within 30 days, of change of ownership / developer.
 - Of any change of address of the owner / developer.
 - One month prior to commencement of construction activities.
 - One month prior to commencement of operation.
- The owner / developer must ensure to comply with the conditions described in the Record of Decision.

- If required by the Record of Decision, advertise the authorisation for one day for two consecutive weeks in two local newspapers.
- Records of all environmental incidents must be maintained, and a copy of these records be made available to the Ministry of Environment and Tourism (MET) on request throughout project execution.

5.1.2. Construction and Operational Phases

Unless otherwise indicated, the responsibilities of the construction contractor(s) and service providers will adhere to specified EMP actions for the construction phase. During the operational phase, Melody Trading will ensure that the following actions are implemented by establishing accountability and responsibility between the different role players.

5.2. Consultation with Interested and Affected parties (IAPs)

During these two phases the Construction and Operational Phases, it is of great value to establish an open communication channel between the Melody Trading (Melody Service Station)/ the developer, the contractors and IAPs such that any queries, complaints or suggestions can be dealt with quickly and by the appropriate person(s).

6. ROLES AND RESPONSIBILITIES

This section describes the roles and responsibilities of the key stakeholders involved in the development, implementation and review of the EMP. The contractor in this report refers to the Melody Service Station and its appointed contractors.

6.1. Competent Authority

The Department of Environmental Affairs: Ministry of Environment and Tourism is responsible for the review of the EMP documents it is the competent authority.

6.2. Melody Service Station

The role of the applicant is as follows:

Melody Service Station (Melody Trading) as it is the applicant, should hire suitably qualified person(s) and assign them with the responsibility to ensure implementation of the EMP, and should:

- Know the contents and implications of the EIA and monitor the implementation of EIA findings using the EMP.
- Revise the EMP as required and inform the relevant parties of the changes.
- The applicant should Review report regarding the implementation of the EMP and make payments to the Contractor if the EMP is being implemented in a satisfactory manner.
- Give warnings and impose fines and penalties on the Contractor if the Contractor neglects to implement the EMP satisfactorily.
- Protect the environment and rehabilitate the environment as prescribed in the EIA.

6.3. Melody Service Station (Project Manager)

The Applicant will appoint the Project Manager. The role of the project manager will be:

- Liaising directly with the relevant authorities with respect to the preparation and implementation of the EMP and meeting the conditions documented in the environmental clearance certificate.
- Bear the overall responsibility for managing the project contractors and ensuring that the environmental management requirements are met.
- Inform the contractors of the EMP and Environmental clearance certificate obligations.
- Approve all decisions regarding environmental procedures and protocols that must be followed.

- Have the authority to stop any construction in contravention with the EMP and RoD.
- In consultation with the Environmental Control Officer (ECO) has the authority to issue fines for transgressions of basic conduct rules and/or contravention of the EMP.
- Maintain open and direct lines of communication between the proponent, Contractor and Interested and Affected Parties (I&APs) with regards to environmental matters.
- Attend regular site meetings and inspections where required.

6.4. Melody Service Station (Environmental Control Officer)

An Environmental Control Officer (ECO) should be employed by the Contractor. This person should be available for the duration of the construction period and should have appropriate training and experience in the implementation of the EMP and overseeing construction process. This ECO will implement EMP at all levels and sections (sub-contractors) during the construction of the Melody Service Station. The responsibilities of the ECO include the following:

- Assist the Project Manager and Contractor in finding environmentally responsible solutions to challenges that may arise.
- Conduct environmental monitoring as per EMP requirements.
- Monitor performance of the contractors and ensure compliance with the EMP and associated method statements.
- Maintenance, update and review of the EMP.
- Liaison between the contractors, authorities and other key stakeholders on all environmental concerns.
- Validating regular site inspection reports which are prepared by the Contractor's Environmental Officer (EO).
- Checking the EO's record of environmental incidents as well as corrective and preventative actions taken.

- Checking the EO's public complaints register in which all complaints are registered and actions taken thereof.
- Issuing site instructions to the contractors ECO for corrective actions required.
- Assisting with the resolution of conflict.
- Communicate all amendments of the EMP to the relevant stakeholders.
- Conduct monthly audits to ensure that the system for implementing the EMP is effective.

6.5. Contractor's Safety Officer

- Implement the recommendations in the EIA and satisfy the conditions in the RoD.
- Ensure that safety is practiced for all activities on site.
- Prepare and implement safety procedures
- Communicate all safety related issues.

6.6. Contractors

The contractor should appoint the Contractor's representative who is suitably qualified to implement the EMP. The responsibilities of the Contractor include:

- Compliance with the relevant legislation and the EMP.
- Preparation and submission to the proponent through Project Manager the following Management Plans prior to commencing work:
 - Environmental Awareness Training and Inductions;
 - Emergency Preparedness and Response;
 - Waste Management; and
 - Health and Safety.
- Environmental awareness presentations (inductions) to be given to all site personnel prior to work commencement; the ECO is to provide the course

content and the following topics, at least but not limited to, should be covered:

- The importance of complying with the relevant Namibian, International and Best Practice Legislation.
 - Roles and Responsibilities, including emergency preparedness.
 - Basic Rules of Conduct (Do's and Don'ts).
 - EMP: aspects, impacts and mitigation;
 - Fines for Failure to Adhere to the EMP;
 - Health and Safety Requirements.
- Record keeping of all environmental awareness training and induction presentations; and
- Attend regular site meetings and environmental inspections.

6.7. Resident Engineer (RE)

The Resident Engineer (RE) will be appointed by the 'Consultant' and will be required to oversee the construction programme and construction activities performed by the Contractor. The RE is expected to liaise with the Contractor and ECO on environmental matters, as well as any relevant engineering matters where these may have environmental consequences.

7. PHASES OF THE PROJECT

7.1. The Construction Phase

The bulk of the impacts during this phase will have immediate effects (e.g. noise, dust and water pollution). If the site is monitored on a continual basis during the construction phase, it is possible to identify these impacts as they occur. These impacts can then be mitigated through the contingency plans identified in the planning phase, together with a commitment to sound environmental management from the developer.

Impacts	Description	Mitigation	Monitoring	Responsible Body
Generation of waste	<p>This can be in a form of contaminated soil and building rubble.</p> <p>Excavated soil from the installation of the underground tank.</p> <p>Littering</p>	<p>Ensure that no excavated soil, refuse or building rubble generated on site are placed or dumped on surrounding properties or land.</p> <p>Bins/skips shall not be used for any purpose other than waste collection and shall be emptied on a regular basis.</p> <p>The Contractor shall ensure that all litter is collected from the work and camp areas daily.</p> <p>Soil from excavation activities must be reused as fill elsewhere on the site</p> <p>Ensure all hazardous materials are transported to a hazardous waste site for disposal by a licensed removal contractor.</p>	<p>Bins and / or skips should be emptied regularly and waste should be disposed of at a registered landfill site. Engineer / ECO.</p>	<p>Melody Service Station / Appointed Contractor/ECO/Engineer</p>
Groundwater contamination	<p>Minimal groundwater contamination can be caused by leakages of fuel from machinery and heavy-duty vehicles during construction/decommissioning phase. Care must be taken to avoid contamination of soil.</p> <p>Leakage might occur during removal of tanks, dispensing points and associated reticulation pipelines in the decommissioning phase.</p> <p>Stormwater</p>	<p>Proper toilet facilities should be installed at the construction site and at the camping site or alternative arrangements.</p> <p>Drain tanks and pipelines prior to removal. Prevent spillages of any chemical.</p> <p>Drainage must be controlled to ensure that runoff from the site will not culminate in off-site pollution or result in damage to properties downstream of any stormwater discharge, with particular emphasis on the informal settlement located down gradient of the proposed development.</p>	<p>Strict operational times. Regular inspection. By E and ECO</p>	<p>Melody Service Station / Appointed Contractor/ ECO</p>

		<p>The stormwater drainage network system must be kept separate from the waste water (water containing waste) system.</p> <p>Fuel (diesel and petrol) and oil containers shall be in good condition and placed in a bunded area or on plastic sheeting covered with sand (temporary bunding).</p>		
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Impacts	Description	Mitigation	Monitoring	Responsible Body
Dust <i>Main causes of air pollution are dust from vehicle movements and stockpiles, vehicle emissions and fires.</i>	Dust may be generated during the construction/decommissioning phase and might be aggravated when strong winds occur.	<p>Vehicles travelling to and from the construction site must adhere to the speed limits so as to avoid producing excessive dust.</p> <p>It is recommended that regular dust suppression be included in the construction phase, when dust becomes an issue.</p>	Regular visual inspection by E	Melody Service Station / Appointed Contractor
Noise	Noise pollution due to construction equipment and heavy machinery on site.	<p>Construction should be limited to working hours only (07H00- 19H00).</p> <p>Provide ear plugs and ear muffs to staff undertaking the noisy activity or working within close proximity thereof.</p>	Strict operational times. Regular inspection. By E and ECO	Melody Service Station / Appointed Contractor/ ECO
Safety and Security	During the construction and decommissioning phase, earthmoving equipment will be used on site. This increases the possibility of injuries. Presence of equipment may encourage criminal activities (theft).	<p>The responsible contractor must ensure that all staff members are briefed about the potential risks of injuries on site.</p> <p>The contractor is further advised to ensure that adequate emergency</p>	Security System Monitoring. Safety Procedures. First Aid Training by ECO.	ECO/ Melody Service Station /

		<p>facilities, including first aid kits, are available on site.</p> <p>Ensure that the contact details of the police or security company and ambulance services are available on site.</p> <p>The site must be fenced off to prevent unauthorised access during construction.</p> <p>All visitors must report to the site office.</p>		
Nuisance pollution	Aesthetics and inconvenience caused to persons trying to access/exit immediate neighbouring buildings and/or destinations	Take cognition when parking vehicles and placing equipment and infrastructure.	Regular visual inspection.	Melody Service Station / Appointed Contractor/ ECO
Traffic	Congestion in traffic	<p>Ensure that unnecessary traffic is reduced.</p> <p>Drivers of these vehicles should be licensed and proficient in driving these vehicles.</p> <p>Drivers under the influence of narcotics and alcohol should not be allowed to operate these vehicles and must be removed from the site.</p>	Regular visual inspection.	Melody Service Station / Appointed Contractor/ ECO
Health and Safety	During construction phase, there is a possibility of injuries to occur if no measures are taken into consideration. Therefore, the contractor must ensure safe handling and installation of the Underground Storage Tanks and the construction of the entire service station.	<p>All contractors, consultants and labourers must ensure that the necessary personal protective equipment (PPE) is worn on site.</p> <p>Official training in the correct fit, use, care, storage and limitations of all Personal Protective Clothing,</p>	Regular visual inspection by EO	Melody Service Station / Appointed Contractor/ ECO/ EO

		<p>Respiratory and Hearing Equipment must be given to the employees.</p> <p>Ensure all open excavations are clearly marked and all the appropriate health and safety signage are displayed on site.</p> <p>The Contractor shall provide a standard first aid kit at the site office and at the camp.</p>		
Employment Creation		<p>The contractor must appoint an Environmental Liaison Officer to monitor the situation with a direct hands-on approach.</p> <p>The contractor must make use of local labour where possible in order to stimulate the local economy.</p> <p>When recruiting, the responsible contractor should ensure gender equality is taken into consideration that both men and women are employed equally and treated equally.</p> <p>Equity, transparency, should be put into account when hiring and recruiting and that Public Participation i.e. Community Leaders or Community committees should also take part in the recruiting process for decision makings.</p> <p>No employment applications may take place at the entrance to the site, formal employment channels must be used.</p>	Monitored once off by the ELO	Appointed Contractor/ ELO

7.2. The Operational Phase

By taking pro-active measures during the planning and construction phases, potential environmental impacts emanating during the operational phase will be minimised. This, in turn, will minimise the risk and reduce the monitoring effort, but it does not make monitoring obsolete.

Impacts	Description	Mitigation	Monitoring	Responsible Body
Hydrocarbon Spillage	Spillages might occur during delivery to the tanks.	<p>Risk of impact from this can be lowered through proper training of staff and the installation of suitable containment structures</p> <p>Spill Contingency Plan Spillages occurring at the filler point and dispensing (i.e. offloading) area must be contained and cleaned up. Any water containing waste (wastewater) generated as a result of the spillage and associated clean up, must be disposed of safely and in accordance with environmental legislation. No product must be allowed to be discharged into municipal storm water / sewer system and or surrounding environment.</p> <p>The Contractor shall ensure that all staff are trained on how to prevent and handle fuel spills and shall ensure that his employees are aware of the</p>	<p>Strict operational times. Regular inspection. The Underground Storage Tanks must be dipped daily and reconciled against volume to check for losses due to leakage</p> <p>By Engineer and ECO</p>	Melody Service Station / Appointed Contractor/ECO/Engineer

		<p>procedure for dealing with spills and leaks.</p> <p>The Contractor shall also ensure that the necessary materials and equipment for dealing with the spills and leaks is available on site at all times.</p> <p>The Contractor shall ensure that there is always a supply of absorbent material readily available to absorb/breakdown the spill.</p> <p>The Contractor shall notify the relevant authorities of any spills that occurs.</p>		
Overfilling of Tanks	Overfilling of the tanks may take place.	The Underground Storage Tanks must be fitted with an overfill protection device.	Regular inspection of the level of fuel in tanks. By Engineer and ECO	Melody Service Station / Appointed Contractor/ ECO
Overfilling of vehicles	Overfilling of vehicles	This impact can be reduced by the installation of spill containment areas around the pumps and through proper training of the operators.	Regular visual inspection by operator	Melody Service Station / operator
Fire and Explosion Hazard	Hydrocarbons are volatile under certain conditions and their vapours in specific concentrations are flammable. If precautions are not taken to prevent their ignition, fire and subsequent safety risks may arise.	<p>Ensure that all fire-fighting devices are in good working order.</p> <p>All personnel have to be sensitised about responsible fire protection measures and good housekeeping such as the removal of flammable materials.</p> <p>It must be assured that sufficient water is available for fire fighting purposes.</p>	Regular inspections should be carried out to inspect and test fire fighting equipment and pollution control materials at the fuel facility.	Melody Service Station / Appointed Engineer/ ECO

Damage to Pipelines and Tanks	Damages to pipelines and tanks may occur due to vehicle movements and excavations. Leakage of the damaged structure is most likely to follow.	<p>This can be mitigated through careful designs, warning signs and sensible operations in the area.</p> <p>Utility clearance investigations should be conducted before any excavation commences on the site.</p>	Flow meters to be installed on either sides of an underground pipeline to monitor the input and output through the pipe. If input does not equal the output, then a leakage can be assumed on the pipeline. For above ground level storage tanks, regular visual inspections for leakages should be made, when filling tanks.	Melody Service Station / Appointed Contractor/ Engineer/ ECO
Air Quality	In terms of air quality, hydrocarbon vapours will normally be released during delivery as liquid displaces the gaseous mixture in the tanks.	<p>All venting systems and procedures have to be designed according to SANS standards and placed in a sensible manner.</p> <p>All forms of dust/air pollution must be managed in terms of the Atmospheric Pollution Prevention Ordinance of Namibia (No. 11 of 1976) this includes the control of noxious and offensive gases, smoke, dust and vehicular emissions. Under no circumstances may heavy smoke be released into the air.</p>	A complaints register regarding vapour smells should be kept and acted on if it becomes a regular complaint.	Melody Service Station / Appointed Project Manager / Engineer/ ECO
Health and Safety	The operations of fuel retail facility can cause serious health and safety risks to workers on site. Occupational exposures are normally related to the dermal contact with fuels and inhalation	<p>Adequate measures must be brought in place to ensure safety of staff on site, and includes:</p> <p>1) Proper training of operators; Relevant operational staff must receive training on the correct operation of the storage tanks, as well as maintenance</p>	Monitoring should be carried out on a regular basis, including accident reports.	Melody Service Station / ECO/ ELO

	of fuel vapours during handling of such products.	<p>and repair procedures when leaks are detected.</p> <p>2) First aid treatment; 3) Medical assistance; 4) Emergency treatment; Fire extinguishers and sand bags must be readily available onsite and easily accessible.</p> <p>5) Prevention of inhalation of fumes; 6) Protective clothing; The correct PPE should be used on the site.</p> <p>Telephone numbers of emergency services shall be posted conspicuously in the office for use in emergency situations.</p> <p>Appropriate Health & Safety signage must be placed on and around the tank.</p>		
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Impacts	Description	Mitigation	Monitoring	Responsible Body
Economic Impacts	The number of jobs might be created	<p>Locals should be highly considered when hiring for temporary or permanent jobs</p> <p>It is recommended to put local people at forefront when hiring or recruiting people, therefore unskilled people from the local community should be employed, and semi-skilled from the region so that unskilled workers can be trained by semi-skilled for them to learn and be able to compete with others in future.</p>	<p>Regular inspections</p> <p>Equity, transparency, should be put into account when hiring and recruiting and that Public Participation i.e. Community Leaders or Community committees should</p>	Melody Service Station

			<p>also take part in the recruiting process for decision makings.</p> <p>Qualifications e.g. Certificates should be provided.</p>	
Generation of waste	<p>Waste in the form of contaminated soil due to spillage might occur, but should be prevented through the use of containment areas as provided.</p> <p>Impact on water quality</p>	<p>Waste minimization policy. Bioremediation of contaminated soil. Regular cleaning of oil / water separator. Removal of sand and other material from containment areas.</p> <p>All general waste should only be collected either by the Oniipa Town Council or by the waste disposal Licensed contractor authorized by the Local Authority which is Oniipa Town Council</p>	<p>Regular monitoring of the oil water separator outflow is required. Containment area inspections. Inspection for soap in oil / water separator water. The following parameters must be monitored as indicators of potential organic contamination: Total petroleum hydrocarbon (TPH) levels - Diesel range organics, total oil & grease.</p>	Melody Service Station / Appointed Contractor/ Engineer/ ECO

8. ENVIRONMENTAL MONITORING PLAN

Environmental monitoring plan is part of the EMP performance assessment and will need to be compiled and submitted as determined by the Environmental Commissioner. The process of monitoring performances against the objectives and documenting all environmental activities is part of internal and external auditing. This will be coordinated by the Environmental Control Officer (ECO) / External Consultant / Suitable qualified in-house resource person. Tables 3 outline the type of information that shall need to be recorded on a regular basis by the Environmental Control Officer (ECO) as part of the monitoring process of the activities and the effects.

Mitigation	Compliance	Follow-up action required	By whom	By When	Completed
Is there an Environmental awareness training programme?					
How many people have been given environmental awareness training?					
Is a copy of the EMP on site?					
How effective is the awareness training?					

Do people understand the contents of the EMP?					
If not, where are the weaknesses?					
Ask 3 people at random various questions about the EMP.					