



If you can't measure it
You can't control it

PART 2:
ENVIRONMENTAL MANAGEMENT PLAN (EMP REPORT)
for an existing fuel retail facility in Ondangwa,
Okapana Service Station CC
Project No: 2018 / 153 / K

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EXECUTIVE SUMMARY

National Environmental Health Consultants was commissioned by Okapana Service Station CC to undertake an Environmental Impact Assessment (EIA) – Environmental Management Plan (EMP) for the existing FUEL RETAIL FACILITY in ONDANGWA.

The EIA is being undertaken in accordance with the requirements of Namibia's Environmental Assessment Policy and the Environmental Management Act (2007), and other relevant legislation and regulations pertaining to Environmental Assessments and protection of the environment in the Republic of Namibia. A host of international policies and standards are also being taken into account.

In order for the Namibian Ministry of Environment and Tourism (MET) to make an informed decision as to whether or not the project should receive an environmental clearance certificate and be allowed to proceed, it is essential that potentially significant environmental and social impacts (both negative and positive) are investigated and well understood. It is therefore necessary to conduct an Environmental Impact Assessment (EIA) process. This led to National Environmental Health Consultants being appointed by Okapana Service Station CC to undertake the EIA for the existing fuel retail facility.

The findings of the EIA Phase are presented in this Final EIA Report, and it is made available to Interested and Affected Parties (I&APs) for comment.

The purpose of the EIA Report is to:

- Provide a description of the existing facility, including a sufficient level of detail to inform the Ministry of Environment and Tourism;
- Describe the local environment within which the existing facility is situated, to assist further in identifying issues and concerns;
- Provide an overview of the process being followed in the Scoping Phase, in particular the public participation process, as well as present the Final EIA Report that would form part of the EIA phase as per Environmental Management Act, 2007;
- Present the issues and concerns identified to date by specialists and stakeholders, together with an explanation of how these issues will be addressed through the EIA process.

Glossary and Abbreviations

ACRONYM	DESCRIPTION
CC	Close Corporation
CEs	Consulting Engineers
CO	Contraction Phase
CLO:	Community Liaison Officer
DS	Design & Planning Phase
DE	Decommissioning Phase
ECO	Environmental Control Officer
EMP	Environmental Management Plan
EMPr	Environmental Management Programme
MET	Ministry of Environment and Tourism
MAWF	Ministry of Agriculture, Water and Forestry
OP	Operational Phase
PM	Project Manager (Developer Representative)
RA	<i>Resident Architect</i>
DEA	Directorate of Environmental Affairs
RE	Resident Engineer
ELO	<i>The Environmental Liaison Officer</i>
VOC's	Vapours

Definitions:

Environment: Surroundings in which an organisation operates, including air, water, fauna, flora, natural resources, humans and their interrelations.

General waste: Waste that may be disposed of without prior treatment. May be disposed of at a municipal dumpsite.

Hazardous waste: An inorganic or organic element or compound that, because of its toxicological, physical, chemical or persistency properties may exercise detrimental, acute or chronic impacts on human health and the environment. This can be generated from a variety of activities and may take the form of liquid, sludge, gas or solid. Hazardous waste can also be defined to be any waste that directly or indirectly represents a threat to human health or to the environment.

Recyclable Waste: Hazardous or general waste that has the potential to be recycled.

Waste: Any matter gaseous, liquid and solid or any combination thereof designated as an undesirable or superfluous by-product, emission, residue or remainder of any process or activity.

Waste Stream: The cycle of a specific waste from the point of origin up to disposal (cradle to grave concept).

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Date:
17th of February 2020

Company:
Okapana Service Station CC

Occupational Hygienist
Johan Cornelissen




Project No:
2018/153/K

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1 INTRODUCTION

The project proponent, Okapana Service Station CC has appointed National Environmental Health Consultants as the independent consultant for this EIA process.

The purpose of an Environmental Management Plan (EMP) is to guide the operational phase of the existing fuel retail facility. This is done to eliminate or mitigate the various possible risks to the environment and its surrounding inhabitants during this phase. And it will subsequently ensure that minimal damage will occur to these areas during the operational phase of the existing fuel retail facility, based on the mitigation measures identified for inclusion in the EMP as a result of the Environmental Scoping Process.

The ultimate goal of the EMP is to meet social, economic and biophysical objectives to such an extent that the overall product of the activity will not result in a net negative impact. The economic benefit of the existing fuel retail facility in Ondangwa, should outweigh the negative environmental impacts addressed during this assessment.

1.1 Locality



Figure 1: Location of the existing fuel retail facility, Okapana Service Station CC. This also shows where in Namibia the fuel retail facility is situated.

1.2 Project Background Information

Okapana Total, Oshana Region, Erf nr 1336 and 1337, Main Road, Ondangwa. The existing fuel retail facility initially opened in 1993, at this time they had no neighbours surrounding them. The neighbours surrounding them now include, Cashbuild, Namib Mills and Professional Pre-Primary School. In July 2013, Okapana Service Station CC revamped the existing fuel retail facility. Okapana Service Station CC consists of a filling station (Total supplies their fuel) and a Bonjour shop (Café). The erf size of Okapana Service Station CC is 5681m².

This Environmental Management Plan (EMP) addresses the management of environmental Impacts related to the existing fuel retail facility, namely Okapana Service Station CC. The documents should be used for managing, mitigating and monitoring the environmental impacts associated with decommissioning the site as identified during the Environmental Scoping Report conducted on the site. The Environmental Scoping Report will be valuable as a reference source for understanding this EMP and for placing it into perspective (see part 1 of this document for the scoping report).

1.3 Objectives of the EMP

The primary objectives of the EMP are as follows:

- To describe action plans for achieving the mitigation measures described in the Environmental Scoping Report; and
- To indicate responsibilities regarding the implementation of these action plans.

NEHC then completed Environmental Scoping Report, incorporating above mentioned point and including the EMP. The same document was then submitted to MET for final review and approval by the Office of the Environmental Commissioner dated February 2020.


1.4 Key Characteristics of the report

Table 1: Shows an overview of the project.

Element	Description
Proponent	Okapana Service Station CC. Mr. Willem Archer
Name of the site	Okapana Service Station CC "Filling Station"
Property Description	Okapana Total, Erf no 1336 and 1337, Main Road Ondangwa, Oshana Region.
Site Coordinates	S17°54'40.2" E15°58'12.0"
Extent of the site	5681m ²
Current capacity of the site	Existing fuel retail facility
Number of underground storage tanks	3 x Tanks (2 x 46 000 L ULP 95ppm and 1 x 46 000 L 50ppm Diesel)
Number of aboveground fuel pumps	5 x 6 hose pumps (fuel dispensers) and 1 x 4 hose pump (fuel dispenser)
Baseline environment	<ul style="list-style-type: none"> ➤ Limited vegetation on the site; ➤ There are no surface water bodies located within a 500m radius of the site; ➤ Area is characterized as not having a shallow water table.

1.5 COMPLIANCE TO REGULATIONS

Okapana Service Station CC will need to comply with the following legislation:

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- The Constitution of the Republic of Namibia (1990)
- Namibia's Green Plan
- Vision 2030: Third National Development Plan of Namibia, 2006/7 – 20011/12
- Environmental Assessment Policy, 1995
- Draft Wetland Policy of 2003
- The National Environmental Health Policy
- GOVERNMENT GAZETTE OF THE REPUBLIC OF NAMIBIA, Government NOTICES, dated 06 February 2012 number 4878.
- Environmental Management Act 7 of 2007
- The Water Resources Management Act 24 of 2004
- Labour Act of 1992: Regulations for the Health and Safety of Employees at Work
- Labour Act 11 of 2007
- Nature Conservation Ordinance 4 of 1975 (as amended 1996)
- Atmospheric Pollution Prevention Ordinance 11 of 1976
- Petroleum Products and Energy Amendment Act of 2000
- Soil conservation Act 76, 1969
- Legislation related to effluent and waste water disposal Model Drainage Regulations, 1996
- Water Resources Management Act (Act 24 of 2004)
- Hazardous Substances Ordinance 14 of 1974, and amendments
- Nature Conservation Ordinance Amendment Act, Act 5 of 1996
- National Policy on Tourism for Namibia, 2008
- Namibia is the National Heritage Act (27 of 2004).

1.6 Responsible Parties

1.6.1 Phases of the Project

The point of departure for any EMP is to take a pro-active route by addressing and minimizing any potentially significant problem before it occurs. In particular this EMP deals with the current operational phase.


1.6.2 Roles and Responsibilities

Various role players have a range of responsibilities to perform during the operational phase and if any upgrades or construction take place on the existing fuel retail facility:

1.6.2.1 Project Manager (PM) (Developer Representative)

If any upgrades or construction take place on the existing fuel retail facility, PM will be responsible for the following:

- The PM will be responsible for ensuring that the development is implemented according to the requirements as set out in the EMP.
- The PM should ensure that sufficient resources are available to the other role players to efficiently perform their tasks in terms of the EMP.
- The PM must appoint an independent Environmental Control Officer (ECO) to ensure strict adherence to the EMP.

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1.6.2.2 Resident Architect (RA)

If any upgrades or construction take place on the existing fuel retail facility, RA will be responsible for the following:

- Only architects approved by the PM will be allowed to work on the project and will oversee the individual contracts between the owners of the entire site or portions thereof and the contractors.

1.6.2.3 Environmental Control Officer (ECO)

If any upgrades or construction take place on the existing fuel retail facility, the ECO will be appointed at the start of construction and is mandated to do the following:

- Ensure that all contractors/subcontractors/employees are fully aware of their environmental responsibilities. This will take the form of an initial environmental awareness-training program in which the requirements of this document will be explained.
- Any damage to the environment must be repaired as soon as possible after consultation between the ECO, the Consulting Engineer and relevant contractors.
- The ECO shall monitor their actions to ensure that the developer and/or contractor are adhering to all stipulations of the EMP.
- The ECO shall be responsible for monitoring the construction activities throughout the project by means of site visits and meetings. This should be documented as part of the site meeting minutes.
- The ECO must sign off and the PM must certify that all clean-up and rehabilitation, or any remedial action required, are completed prior to transfer of properties.
- A post-construction environmental audit is to be conducted to ensure that all conditions in the EMP have been adhered to.

1.6.2.4 Auditing / Inspections


If any upgrades or construction take place on the existing fuel retail facility,

- The appointed ECO on a regular basis should inspect the site where necessary.
- The PM or the contractor's representative will accompany the ECO on-site inspections.
- The contractor will use the formats presented in this EMP to report to the PM in terms of compliance to this document.
- When, in the opinion of the ECO, a construction activity will result in environmental damage, the ECO will issue instructions to the contractor or PM, who will in turn order the contractor, to halt the activity. Spot fines or penalties may be levied for non-compliance.

1.6.2.5 Method Statements

If any upgrades or construction take place on the existing fuel retail facility, construction methods statements from the contractor will be required for specific activities in sensitive environments on request of the Authorities or the ECO. All method statements will form part of the EMP documentation and are subject to all terms and conditions contained within the EMP document. For each instance wherein it is requested that the contractor submit a method statement to the satisfaction of ECO, the format should clearly indicate the following:

- What - a brief description of the work to be undertaken;

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- How - a detailed description of the process of work, methods and materials;
- Where - a description / sketch map of the locality of work; and
- When - the sequencing (phases) of actions with commencement date and completion date estimates.

The contractor must submit the method statement before any particular construction activity is due to start. Work may not commence until the method statement has been approved by the ECO.

1.6.2.6 Record Keeping

All records related to the implementation of this management plan must be kept together in an office where it is safe. Records should be kept for two years and at any time are available for scrutiny by any relevant Authority.

1.6.2.7 Resident Engineer (RE)

If any upgrades or construction take place on the existing fuel retail facility, a RE acts as a direct, on-site resource for all technical aspects related to the development. He/she is available on the construction site at all times, overseeing all phases of the construction activities. He/she will liaise with the ECO where required to ensure EMP implementation.

1.6.2.8 Consulting Engineers (CEs)

If any upgrades or construction take place on the existing fuel retail facility, the engineers involved during the planning, design and construction period. They are not available on site at all times, but are part of the specialist team during the final design and construction stages to advise on appropriate environmental management and mitigation.

1.6.3 Standards

If any upgrades or construction take place on the existing fuel retail facility,


- The ECO will keep written and photographic records of the site and its surroundings before, after and during construction on the site.
- The contractor will keep records of construction activities, instructions received from the ECO and PM concerning environmental matters.
- The ECO will keep records of cases of non-compliance and remedial actions taken.
- Where no quantitative standards are applicable, visual standards will apply.
- The contractor will rehabilitate the site to a condition acceptable to the ECO, and respond timeously to any complaints and instructions regarding construction activities.

1.6.4 EMP Objectives

This EMP must be used during the current operational phase of the existing fuel retail facility.

The objectives of this plan are to:

- Ensure all environmental safeguards are carried out correctly.

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- Manage site activities effectively and coordinate with other players in the project.
- Minimize adverse impacts on the environment.
- Ensure that environmental mitigation measures are in place from the start of the project.
- Minimize disruption to fauna and flora and neighbouring landowners / communities.
- Monitor the project.

1.6.5 EMP Context

This EMP fits into the overall planning process of the project and should be implemented by the developer as soon as the Authorities have approved it. A copy of the EMP should always be available on site.

There are at least 2 role players participating in the environmental management of the site, namely:

- Okapana Service Station CC; and
- Service Providers.

This EMP must be attached as an Appendix to service provider tender documents and referred to in the tender documents as *special conditions of tender*.


Ultimate responsibility for implementation of the EMP lies with Okapana Service Station CC. This responsibility, in some instances may be delegated to contractors in the employ of Okapana Service Station CC for practical purposes, but Okapana Service Station CC will retain legal accountability. In that capacity, Okapana Service Station CC should delegate suitably qualified person(s) with the responsibility to ensure the implementation of the

EMP, and who will:

- Know the contents and implications of the Environmental Scoping Report and monitor the implementations of the Environmental Scoping Report findings using the EMP;
- Guide, advise, and consult the contractors on environmental issues during decommissioning of the service station;
- Revise the EMP as required and inform relevant parties of the changes;
- Protect the environment.
- Responsibility of the Service Providers and Contractors during the decommissioning of the service station is to:
 - Ensure that all requirements of the EMP are communicated to, understood and followed by all persons working on the project who may have an impact on the environment;
 - Ensure that a procedure exists for reporting incidents and resolving any problems rapidly;
 - Keep good records relating to the compliance/non-compliance with the conditions of the authorization;
 - These records must be made available to the relevant authority within seven days of a written request.

2 PHASES OF THE PROJECT

The aim of this Environmental Management Programme (EMPr) is to derive mitigation measures that should be made binding when additional contraction activities result in the appointment of contractors on site, as well as measures that should be implemented during the current operational phase.

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The purpose of the EMPr is to provide solutions to problems before they occur. If adhered to this EMPr should limit corrective measures required during the current operational phase of the existing fuel retail facility.

The EMPr deals with the following phases as detailed below:

2.1 The Planning Phase

This is an existing fuel retail facility thus there will be no planning phase.

2.2 Pre-construction Phase

This is an existing fuel retail facility thus there will be no Pre-construction Phase.

2.3 The Construction Phase

This is an existing fuel retail facility thus there will be no construction phase.

If any upgrades or construction take place on the existing fuel retail facility, the majority of the impacts during this phase will have a direct and immediate effect (e.g. pollution, noise and dust). Continual monitoring of the site during the construction phase will help in identifying impacts as they occur.

2.4 The Operational Phase


This is an existing fuel retail facility thus this scoping and EMP report mainly refers to the current operational phase. Potential environmental impacts arising during the current operational phase can be minimized, if the EMP is followed.

3 ANTICIPATED ENVIRONMENTAL IMPACTS

The anticipated adverse impacts requiring mitigation relating to the biophysical and socio-economic environment for the current operational phase of the existing fuel retail facility are listed below

3.1 Operational Phase - Adverse Impacts

- Visual Intrusion & Light Pollution
- Traffic
- Noise
- Atmospheric Pollution & Odours
- Safety & Security
- Soil & Groundwater Contamination (Surface spillage of fuel)
- Subsurface leaks (lines, tanks)
- Risks of Fires & Explosions
- Waste Generation & Disposal


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4 RESPONSIBILITIES

The Environmental Management Programme (EMPr) specifies the responsibilities of the role players.

The Developer/Oil Company: remains ultimately responsible for ensuring that the facility is implemented according to the requirements of the EMPr throughout all phases of the project. This includes the current operational phase and if any upgrades or construction take place on the existing fuel retail facility.

- **The Environmental Control Officer (ECO):** the ECO is appointed by the developer as an independent monitor of the implementation of the EMPr i.e. independent of the developer and contractor. The ECO is responsible for providing feedback on potential environmental problems associated with the development. The ECO has the right to enter the site and do monitoring and auditing at any time, subject to compliance with health and safety requirements applicable to the site (e.g. wearing of protective head gear and safety boots). The ECO will be responsible for a minimum of monthly site audits, followed by an environmental control report, that will detail the status of environmental compliance, and highlight mitigation. The ECO will be responsible for liaising with authorities, MET. The ECO must submit monthly environmental audit reports to the authorities. The ECO must indicate the necessary corrective action measures to eliminate the cause of the non-conformances. The ECO is also responsible for liaising with contractors, informing them of any decisions that are taken concerning environmental management during the construction phase. This would also include informing the contractors of the necessary corrective actions to be taken.
- **Site Agent:** is usually a site engineer or project manager who is the developer's most senior representative on site and coordinates activities on site. The site agent must follow the advice of the ECO with regards to environmental management and ensure that the contractor abides by all requirements stipulated by the ECO.
- **Contractor:** the contractor as the developer's agent on site, is bound by the Clearance Certificate and EMPr conditions through his/her contract with the developer, and is responsible for ensuring that conditions of the EMPr are strictly adhered to at all times. The contractor must comply with all orders (whether verbal or written) given by the ECO, project manager or site agent in terms of the EMPr.
- **The Environmental Liaison Officer (ELO):** The Contractor shall submit to the Site Agent a nominated representative of the Contractor as an ELO to assist with day to day monitoring of the construction activities for the contract. Issues raised by the ECO will be routed to the ELO for the contractor's attention. The ELO shall be permanently on site during the construction phase to ensure daily environmental compliance with the EMPr. The ELO should preferably be a senior and respected member of the construction crew, as past experience has revealed that ELO's that can relate to the workforce are most effective for information transfer and ensuring compliance with the EMPr. The ELO will report directly to the ECO regarding environmental compliance. The site audits undertaken by the ECO will be undertaken alongside the ELO. The ECO will point out areas of concern, and the ELO will be responsible for ensuring day to day compliance with the EMPr. Should any emergencies arise the ELO will alert the ECO who will take action. There shall be an approved ELO on site at all times. Before the Contractor commences with each Construction Activity, the ELO shall give to the site agent a written statement setting out the following:
 - The type of construction activity.
 - Locality where the activity will take place.
 - Identification of impacts that might result from the activity.

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- Identification of activities or aspects that may cause an impact.
- Methodology for impact prevention for each activity or aspect.
- Emergency/disaster incident and reaction procedures (need to be demonstrated).
- Treatment and continued maintenance of impacted environment.
- **Community Liaison Officer (CLO):** the contractor must appoint a CLO to act as a point of contact between the contracting team and the community that will be affected by the construction activities. Complaints from the community about construction activities must be channelled through the CLO. The CLO's responsibility is to liaise with the Interested and Affected Parties.

5 ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

The following tables form the core of this EMPr for the current operational phase of the development. These tables should be used as a checklist on site. The aim of this EMPr is to derive measures that should be implemented during the current operational phase.

The purpose of the EMPr is to provide solutions to problems before they occur. If adhered to, this EMPr should limit corrective measures required during the current operational phase of the existing fuel retail facility.


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Table 2: OPERATIONAL PHASE - Socio-economic: Job Opportunities and Economic Upliftment

Socio-economic: Job Opportunities and Economic Upliftment	
PHASE:	Operational
IMPACT:	BENEFICIAL
TASK/ENVIRONMENTAL IMPACT:	Job Opportunities and Economic Upliftment
OBJECTIVE:	Advantages for local previously disadvantaged communities in terms of employment, empowerment and socio-economic upliftment.
ACTION REQUIRED:	<ul style="list-style-type: none"> ➤ Indirectly, jobs are also created in industries that provide goods, materials and services. ➤ The existing fuel retail facility will increase skills development and also local employment in the area. ➤ The development will lead to the increase in the number of convenience facilities in the primary market area.
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	Record of local workers employed
RESPONSIBILITY:	Developer
TIME FRAME:	Current operational phase

Table 3: OPERATIONAL PHASE - Socio-economic: Contribute to upgrading of existing infrastructure

Socio-economic: Contribute to upgrading of existing infrastructure	
PHASE:	Operational
IMPACT:	BENEFICIAL
TASK/ENVIRONMENTAL IMPACT:	Contribute to upgrading of existing infrastructure
OBJECTIVE:	Improved municipal services
ACTION REQUIRED:	<ul style="list-style-type: none"> ➤ All recommendations made by the civil, traffic and electrical engineer and approved by the Municipality must be installed as per standard specifications.
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	Implementation of infrastructure as per approved engineering plans
RESPONSIBILITY:	Developer, Traffic Engineer, Engineer and ECO
TIME FRAME:	Current operational phase and if any upgrades or construction take place on the existing fuel retail facility.

Table 4: OPERATIONAL PHASE – Bio-Physical: Exotic plant species

Bio-physical: Exotic plant species	
PHASE:	Operational
IMPACT:	BENEFICIAL
TASK/ENVIRONMENTAL IMPACT:	Removal of exotic plant species and establishment of indigenous vegetation.
OBJECTIVE:	The removal of exotic plant species and the planting of indigenous vegetation within landscaped areas will increase biodiversity
ACTION REQUIRED:	<ul style="list-style-type: none"> ➤ All classified Invader Species in terms of the Nature Conservation Ordinance Amendment Act, Act 5 of 1996 to be identified, eradicated and controlled. ➤ The Landscape Development Plan must as far as possible make use of indigenous trees and plants. The use of exotic species must be limited.
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	Landscape Development Plan
RESPONSIBILITY:	Contractor, Landscape Architect, Environmental consultant, and ECO
TIME FRAME:	If any upgrades or construction take place on the existing fuel retail facility: Design, planning, and construction phases

Table 5: OPERATIONAL PHASE – Socio- economic: Visual Intrusion & Light Pollution

Socio- economic: Visual Intrusion & Light Pollution	
PHASE:	Operational
IMPACT:	ADVERSE
TASK/ENVIRONMENTAL IMPACT:	Visual Intrusion & Light Pollution
OBJECTIVE:	To mitigate the potential negative impact on "genius loci" and visual impact, should architecture not be in line with natural character of area, through the appropriate application of form, scale, materials and finishes
ACTION REQUIRED:	<ul style="list-style-type: none"> ➤ Light pollution should be minimized. ➤ Lighting on site is to be sufficient for safety and security purposes, but shall not be and occupants of the shopping centre to neighbouring residents and the shopping centre, disturb wildlife, or interfere with road traffic. ➤ Littering, rubbish and illegal dumping on the site is NOT allowed. ➤ Refuse must be contained and disposed of at the Municipal land fill site. ➤ Refuse bins must be provided. These must be sufficient in number and easily accessible. ➤ The buildings may not be visually intrusive.

	<ul style="list-style-type: none"> ➤ The buildings must be regularly painted. ➤ All lights used for non-security purposes should be energy efficient for example compact fluorescent lights (CFL). Fluorescent lamps give five times the light and last up to 10 times as long as ordinary bulbs. ➤ Outside lights will have to be downward shining (eyelid type), low wattage and should not be positioned higher than 1 m above the ground surface.
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	No complaints from surrounding property owners
RESPONSIBILITY:	Developer, Architect and Landscape Architect
TIME FRAME:	Planning and current operational phases

Table 6: OPERATIONAL PHASE – Socio- economic: Traffic

Socio- economic: Traffic	
PHASE:	Operational
IMPACT:	ADVERSE
TASK/ENVIRONMENTAL IMPACT:	Traffic
OBJECTIVE:	Possible increased pedestrian hazard and increased road damage.
ACTION REQUIRED:	<ul style="list-style-type: none"> ➤ Signs must conform to the standards of Manual for Outdoor Advertising Control. ➤ Areas that have been landscaped must be maintained. ➤ It will be a Condition of the Zoning that a solid 3m high boundary wall be erected around the site, thereby screening the activities of the filling station from the adjoining sites. ➤ Access to the site is from B1 Road. The proposed access arrangements are based on the standards contained in the "Guidelines for Access to Filling Stations (BB2 document)" (November 2003 - SA). ➤ Road surfaces in the immediate vicinity of the site should be monitored. If the road is damaged the relevant authority must be notified ➤ Advertising boards must not block the visibility of the B1 road to and from the existing fuel retail facilities access road. ➤ Access to and from the site must not have a negatively impact on the traffic on the B1. ➤ All requirements by the Traffic engineer and Provincial and Local Traffic Department must be adhered to.
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	No complaints from road users
RESPONSIBILITY:	Developer and Traffic Engineer
TIME FRAME:	Planning, design and current operational phases

Table 7: OPERATIONAL PHASE – Socio- economic: Noise

Socio- economic: Noise	
PHASE:	Operational
IMPACT:	ADVERSE
TASK/ENVIRONMENTAL IMPACT:	Noise
OBJECTIVE:	To minimize impact of noise on surrounding properties and environment
ACTION REQUIRED:	<ul style="list-style-type: none"> ➤ Noise levels shall be kept within acceptable limits, and forecourt staff must abide by National Noise Laws and local by-laws regarding noise. ➤ Equipment such as mechanical equipment, extraction fans, refrigerators that are fitted with noise reduction facilities (e.g. side flaps, silencers etc.) must be used as per operating instructions and maintained properly. ➤ Noise levels should comply with the SANS Code of Practice 10083-2013 (recommended noise levels). SANS 10083:2012 – The Measurement and Assessment of Occupational Noise for Hearing Conservation Purposes
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	No complaints from surrounding property residents.
RESPONSIBILITY:	Developer, Contractor Management
TIME FRAME:	Current operational phases and if any upgrades or construction take place on the existing fuel retail facility.

Table 8: OPERATIONAL PHASE – Socio- economic: Atmospheric Pollution & Odours

Socio- economic: Atmospheric Pollution & Odours	
PHASE:	Operational
IMPACT:	ADVERSE
TASK/ENVIRONMENTAL IMPACT:	Atmospheric Pollution & Odours
OBJECTIVE:	Minimize atmospheric pollution and odours
ACTION REQUIRED:	<ul style="list-style-type: none"> ➤ Research has shown that petrol attendants exposed to the emissions from an existing fuel retail facility have no additional health risks. ➤ Standard vents fitted to the breather pipes minimize the loss of vapours. ➤ Emissions from the existing fuel retail facility will be low level and thus disperse into the atmosphere. ➤ The emissions from the existing fuel retail facility would be dispersed according to the prevailing wind direction, with increased distance the concentration of the emitted particles will decrease. ➤ All general waste areas are to be maintained in a neat and orderly manner and bins must have secure lids.

	<ul style="list-style-type: none"> ➤ The existing fuel retail facility must fully comply with the No. 5430 Government Gazette 27 March 2014 and No. 35 Regulations under the Tobacco Products Control Act, 2010
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	No reports of negative health incidents or complaints from surrounding property residents
RESPONSIBILITY:	Developer, Contractor, Management
TIME FRAME:	Current operational phase and if any upgrades or construction take place on the existing fuel retail facility.

Table 9: OPERATIONAL PHASE – Socio- economic: Safety & Security.

Socio- economic: Safety & Security	
PHASE:	Operational
IMPACT:	ADVERSE
TASK/ENVIRONMENTAL IMPACT:	Safety & Security
OBJECTIVE:	Ensure safety and security of staff and users of the facility
ACTION REQUIRED:	<ul style="list-style-type: none"> ➤ Appropriate measures should be in place for the correct storage and handling of fuel as well as the procedures for dealing with dangerous situations. ➤ Staff should be adequately trained with respect to dealing with crime. ➤ Equipment and materials must be handled by staff that have been supervised and adequately trained. ➤ Staff must be regularly updated about the safety procedures. Emergency facilities must be available and adequately supplied for use by staff and customers. ➤ Emergency contact details for the police, Security Company and fire department must be readily available.
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	Record of regular training for staff
RESPONSIBILITY:	Developer, Contractor, Management
TIME FRAME:	Current operational phase and if any upgrades or construction take place on the existing fuel retail facility.

Table 10: OPERATIONAL PHASE – Bio-Physical: Subsurface leaks (lines, tanks)

Bio-Physical: Subsurface leaks (lines, tanks)	
PHASE:	Operational
IMPACT:	ADVERSE

TASK/ENVIRONMENTAL IMPACT:	Subsurface leaks (lines, tanks)
OBJECTIVE:	Prevent soil and groundwater contamination
ACTION REQUIRED:	<ul style="list-style-type: none"> ➤ Staff must be trained adequately so as to identify and minimize the impacts of leaks. ➤ Fuel stock must be monitored on a daily basis. ➤ The UST's must comply with the relevant SANS standards with respect to tank manufacture and installation. ➤ UST's must have corrosion protection. ➤ Cathodic protection will prevent corrosion in pipelines. ➤ Leak detectors with automatic cut off valves will be installed. ➤ UST's must be insulated from the soil. ➤ Subsoil cut off drain should be installed in the lower boundary of the site to catch any seepage of fuel. The drain should be deep enough to bed 100 mm into the bedrock and linked to a sump that can pump out in the event of a spill. This drain must NOT be connected to the storm water system. ➤ A proper management and monitoring programme be implemented to ensure that the groundwater resources are protected. This should include: - ➤ Drilling of at least one monitoring borehole downstream of the site, one of the existing boreholes identified can be utilized as a background monitoring point; and ➤ Take water samples and analyze for microbiological, macro elements and TPH/BTEXN at least twice annually. ➤ Dipstick readings of all the fuel tanks must be taken daily. These records must be kept on site. ➤ The occurrence of BTEXN (i.e. Benzene, Toluene, Ethyl-benzene, Xylene and Naphthalene), Sulphur and heavy metals such as Lead (Pb) in soil and groundwater should also be investigated and results thereof included in the records. ➤ If contamination or leakage is detected a rehabilitation plan must be compiled and executed. ➤ Fuel stocks must be reconciled on a monthly basis. ➤ The UST's, underground pipes and dispensing pumps should be monitored regularly for leaks. ➤ Inform authorities of any leaks or spillages. ➤ All recommendations within the Hydrogeological Assessment must be adhered to.
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	<ul style="list-style-type: none"> ➤ Tanks, lines and fittings to be installed and certified as per relevant standards ➤ Approved Spill Contingency Plan ➤ Record of regular training of staff ➤ Record of regular monitoring
RESPONSIBILITY:	Developer, Engineer, ECO.
TIME FRAME:	Current operational phase.


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Table 11: OPERATIONAL PHASE – Bio-Physical: Risks of Fires & Explosions

Bio-Physical: Risks of Fires & Explosions	
PHASE:	Operational
IMPACT:	ADVERSE
TASK/ENVIRONMENTAL IMPACT:	Risks of Fires & Explosions
OBJECTIVE:	Prevent emergency incidents
ACTION REQUIRED:	<ul style="list-style-type: none"> ➤ The design of the existing fuel retail facility must conform to the following fire safety standards and legislation: ➤ SANS 10089 (Building Code). ➤ Hazardous Substances Ordinance 14 of 1974, and amendments. ➤ Labour Act 11 of 2007 ➤ Local Authorities Fire Brigade Services Act, 2006 (Act No. 5 of 2006), ➤ The following signs must be installed in accordance with the Fire Department: "NO SMOKING" "NO NAKED FLAME" "NO CELLPHONES" ➤ The UST's, underground pipes and dispensing pumps should be monitored regularly for leaks. ➤ Staff must be trained adequately so as to identify and minimize the impacts of leaks and to deal with fires. ➤ Overfill and spillages during tanker refuelling and fuel dispensing should be prevented by the installation of automatic cut off devices. ➤ In the event of the pump dispenser or the hoses being knocked over or ripped off the fuel supply must be cut off by shear off valves. ➤ Tanker delivery driver must be present during delivery of fuel with the emergency cut off switch and a fire extinguisher. ➤ Firefighting facilities must conform to the oil industry standard and be regularly inspected. ➤ The existing fuel retail facility management must develop an EMERGENCY PLAN. All staff must be adequately trained in the implementation of this plan.
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	<ul style="list-style-type: none"> ➤ Approved Emergency Response Plan ➤ Record of regular training of staff ➤ Record of regular monitoring
RESPONSIBILITY:	Developer, Engineer, Filling Station Management, ECO
TIME FRAME:	Current operational phase and if any upgrades or construction take place on the existing fuel retail facility.

Table 12: OPERATIONAL PHASE – Bio-Physical: Waste Generation & Disposal

Bio-Physical: Waste Generation & Disposal	
PHASE:	Operational
IMPACT:	ADVERSE
TASK/ENVIRONMENTAL IMPACT:	Waste Generation & Disposal
OBJECTIVE:	Prevent pollution of ground & surface water and the environment as a whole
ACTION REQUIRED:	<ul style="list-style-type: none"> ➤ Solid waste generated needs to be collected at a central point. This waste will be disposed of as normal domestic waste at the closest municipal waste disposal site. ➤ Legislation related to effluent and waste water disposal Model Drainage Regulations, 1996 covers aspects relating to waste management and must be adhered to at all times. Any other relevant legislation must also be adhered to. ➤ Waste management at the existing fuel retail facility shall be strictly controlled and monitored. Only approved waste disposal methods shall be allowed. ➤ Management of the existing fuel retail facility shall ensure that all personnel are instructed in the proper disposal of all waste. ➤ The management of the existing fuel retail facility is encouraged to participate in a recycling scheme. In this instance separate receptacles for the disposal of these recyclable materials could be positioned in the waste collection area. Sorting of the waste into organics, recyclable, hazardous and domestic waste should be undertaken at this point if possible. Staff training should be undertaken every six months to capacitate staff in terms of waste minimization, waste disposal, recycling and other waste issues. ➤ NO burning, on-site burying or dumping of waste shall occur. ➤ Hazardous waste will only be produced during emergency situations such as a spill that has been cleaned up with an absorbent material. This will be disposed of at a registered hazardous landfill site. ➤ These materials may be removed by an appropriate hazardous waste Contractor. Proof of appropriate disposal must be obtained by the Contractor.
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	Removal of waste to certified land fill sites
RESPONSIBILITY:	Developer, Waste removal contractor, Engineer, ECO
TIME FRAME:	Current operational phase

6 ADDENDUMS

ADDENDUM A: ENVIRONMENTAL INCIDENT LOG

Date	Incident	Comments (Include any possible explanations for current condition and possible responsible parties. Include photographs, records etc. if available)	Mitigation Measure (Give details and attach documentation as far as possible)	ECO Signature

ADDENDUM B: COMPLAINTS RECORD SHEET

RECORD OF COMPLAINTS	PAGE OF	DATE: / /
Complainant:		
Capacity of complainant:		
Complaint recorded by:		
Complaint:		

ECO: Date:

Notes by ECO:

ADDENDUM C: EMERGENCY RESPONSE

The operation of the existing fuel retail facility requires installation of equipment that will house and contain hazardous substances. At the same time, the transport of dangerous goods will form an integral part of the operation of such a development.

Accidents such as fire, explosion, spills or release of hazardous materials endanger life, property and the environment.

Emergency Planning:


- Emergency procedures must be produced and communicated to all the employees on site. This will ensure that accidents are responded to appropriately and the impacts thereof are minimized. This will also ensure that potential liabilities and damage to life and the environment are avoided.
- Adequate emergency facilities must be provided for the treatment of any emergency on the site,
- The nearest emergency service provider must be identified during all phases of the project as well as its capacity and the magnitude of accidents it will be able to handle.
- Emergency contact numbers are to be displayed conspicuously at prominent locations around the construction site and the construction crew camps at all times.
- All employees must receive documented initial training and annual refresher training on the facility's Fire
- Emergency Plan and Evacuation Plan.

Management of Fire Risks

- "No Smoking" and "No Open Flame" signs to be prominently displayed.
- The Risk Controller is responsible for ensuring that fire risks are surveyed, documented and assessed. Adequate numbers of the correct equipment have been installed.
- Equipment must comply with the Automatic Sprinkler inspection Bureau (ASIB), insurance and local Fire
- Department requirements and recommendations. The Risk Controller must monitor and ensure that the standards are complied with.
- Departmental Managers are responsible for ensuring that the requirements of this standard are adhered to within their respective area of responsibility. They must ensure that equipment is operational, kept clean, not damaged and is refilled immediately after use.
- The maintenance, repair or replacement of any item of fire equipment is the responsibility of the Emergency coordinator, in liaison with departmental managers. Risk Controller to assist

Incident Reporting

- The contractor shall take corrective action to mitigate an incident appropriate to the nature and scale of the incident, immediately after the occurrence of the incident.
- Residual environmental damage that remains after having taken corrective action shall be rehabilitated,
- Change operating procedures where necessary to prevent recurrence of similar accident,
- Record all incidents on an Environmental Incident Report, within 24 hours of the incident occurring. Additional documents, including photos shall be appended to the incident report to provide a comprehensive record of the incident and the corrective and preventative action taken. Failure to do so shall result in a penalty.
- All incidents will be investigated in collaboration with the ECO. The focus of these investigations shall not be to apportion blame to specific employees, but to ascertain the root cause of the incident and to prevent a recurrence of similar incidents.

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ADDENDUM D: SPILL CONTINGENCY

It is important that the responsible party shall adhere to National emergency response procedures. All officials of the responsible organ are required to adopt these standards that include spill and leak detection and management.

The Material Safety Data Sheets for the material and emergency response will be stored on site. The MSDS indicate the relevant actions to be taken should certain incidents (spills/exposure) occur with raw materials/products.

Customer Spill and Leak Procedure

The avoidance of spills and leaks is especially important from a safety and legal point of view. Spills or leaks can be dangerous as they can cause a fire or explosion and may involve high cleaning costs when natural resources are contaminated. Installations are designed and built to limit the possibility of product spills and leaks. Within your premises you are responsible for environmental control and must ensure that pollution near tank systems is avoided at all times. If the Stock Monitoring and Control Procedures are used properly, it will be possible to detect a leak at an early stage. Damage to the environment and cleaning costs will then be minimized.


Spill and Leak Prevention

- All personnel who have anything to do with fuel or oil use and tank systems should know their individual responsibilities for controlling and/or reducing pollution. Employees should be well informed and apply the appropriate techniques.
- All employees involved in spillages and leaks must be informed about the spill/leak emergency response plan and must know how to act in the event of a spillage or leak.
- Equipment installed or used to avoid pollution should be operated efficiently and well maintained,
- Spill cleanup equipment, like absorbing fibers (Drizit), squeegees, sandbags, etc. should be located in a clean, dry and easily accessible storage facility.
- Spill fighting material should be kept near places where spills and leaks are most likely to occur, i.e. near pumps. Customers should have materials like absorbing fibers (Drizit) and sandbags in place. **The proposed procedure:**
- Place two 2 000-liter waste bins at each area.
- One bin to be used for storage of unused fibers (e.g. unused Drizit) and one bin to be used for receiving the used fibers (e.g. used Drizit).
- Apply the fibers (Drizit) as per the instructions as soon as the spill occurs. Used fibers (Drizit) should be disposed of in an environmentally friendly way by either burning or dispatching to a class 1 waste dump, using companies such as Waste-tech.
- Ensure that Emergency Spill/Leak Response Plans and the necessary associated equipment are
- appropriate for your operation and are the subject of regular exercises, where possible in conjunction with the industry and/or local authorities.
- Provide regular training for key response employees in dealing with emergencies.

Spill Response

It is not possible to give detailed recommendations on how to clean up specific kinds of spillages as the method and materials used will depend on the type of product handled, the amount involved, the wind, weather, equipment available, etc. However, all spills, minor or major, should be cleaned up as soon as they occur. Whatever the spill, there are five basic steps in dealing with spillages:

- Limit the spillage;
- Contain the spillage;
- Remove the spilled product;
- Final clean up and soil rehabilitation; and
- Complete spillage report.

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Containment of the oil near the point of spillage localizes the problem, minimizes pollution and makes it easier to remove the pollution. Cleaning of the spill depends on whether there is a major spill and whether there is a spill on paving or on soil. A major spill is any spill where more than 200 liters of product is involved.

Minor Spills

Minor spills (less than 200 liters) should be treated as follows:

Soak up the spill with unused fibers (e.g. unused Drizit) from the waste bin. If the spill has soaked into the ground, the soil should be ploughed to allow aeration. Water can then be used to bring the oil spill to the surface and mopped up immediately with absorbent fibers (Drizit). Collect the used fibers (used Drizit) in the bin for used fibers.

Major Spills

Spills less than 200 litres but threatening to streams, rivers, water supply, etc. and incidents of lesser magnitude that have or might attract public, press or authoritative attention have to be considered as major spills. Major spills of oil or fuel on paving or non-permeable surfaces should be treated as follows:


- Wherever possible, try to limit the spillage by turning off all activities that caused the spill, i.e. closing a valve that has been accidentally opened, plugging the hole where the product is leaking or stop pumping through a ruptured pipeline, hose or overflowing tank.
- Contain spill immediately with absorbing fibers (e.g. Drizit), sandbags, sand or soil.
- Prevent any of the spilled oil substances from entering your drain, storm water systems, septic tanks or from contaminating any natural water systems by forming a barrier from soil, sand, sandbags or absorbing materials. If any of the spill should enter the storm water system, the flow must be intercepted before it can contaminate other environments.
- If natural water systems are contaminated, use straw bales, absorbent booms and sandbag dams for containment and absorption.
- Mop up as much of the spillage as possible by using absorbing materials,
- Contact your field manager and ask for support.

Major spillage of oil or fuel on soil or permeable surface should be treated as follows:

- Wherever possible, limit the spillage by turning off all activities that causes the spill. Close all applicable valves, plug the hole where the product is leaking or stop pumping through a ruptured pipeline, hose or overflowing tank.
- Contain the spill and prevent spread of the substance by using sandbags, sand or soil, absorbent booms or planking to divert flow.
- Prevent any of the oil substances from entering your drains, storm water systems or septic tanks, or from contaminating any natural water systems by forming a barrier from soil, sand, sandbags or absorbing materials.
- Prevent any of the oil substances from contaminating groundwater. It may be necessary to remove contaminated soil for disposal or rehabilitation.
- Remove or mop up as much of the spill as possible by using spill fighting materials. Water the soil to bring oil to the surface and "mop up" with absorbent material such as Drizit.
- Plough soil for aeration and apply fertilizer/suitable neutralizing chemicals if viable (not detergents).
- Contact your field manager and ask for support.
- All contaminated spill prevention material (such as fibers, Drizit, soils, sandbags etc) have to be disposed of in an environmentally acceptable way, e.g. by using Waste-tech.

Spill Reporting

The MET, external auditor, fuel suppliers and local protection services should be notified whenever:

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- A spill in excess of 200 liters occurs. For oil spill incidents of lesser magnitude with impact on water sources, rivers, streams, etc., or that are likely to attract public or press attention, the supplier should be notified.
- For every major spill (over 200 liters of product) that occurs, the Incident Report Form must be completed. Investigate spill cause and implement recommendations for preventing re-occurrence.
- If watercourses and ground water are contaminated, then the MET and MAWF must be notified.

Customer Inspection

Site operating staff should check regularly if the tank system, pipe-work and equipment are in good condition. For example, a dirty pump or weathered hose or tube might need maintenance. A spillage resulting from malfunctioning equipment might be prevented. Inform fuel supplier when tank systems, pipe-work or equipment need maintenance.

Leak Reporting Procedure

- Notify the supplier immediately of any suspected leaks in a tank system or malfunctioning of equipment.
- Any loss or suspected loss must be confirmed in writing.
- For every suspected leak in aboveground or underground tanks the Incident Report Form has to be completed.
- Investigate leak cause (in co-operation with supplier) and implement recommendations for preventing reoccurrence.

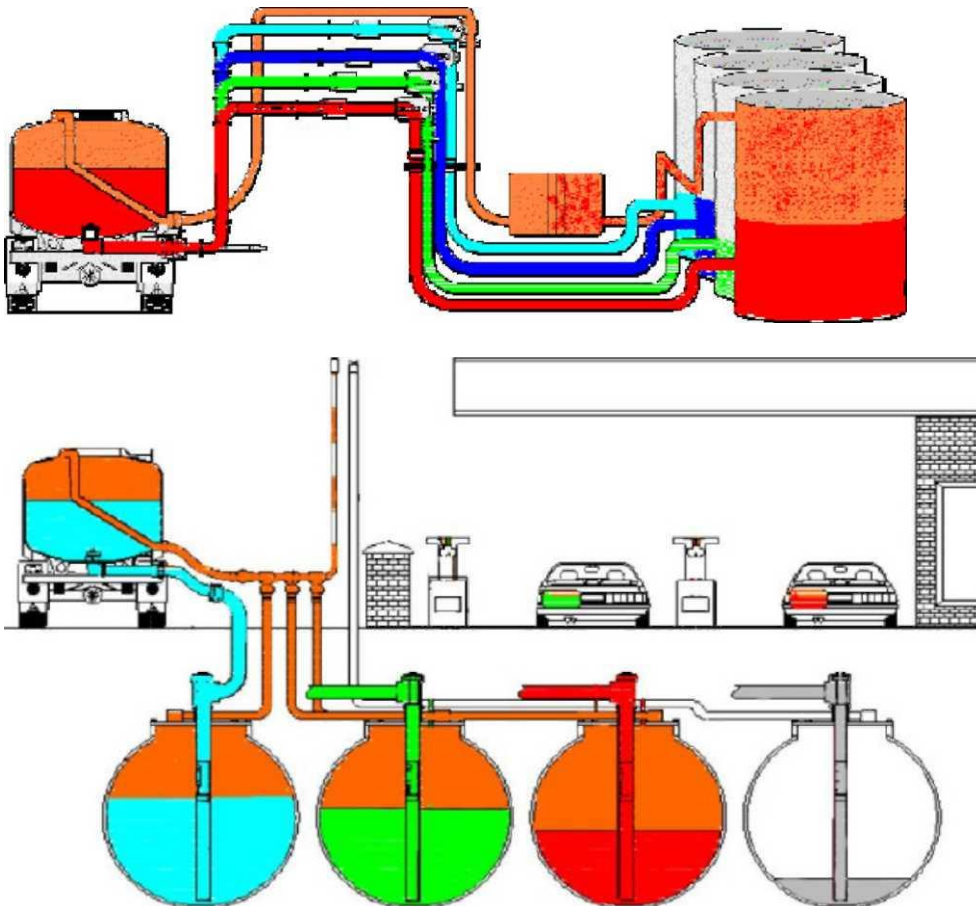
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ADDENDUM E: VAPOUR RECOVERY

Vapour recovery is the process by which vapours (VOC's) displaced during the transfer of fuel at a filling station are collected for processing rather than expelled into the atmosphere.

There are 3 stages of vapour recovery:

- **Stage 1A:** Vapour recovery during loading of the tanker at the terminal



- **Stage 1B:** Vapour recovery during unloading of the tanker into the service station storage tank.
- **Stage 2:** Vapour recovery during filling of a vehicle fuel tank.

Vapour recovery methods must be implemented as far as possible at the different stages.

Vapour recovery is necessary as the hydrocarbon vapours given off by petroleum products, particularly petrol (gasoline), also known as VOC's (volatile organic compounds), are considered to be pollutants having the following damaging effects:

- As local atmospheric pollutants contributing towards smog and haze that occur over large cities,
- As "greenhouse gases" contributing towards global warming.
- As toxic and carcinogenic substances, causing human health problems.

Vapour Recovery Methods

Recovery systems generally consist of vapour collection or balancing systems; using either condensation, absorption, diffusion and/or adsorption technologies to recover vapour emissions.

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