

THE OPERATIONS OF A CONSUMER FUEL INSTALLATION OF COCA-COLA NAMIBIA BOTTLING COMPANY SITUATED IN OSHAKATI

UPDATED ENVIRONMENTAL MANAGEMENT PLAN



Assessed by:



Assessed for:



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Project:	UPDATED ENVIRONMENTAL MANAGEMENT PLAN FOR THE OPERATIONS OF COCA-COLA NAMIBIA BOTTLING COMPANY'S CONSUMER FUEL INSTALLATION IN OSHAKATI	
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1 OBJECTIVES OF THE EMP

Coca-Cola Namibia Bottling Company (CCNBC) requested Geo Pollution Technologies to update their existing EMP for the operations of their consumer fuel installation. The installation consists of two underground 23 m³ steel storage tanks for the storage of diesel and unleaded petrol, and a 23 m³ aboveground heavy fuel oil tank. The installation is used to supply fuel for the operations and fleet at their bottling plant in Oshakati. The Environmental Management Plan (EMP) provides management options to ensure impacts of operations are minimised. An EMP is a tool used to take pro-active action by addressing potential problems before they occur. This should limit the corrective measures needed, although additional mitigation measures might be included if necessary. The EMP acts as a stand-alone document, which can be used during both operational and decommissioning phases of any proposed activity or development. All contractors and sub-contractors taking part in the operations of this facility should be made aware of the contents of the EMP, so as to plan the relevant activities in an environmentally sound manner.

The objectives of the EMP are:

- ◆ to include all components of the various activities of the consumer fuel installation;
- ◆ to prescribe the best practicable control methods to lessen the environmental impacts associated with the operations of the facility;
- ◆ to monitor and audit the performance of operational personnel in applying such controls; and
- ◆ to ensure that appropriate environmental training is provided to responsible operational personnel.

CCNBC implements the International Standards of Operation (ISO) 14001 Environmental Management System (EMS) for its operations. An EMS is an internationally recognized and certified management system that will ensure ongoing incorporation of environmental constraints. At the heart of an EMS is the concept of continual improvement of environmental performance with resulting increases in operational efficiency, financial savings and reduction in environmental, health and safety risks. An effective EMS includes the following elements:

- ◆ A stated environmental policy which sets the desired level of environmental performance;
- ◆ An environmental legal register;
- ◆ An institutional structure which sets out the responsibility, authority, lines of communication and resources needed to implement the EMS;
- ◆ Identification of environmental, safety and health training needs;
- ◆ An environmental program(s) stipulating environmental objectives and targets to be met, and work instructions and controls to be applied in order to achieve compliance with the environmental policy; and
- ◆ Periodic (internal and external) audits and reviews of environmental performance and the effectiveness of the EMS.

2 THE EMP

The following general guidance for the EMP is based on the findings of the initial EIA and risk assessment carried out by Geo Pollution Technologies (Faul et al. 2016). No additional development or construction took place at the facility during the validity of the initial ECC, and there is no planned construction besides general care and maintenance. Therefore an update of the Environmental Assessment is not required.

2.1 Land Use, Planning, Design, Operations – Identified Impacts

The following section provides a summary of the most pertinent impacts identified during the Environmental Assessment:

- ◆ The surrounding properties are zoned for industrial use;
- ◆ The risk of an accident/incident causing fires or explosions is possible. Human factors are still being considered and the best engineering still goes in to maintaining a very safe facility. If a fire or explosion was to occur and the necessary engineered structures were not in place there could be a significant impact on the adjoining industrial properties.

- ◆ The risk of groundwater, surface water and soil contamination is possible.

2.2 Land Use, Planning, Design, Operations – Mitigating Measures

The following provides a summary of the proposed Management Plan, which will aid in mitigating / preventing possible risk related to the continued operations and construction activities of the facility. The measures provided has taken into consideration all the risk perceptions raised by all stakeholders during the initial EIA:

- ◆ To prevent product loss through ruptures of pipelines or hose during the offloading operations, all nozzles on road tankers and storage tanks are fitted with excess flow check valves. These are designed to allow only specific flow rates and the moment it exceeds this, the process is stopped. Small quantities lying in the hose that could leak would be captured by spill containment structures.
- ◆ Firefighting equipment and spill control / clean-up kits are present on site.
- ◆ The proposed facility would not cause any substantial ecological threat to the environment in the vicinity of Oshakati. Contamination of soils or groundwater is prevented through safe work practices, engineered safety devices and spill containment structures.

3 THE IMPLEMENTATION OF THE EMP

Tables 1 to 3 outline the management of the environmental elements that may be affected by the different activities, grouped in each phase of development. These groups are as follows:

- ◆ Planning Phase
- ◆ Operational Phase
- ◆ Construction (care and maintenance) and Decommissioning Phase

All monitoring results must be reported on as indicated.

Table 1. Planning for Operations Construction (Care and Maintenance) and Future Decommissioning of the Project

Activity	Objective	Action	Timing	Proof of Compliance	Responsible Body
Compliance	To comply with all legal requirements for the operations of the facility in Namibia.	Apply for / renew the necessary permits from the various ministries, local authorities and any other bodies that governs the operations of the proposed activity.	Ongoing during continued operations	All contracts, permits, certificates and other legal documents on file.	Proponent
Baseline	Determine baseline pollution conditions.	Collect soil and water samples where required and analyse for chemicals of concern.	Ongoing during continued operations	Analysis results on file	Independent Specialist Consultant
Appointments	To appoint reputable contractors and operational personnel and establish the EMP, a legal requirement that forms part of the contract with the contractor and employees.	Appoint reputable contractor and employees and enter into an agreement which includes the EMP. Ensure that the contents of the EMP are understood by the contractor, sub-contractors, employees and all personnel who will be present on site.	Ongoing during continued operations and possible minor construction events	Contracts on file	Proponent; Contractor
Management	Establish and maintain a management system to implement and monitor Health, Safety and Environment.	Maintain the Health, Safety and Environmental Coordinator to implement the EMP and oversee occupational health and safety as well as general environmental related compliance at the site. Have the following emergency plans, equipment and personnel in place to deal with all emergencies: Risk Management / Mitigation / Environmental Management Plan/ Emergency Response Plan and HSE Manuals Adequate protection and indemnity insurance cover for incidents; Comply with the provisions of all relevant safety standards; Procedures, equipment and materials	Ongoing during continued operations and possible minor construction events	Documentation on file Personal Protection Equipment (PPE) on site Signage related to restricted areas, dangerous areas, and PPE requirements on site Emergency response material on site	Proponent; Contractor

Activity	Objective	Action	Timing	Proof of Compliance	Responsible Body
Restoration Fund/Insurance	To establish a fund/insurance for future environmental restoration or pollution remediation if ever required.	To establish a fund for future ecological restoration of the project site should project activities cease and the site is decommissioned and environmental restoration or pollution remediation is required.	Prior to commencement of operations and during operations	Proof / Financial statements of restoration fund / insurance	Proponent; Independent Specialist Consultant
Reporting	To establish a reporting system to report on monitoring aspects of operations and decommissioning as outlined in the EMP.	Establish a reporting system to report on aspects operations and decommissioning as outlined in the EMP. Submit bi-annual reports to the Ministry of Environment and Tourism. Reporting is required for Environmental Clearance Certificate renewal applications.	During operations as well as possible future decommissioning of the development	Monitoring Reports	Proponent; Contractor
Environmental Clearance Renewal	To renew the Environmental Clearance Certificate every three years.	Appoint a specialist environmental consultant to update the EIA and EMP and apply for renewal of the Environmental Clearance Certificate.	Prior to expiry of Environmental Clearance Certificate	Renewed Environmental Clearance Certificate	Proponent; Independent Specialist Consultant

Table 2. The Operational Phase

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Enhanced skills and technology to transfer to Oshakati and subsequent promotion of economic development	People needs skills to perform their jobs. The technology for certain operations often not found locally. Development of people and technology are key to economic development.	Skills development and improvement programs to be made available as identified during performance assessments. Employees to be informed about parameters and requirements for references upon employment. The proponent must employ Namibians where possible. Deviations from this practise should be justified appropriately.	Proof of appointment of local contractors on file.	Proponent
Increased spread of HIV/AIDS; Increased influx to Oshakati; Increased informal settlement and associated problems; Reduced property values	New and existing developments attract people who seek work. This in turn can increase the extent of informal settlements and its associated problems. The increased trucking and distribution of goods from Oshakati could contribute to the spread of HIV / AIDS. It is possible that these can affect property prices in the area depending on the proximity to a residential site.	Appointing reputable contractors who implement educational program on HIV/AIDS for all the staff, in particular the truck drivers, is imperative. Restricted employment for local people only should be practiced. Deviations from this practice should be justified appropriately. Training of local people should be considered from the start. These measures will reduce the influx of newcomers to the town and thereby reduce growth in the informal settlement and maintain property prices.	Proof of appointment of local contractors on file.	Proponent
Employment	Operational activities of a facility often requires the employment of contractors as well as employment and training of staff for the facility.	Employment and contractors should first be sourced locally, then regionally and then nationally. Deviations from this should be justified.	Proof of appointment of local contractors on file.	Proponent
Traffic	Traffic impacts during periods of fuel delivery.	Tanker trucks delivering fuel should not be allowed to park in the street for prolonged periods. If any traffic impacts is expected traffic management should be performed to prevent these.	Any complaints received regarding traffic issues should be recorded. A report should be compiled every of all incidents reported and complaints received.	Proponent
Fire and Explosion	Products kept on site are flammable and therefore a fire risk exists.	The following controls are typical measures for mitigating the threat of spillage of hazardous chemicals and possible	A register of all incidents must be maintained. This	Proponent

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Hazard		<p>fire outbreak:-</p> <ul style="list-style-type: none"> ● A holistic fire protection and prevention plan is needed. This plan must include an emergency response plan, firefighting plan and spill recovery plan. ● Special note must be taken of the regulations stipulated in sections 47 and 48 of the Petroleum Products and Energy Act, 1990 (Act No. 13 of 1990). ● Maintain firefighting equipment, good housekeeping and personnel training (firefighting, fire prevention and responsible housekeeping practices). <p>Fire Fighting and Fire Prevention:</p> <ul style="list-style-type: none"> ● Ensure all chemicals are stored according to MSDS and SANS instructions. ● Maintain regular site, mechanical and electrical inspections and maintenance. ● Clean all spills / leaks. ● Special note must be taken of the regulations stipulated in sections 47 and 48 of the Petroleum Products and Energy Act, 1990 (Act No. 13 of 1990). ● Follow SANS standards for operation and maintenance of the facility. ● All dispensers must be equipped with devices that cut fuel supply during fires. ● The proponent should liaise with the local Fire Brigade to ensure that all fire requirements are met. This includes, but is not limited to SANS 10400 T: 2011. 	<p>should include measures taken to ensure that such incidents do not repeat themselves.</p> <p>A report should be compiled of all incidents reported. The report should contain dates when fire drills were conducted and when fire equipment was tested and training given</p>	
Health, Safety & Security	<p>All phases of the facility is reliable on human labour, and are subject to human error. This generates potential risks to the people operating on the site. These risks are assessed in terms of the predicted impact if realised. Typical examples are:-</p>	<p>All Health and Safety standards specified in the Labour Act should be complied with.</p> <p>Implement and maintain an integrated health and safety management system, to act as a monitoring and mitigating tool, which includes:-</p> <ul style="list-style-type: none"> ● Operational and procedural manuals ● Health and Safety Training 	<p>Any incidents must be recorded with action taken to prevent future occurrences.</p> <p>A report should be compiled of all incidents reported. The report should contain dates</p>	Proponent

Criteria	Nature	Mitigation	Monitoring	Responsible Body
	<ul style="list-style-type: none"> ● Breathing in excessive fumes ● Slipping on wet surfaces ● Product contact with eyes and skin ● Staff not wearing protective clothing ● Carcinogenic effects of some petroleum products <p>Security risks are related to unauthorized entry, theft and sabotage.</p>	<p>Mitigation</p> <ul style="list-style-type: none"> ● Housekeeping rules ● Colour coding areas, pipes, equipment and substances ● Signage for Personal Protective Equipment (e.g. protective clothing like safety boots and hard hats) ● Safe work procedures and permits to work ● Clearance certificates for confined spaces ● Emergency response plans ● Material Safety Data Sheets (MSDS) ● First aid treatment and training ● Medical procedures and emergency services ● Daily safety moments and/or drills <p>Implementation of maintenance register for all equipment and fuel/hazardous substance storage areas.</p> <p>The MSDS give health related medical responses for personnel assisting staff who are exposed to the fuels</p>	<p>when training were conducted and when safety equipment and structures were inspected and maintained.</p>	
Noise	<p>Noise pollution will exist due to heavy vehicles accessing the site to offload fuel or refuel.</p>	<p>The facility is situated in a light industrial area so there is no restriction on the times of operation.</p> <p>However, it is important that CCNBC refer and adhere to the World Health Organization (WHO) guidelines on maximum noise levels (Guidelines for Community Noise, 1999) to prevent hearing impairment.</p>	<p>Any complaints received regarding excessive noise should be recorded with notes on action taken.</p> <p>All complaints and additional data, if available, to be compiled in a report.</p>	<p>Proponent; Independent Specialist Consultant</p>
Waste Production	<p>The ability of a product to act as a waste which must be cleaned up. These can be soils that become contaminated with chemicals and domestic waste from bins, offices and ablution facilities. Contamination of fuel through accidental mixing of products results in waste.</p>	<p>See the MSDS for handling hazardous substances. Contaminated fuel products that can no longer be used in the market must be disposed of as hazardous at an approved hazardous waste disposal facility or where possible converted for beneficial use if no contamination risk is present.</p> <p>All other domestic waste should be disposed of timely to maintain visual orderliness, but more so to not give time for liquid waste to enter the soil substrate.</p> <p>Contaminated soils can be remediated in accordance with accepted procedures at a site dedicated for this purpose.</p>	<p>A register of hazardous waste disposal should be kept. This should include type of waste, volume as well as disposal method/facility.</p> <p>Any complaints received regarding waste should be recorded with notes on action taken.</p> <p>All data to be compiled in a report.</p>	<p>Proponent</p>

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Groundwater, Surface Water and Soil Contamination	<p>Porous surface substrate can allow unwanted hazardous and ecologically detrimental substances to seep down to the water table.</p> <p>This can have a negative ecological impact as well as impact on the services and infrastructure like sewers, water or electricity where present.</p>	<p>The spill catchment trap should be cleaned regularly and waste disposed of at a suitably classified hazardous waste disposal facility.</p> <p>Liaise with the municipality regarding waste and handling of hazardous waste. Should there be plans to connect the outflow of the oil/water separator to the sewerage system, the municipality must be consulted to obtain the latest regulations pertaining to allowable sewage input.</p> <p>The following measures must be employed to prevent spillage into surface water drainage channels and groundwater sources:-</p> <ul style="list-style-type: none"> ● Spill control structures and procedures must be in place according to SANS standards or better ● Emergency Response Plans and Spill Contingency Plans must be in place and include all chemicals being handled. ● All fuelling and servicing of vehicles should be conducted on surfaces provided for this purpose. E.g. Concrete slabs with spill control infrastructure and regularly maintained seals between slabs. ● The procedures followed to prevent environmental damage during service and maintenance, and compliance with these procedures, including the correct use of sumps and regular reporting of spillages must be audited and corrections made where necessary. ● Proper training of operators must be conducted on a regular basis. ● Any spillage of more than 200 l must be reported to the relevant authorities and remediation instituted. ● Spill clean-up means must be available on site as per the relevant MSDS. ● All drains leading directly into sewers must be closed off, and locked where possible, to prevent any unwanted products from entering sewers should an accidental spill, pipe burst, valve malfunction, etc. occur. Where drains are present to drain wash water, these should only be opened during times of washing 	<p>A report should be compiled of all spills or leakages reported and monitoring results. The report should contain the following information: date and duration of spill, product spilled, volume of spill, remedial action taken, comparison of pre-exposure baseline data (previous pollution conditions survey results if available) with post remediation data (e.g. soil/groundwater hydrocarbon concentrations) and a copy of documentation in which spill was reported to Ministry of Mines and Energy</p>	Proponent

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Ecological Impact	The effect of operational activities on the ecosystem functioning and biodiversity.	<p>and closed immediately thereafter.</p> <p>The facility is within an industrial area where most biodiversity has been removed long ago.</p> <p>The nesting of birds should be discouraged. Any changes to buildings should take into account the habitats that can be created inadvertently by certain architectural or engineering designs. Regular inspection must be performed to monitor for bird impacts and mitigation measures investigated if required.</p>	A record should be kept of any extraordinary fauna sightings or encounters on site. All data to be compiled in a report.	Proponent
Visual Impact	This is an impact that affects the aesthetic appearance. As this is an existing facility, the impact is not expected to have an impact on the landscape character. Visual impacts can however be present if the facility is not maintained.	Regular waste disposal, good housekeeping and routine maintenance on infrastructure will ensure that the longevity of structures are maximised and a low visual impact is maintained.	<p>A maintenance record should be kept of the consumer installation.</p> <p>A report should be compiled of all complaints reported.</p>	Proponent
Cumulative Impact	Possible cumulative impacts associated with the operational phase include increase in traffic and increased risk of ground water and soil contamination which can lead to the pollution of surrounding water sources.	<p>Addressing each of the individual impacts as discussed and recommended in the EMP would reduce the cumulative impact.</p> <p>Reviewing biannual and annual reports for any new or re-occurring impacts or problems would aid in identifying cumulative impacts and help in planning if the existing mitigations are insufficient.</p>	Summary report based on all other impacts must be created to give an overall assessment of the impact of the various phases of the facility.	Proponent

Table 3. Construction (Care and Maintenance) and Decommissioning Phase

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Waste Production	Waste may include hazardous waste associated with the handling of hydrocarbon products etc. Waste presents a contamination risk and when not removed regularly may become a fire hazard. Construction waste may include building rubble and discarded equipment contaminated by hydrocarbon products. Contaminated soil and water is considered as a hazardous waste.	<p>Waste reduction measures should be implemented and all waste that can be re-used / recycled must be kept separate.</p> <p>Ensure adequate disposal storage facilities are available and waste cannot be blown away by wind.</p> <p>Prevent scavenging (human and non-human) of waste storage.</p> <p>All regulation and by-laws relating to environmental health should be adhered to.</p> <p>Waste should be disposed of regularly and at appropriately classified disposal facilities, this includes hazardous material (empty chemical containers, contaminated rugs, paper water and soil).</p> <p>See the material safety data sheets available from suppliers for disposal of contaminated products and empty containers.</p> <p>Liaise with the municipality regarding waste and handling of hazardous waste.</p> <p>Rehabilitation if necessary are to be done using funds designated for the purpose.</p>	<p>Regular visual inspection.</p> <p>A register of hazardous waste disposal should be kept. This should include type of waste, volume as well as disposal method/facility.</p> <p>Any complaints received regarding waste should be recorded with notes on action taken.</p> <p>All information and reporting to be included in a report.</p>	Proponent; Contractor
Ecological Impact	<p>Operations spanning many years may create new habitat for fauna and flora.</p> <p>Construction or decommissioning activities may lead to the destruction of these habitats.</p> <p>Further impacts may be related to pollution of the environment.</p>	<p>The establishment of habitats and nesting sites at the facility should be prevented where possible during all phases.</p> <p>Before construction or decommissioning the area should be inspected to ensure no habitats or nesting sites is present that will be directly impacted.</p> <p>If habitats or nesting sites will be directly impacted, CCNBC must contact MET or other appropriate organizations to establish the conservation status of it, and to advise on steps forward.</p> <p>Mitigation measures related to waste handling and the prevention of groundwater, surface water and soil contamination should limit ecosystem and biodiversity</p>	<p>A report should be compiled of any fauna and flora that established itself on the premises. The report should include all actions taken to relocate or deal with the situation.</p>	Proponent; Contractor

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Employment	Decommissioning of the facility may lead to retrenchments or re-location of staff no longer required.	Plan in advance for meeting the Labour Acts requirements for retrenching of staff if required. Where possible staff can be relocated to another facility or town where business continues in the same way.	Prior to decommissioning, a report should be compiled that includes the appropriate plans for handling of employees should the facility be decommissioned. The report should include budgeting for retrenchments and possible alternative positions elsewhere.	Proponent.
Dust	Dust will be generated during construction and possible decommissioning activities and might be aggravated during periods of strong winds.	It is recommended that regular dust suppression be included in the Decommissioning Phase, when dust becomes an issue. Personnel should be issued with dust masks for health and safety reasons.	Regular visual inspection. A complaints register must be maintained, in which any complaints from the community must be logged. Complaints must be investigated and, if appropriate, acted upon.	Proponent; Contractor
Noise	Noise pollution will exist due to heavy vehicles and machinery that may be required for construction and possible decommissioning activities.	The facility is situated in a light industrial area so there is no restriction on the times of operation. Follow World Health Organization (WHO) guidelines on maximum noise levels (Guidelines for Community Noise, 1999) to prevent hearing impairment. All machinery must be regularly serviced to ensure minimal noise production. All personnel must be issued with hearing protectors and neighbours must be notified of the time and duration of construction / decommissioning. Notice of the start of the decommissioning should be given to the local authorities with an invitation to give feedback at any time with regards the noise impact.	Maintain a complaints register. Report on complaints and actions taken to address complaints and prevent future occurrences	Proponent; Contractor.
Visual Impact	This is an impact that affects the aesthetic appearance	Visual impact could be aggravated during construction / decommissioning activities. Visual impacts could be limited	Maintain a complaints register.	Proponent; Contractor

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Groundwater, Surface Water and Soil Contamination	<p>Porous surface substrate can allow unwanted hazardous and ecologically detrimental substances to seep down to the water table.</p> <p>Groundwater might spread pollutants to neighbouring receptors and may create an impact on underground utilities (i.e. fresh water supply to buildings, sewerage system).</p>	<p>by keeping all areas clean and orderly at all times. Good housekeeping also reduces the risk of injuries. Notice of the start of the decommissioning should be given to the local authorities with an invitation to give feedback at any time with regards the visual impact.</p> <p>All precautions are to be taken to prevent contamination of the soil as this could enter the ecosystem. Leakages from vehicles might occur especially on site. Care must be taken to avoid contamination of soil and groundwater. Pollutants in the soil and building rubble must be transported away from the site to an approved, appropriately classified waste disposal site.</p> <p>Drip trays must be readily available and no servicing of vehicles may take place on site.</p> <p>A spill clean-up kit must be readily available on site as per the relevant MSDS.</p> <p>Confirm MSDS information for any remaining fuels, oils or lubricants that must be discarded.</p> <p>Regulations on sewerage discharge and the chemicals that may and may not be put into the sewerage system must be followed.</p> <p>Any fuel spillage of more than 200 litre must be reported to the Ministry of Mines and Energy, Directorate of Petroleum Affairs.</p>	<p>Report on complaints and actions taken to address complaints and prevent future occurrences</p> <p>Report form for all spills or leaks is to be completed by Contractor and submitted to the Municipality of Oshakati HSE.</p> <p>An environmental conditions survey must be carried out after the decommissioning. This is to assess the condition of soil substrate and any groundwater present. Comparisons with pre-construction baseline data is to be made and any discrepancies must be addressed before the site can be signed over.</p>	<p>Proponent; Contractor</p>
Utilities and Infrastructure	<p>Any damage caused to existing infrastructure and services supply like sewers, water or electricity where present.</p>	<p>Appointing qualified and reputable contractors is essential. The contractor must determine exactly where amenities and pipelines are situated before construction commences (utility clearance e.g. ground penetrating radar surveys). Liaison with the Municipality and suppliers of services is essential.</p> <p>All drains leading directly into sewers must be closed off, and locked where possible, to prevent any unwanted products from entering sewers should an accidental spill, pipe burst, valve malfunction, etc. occur. Where drains are</p>	<p>A report should be compiled all incidents of water and electricity disruptions reported or incidents of damage to utilities and infrastructure. This should include measures taken to deal with the situation and ensure that such incidents do not repeat themselves.</p>	<p>Proponent; Contractor</p>

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Health, Safety and Security	During the Decommissioning Phase similar risks to human beings as with previous phases will be present. Once the tanks and pipelines have been emptied completely of their contents residual amounts of fuel might exist. All other risks associated with demolitions must be considered.	<p>The construction or decommissioning activities at a consumer fuel installation can cause serious health and safety risks to workers on site. Occupational exposures are normally related to dermal contact with fuels and inhalation of fuel vapours during handling of such products. For this reason adequate measures must be brought in place to ensure safety of staff on site, and includes: (Provide forms for all end users who monitor)</p> <ul style="list-style-type: none"> ● Proper training of operators; ● First aid treatment; ● Medical assistance; ● Emergency treatment; ● Prevention of inhalation of fumes (fuel); ● Protective clothing, footwear, gloves and belts; safety goggles and shields; ● Manuals and training regarding the correct handling of materials and packages should be in place and updated as new or updated MSDS' become available; Risks might be lower but still exist especially if tanks must be entered for inspections. Confined Space Training will be required. ● 24-hour security surveillance in case of opportunistic activities. 	A register of all incidents must be maintained. This should include measures taken to ensure that such incidents do not repeat it self.	Proponent; Contractor
Fire and Explosion Hazard	<p>Construction or decommissioning activities may increase the risk of occurrences of fires.</p> <p>Residual hydrocarbons could be present and might pose a risk to the teams dismantling the various structures. Fire and/or explosion events are still possible.</p> <p>The site is located next to built-up areas</p>	<p>Various international occupational health and safety performances should be consulted for specific regulations regarding the decommissioning of the facility to ensure all risks are mitigated. All relevant regulations and precautions should be in place as it was during the Operational Phase. In addition to this, all personnel have to be sensitised about responsible fire protection measures and good housekeeping such as the removal of flammable materials including rubbish, dry vegetation, and hydrocarbon-soaked soil from</p>	<p>A register of all incidents must be maintained on a daily basis. This should include measures taken to ensure that such incidents do not repeat themselves.</p> <p>A report should be compiled of all incidents reported. The report should contain dates</p>	Proponent; Contractor

Criteria	Nature	Mitigation	Monitoring	Responsible Body
	which increases the difficulty of fighting fires	<p>Mitigation the vicinity of the fuel storage facility. Regular inspections should still be carried out to inspect and test fire fighting equipment and pollution control materials at the consumer fuel installation. All fire precautions and fire control at the consumer fuel installation must be in accordance with SANS, or better. A holistic fire protection and prevention plan is needed. This plan must include an emergency response plan, firefighting plan and spill recovery plan.</p> <p>Special note must be taken of the regulations stipulated in sections 47 and 48 of the Petroleum Products and Energy Act, 1990 (Act No. 13 of 1990).</p>	<p>Monitoring when fire drills were conducted and when fire equipment was tested and training given.</p>	

4 CONCLUSIONS

The above updated Environmental Management Plan, if properly implemented will ensure continual mitigation and prevention of adverse impacts on the environment. Where impacts occur, immediate action must be taken to reduce the escalation of effects associated with these impacts. To ensure the relevance of this document to the specific stage of project, it needs to be reviewed throughout all phases.

The Environmental Management Plan should be continually used as an on-site reference document during all phases of the project, and auditing should take place in order to determine compliance with the EMP for the proposed site, and Parties responsible for transgression of the EMP should be held responsible for any rehabilitation that may need to be undertaken.

Monitoring reports must be kept available for possible submission with future renewal applications for environmental clearance certificates.

5 REFERENCES

Faul A, Botha P, Brews L. 2016. Environmental Impact Assessment for the Operations of Coca-Cola Namibia Bottling Company's Consumer Fuel Installation in Oshakati