

**APP-002447**

**OCTAGON CONSTRUCTION'S TEMPORARY CONSUMER FUEL  
INSTALLATION, OPUWO**

**ENVIRONMENTAL MANAGEMENT PLAN**



**Prepared by:**



**Prepared for:**



March 2021



<b>Project:</b>	<b>OCTAGON CONSTRUCTION'S TEMPORARY CONSUMER FUEL INSTALLATION, OPUWO: ENVIRONMENTAL ASSESSMENT SCOPING REPORT</b>	
<b>Report: Version/Date:</b>	Final March 2021	
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<b>Cite this document as:</b>	Faul A, Coetzer W; 2021 March; Octagon Construction's Temporary Consumer Fuel Installation, Opuwo: Environmental Management Plan	
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## **1 INTRODUCTION**

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The Opuwo Town Council is establishing a township on Portion B of the Remainder of Farm Opuwo Townlands No. 1115 and Portion Y of the Remainder of Opuwo Townlands No. 876. Octagon Construction was contracted for the construction and installation of services for the township establishment, and as such requires the use of earthmoving equipment and heavy motor vehicles. Octagon Construction established a construction camp at the site of township establishment and intends to add a temporary consumer fuel installation to the construction camp. The consumer fuel installation will supply diesel to Octagon Construction's earthmoving and related vehicles. The installation will consist of steel diesel tanks inside steel bunding that will be transported to, and placed on, the site. Being a mobile unit, this consumer fuel installation will require no specific construction activities apart from levelling the ground where it will be placed.

Octagon Construction contracted Total Namibia (Pty) Ltd for the supply of the tanks and the fuel for the proposed consumer fuel installation. Total Namibia (the Proponent) in turn appointed Geo Pollution Technologies (Pty) Ltd to undertake an environmental assessment for the temporary consumer fuel installation. In support of the environmental assessment, an environmental management plan (EMP) was developed and is represented in this report.

## **2 OBJECTIVES OF THE EMP**

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The EMP provides management options to ensure impacts of the proposed facility 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 the various phases (planning, commissioning, operational and decommissioning) of any proposed activity or development.

All contractors and sub-contractors taking part in the project should be made aware of the contents of the EMP, so as to plan the relevant activities accordingly in an environmentally sound manner.

The objectives of the EMP are:

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

## **3 IMPLEMENTATION OF THE EMP**

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Section 4 outline the management of the environmental elements that may be affected by the different activities. Impacts addressed and mitigation measures proposed are seen as minimum requirements which have to be elaborated on by the client where required. Delegation of mitigation and reporting activities should be determined by the proponent and included in the EMP. The EMP is a living document that must be prepared in detail, and regularly updated, by the proponent as the project progress and evolve.

The EIA, EMP and environmental clearance certificate must be communicated to the site managers. All monitoring results must be reported on as indicated. These are important for any future renewals of the environmental clearance certificate and must be submitted bi-annually to the Ministry of Environment, Forestry and Tourism.

## **4 MANAGEMENT OF IMPACTS**

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### **4.1 COMMISSIONING, OPERATIONS AND DECOMMISSIONING**

The following section provide management measures for the Commissioning, Operations and Decommissioning phases.

#### 4.1.1 Planning

During the phases of planning for commissioning, operations and decommissioning of the facility, it is the responsibility of Proponent to ensure they are and remain compliant with all legal requirements. The Proponent must also ensure that all required management measures are in place prior to and during all phases, to ensure potential impacts and risks are minimised. The following actions are recommended for the planning phase and should continue during various other phases of the project:

- ◆ Ensure that all necessary permits from the various ministries, local authorities and any other bodies that governs the project remains valid.
- ◆ Ensure all appointed contractors and employees enter into an agreement which includes the EMP. Ensure that the contents of the EMP are understood by the contractors, sub-contractors, employees and all personnel present or who will be present on site.
- ◆ Make provisions to have a Health, Safety and Environmental (HSE) 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 on site where reasonable to deal with all potential emergencies:
  - Risk management/mitigation/EMP/ 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 required for emergencies.
- ◆ If one has not already been established, establish and maintain 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.
- ◆ Establish and/or maintain a reporting system to report on aspects of construction activities, operations and decommissioning as outlined in the EMP.
- ◆ Submit 6 monthly environmental monitoring reports to allow for future environmental clearance certificate renewal applications if needed.
- ◆ Appoint a specialist environmental consultant to update the EA and EMP and apply for renewal of the environmental clearance certificate prior to expiry, if needed.



#### **4.1.2 Employment and Skills**

During the commissioning, operations and decommissioning of the facility some employment will be sustained and training provided.

**Desired Outcome:** To see an increase in employment and skills of local Namibians

##### **Actions**

##### **Mitigation:**

- ◆ If the skills exist locally, employees must first be sourced from the town, then the region, and then nationally. Deviations from this practice must be justified.
- ◆ Employees to be informed about parameters and requirements for references upon employment.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ Record should be kept of training provided (6 monthly monitoring reports).
- ◆ Ensure that all training is certified or managerial reference provided (proof provided to the employees) inclusive of training attendance, completion and implementation.

### **4.1.3 Demographic Profile and Community Health**

The project is reliant on labour during the commissioning, operations and decommissioning phases. The scale of the project, related directly to the consumer fuel installation, is limited and it is not foreseen that it will create a change in the demographic profile of the local community. Community health may be exposed to factors such as communicable disease like HIV/AIDS as well as alcoholism / drug abuse, associated with possible foreign construction teams. An increase in foreign people in the area may potentially increase the risk of criminal and socially / culturally deviant behaviour. However, such trends are considered to be more related to the actual township establishment project, which has its own environmental assessment and associated EMP.

**Desired Outcome:** To prevent the in-migration and growth in informal settlements and related social ills and to prevent the spread of diseases such as HIV/AIDS.

#### **Actions:**

##### **Prevention:**

- ◆ Employ only local people from the area, deviations from this practice should be justified appropriately.

##### **Mitigation:**

- ◆ Educational programmes for employees on HIV/AIDs and general upliftment of employees' social status.

#### **Responsible Body:**

- ◆ Proponent
- ◆ Contractor

#### **Data Sources and Monitoring:**

- ◆ Report based on educational programmes and training conducted.
- ◆ Report and review of employee demographics.

#### **4.1.4 Fuel Supply**

The facility will aid in securing fuel supply to the construction team for purposes of township establishment

**Desired Outcome:** Ensure a secure fuel supply remains available to the construction team

##### **Actions**

##### **Mitigation:**

- ◆ Ensure compliance to the petroleum regulations of Namibia.
- ◆ Proper management to ensure constant supply.
- ◆ Record supply problems and take corrective actions.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractor

##### **Data Sources and Monitoring:**

- ◆ Record supply problems and corrective actions taken.

#### **4.1.5 Traffic**

The facility will prevent traffic impacts in town. Some traffic impacts may be expected during the delivery and removal of the equipment during the commissioning and decommissioning phases.

**Desired Outcome:** Minimum impact on traffic and no transport or traffic related incidents.

##### **Actions**

###### **Prevention:**

- ◆ Erect clear signage regarding access and exit points at the facility.

###### **Mitigation:**

- ◆ If any traffic impacts are expected, traffic management should be performed to prevent these.
- ◆ The placement of signs to warn and direct traffic will mitigate traffic impacts.

###### **Responsible Body:**

- ◆ Proponent
- ◆ Contractor

###### **Data Sources and Monitoring:**

- ◆ Any complaints received regarding traffic issues should be recorded together with action taken to prevent impacts from repeating itself.
- ◆ A report should be compiled of all incidents reported, complaints received, and action taken.

#### **4.1.6 Health, Safety and Security**

Activities that will be associated with the commissioning, operations and decommissioning of the facility are reliant on human labour and therefore will expose them to health and safety risks. Activities such as the operation of machinery and handling of hazardous chemicals (inhalation and carcinogenic effect of some petroleum products), will pose the main risks to employees. Security risks will be related to unauthorized entry, theft and sabotage.

**Desired Outcome:** To prevent injury, health impacts and theft.

##### **Actions**

##### **Prevention:**

- ◆ Clearly label dangerous and restricted areas as well as dangerous equipment and products.
- ◆ Equipment that will be locked away on site must be placed in a way that does not encourage criminal activities (e.g. theft).
- ◆ Provide all employees with required and adequate personal protective equipment (PPE).
- ◆ Ensure that all personnel receive adequate training on operation of equipment / handling of hazardous substances.
- ◆ All health and safety standards specified in the Labour Act should be complied with.
- ◆ Implementation of maintenance register for all equipment and fuel / hazardous substance storage areas.

##### **Mitigation:**

- ◆ Selected personnel should be trained in first aid and a first aid kit must be available on site. The contact details of all emergency services must be readily available.
- ◆ Security procedures and proper security measures must be in place to protect workers.
- ◆ Strict security that prevents unauthorised entry.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ Any incidents must be recorded with action taken to prevent future occurrences.
- ◆ A report should be compiled of all incidents reported. The report should contain dates when training were conducted and when safety equipment and structures were inspected and maintained.

#### 4.1.7 Fire

Diesel is flammable although the chances of ignition and fire is low.

**Desired Outcome:** To prevent property damage, possible injury and impacts caused by uncontrolled fires.

**Actions:**

**Prevention:**

- ◆ Ensure all chemicals are stored according to MSDS and SANS instructions.
- ◆ Maintain regular site, mechanical and electrical inspections and maintenance where applicable.
- ◆ 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.

**Mitigation:**

- ◆ A holistic fire protection and prevention plan is needed. This plan must include an emergency response plan, firefighting plan and spill recovery plan.
- ◆ Maintain firefighting equipment, good housekeeping and personnel training (firefighting, fire prevention and responsible housekeeping practices).

**Responsible Body:**

- ◆ Proponent
- ◆ Contractors

**Data Sources and Monitoring:**

- ◆ 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.

#### **4.1.8 Noise**

Noise impacts related to heavy motor vehicles accessing the site to offload / load equipment and to refuel.

**Desired Outcome:** To prevent any nuisance and hearing loss due to noise generated.

##### **Actions**

##### **Prevention:**

- ◆ 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.

##### **Mitigation:**

- ◆ Hearing protectors as standard PPE for workers in situations with elevated noise levels.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ WHO Guidelines.
- ◆ Report on complaints and actions taken to address complaints and prevent future occurrences.

#### **4.1.9 Waste Production**

Limited waste will be produced as a result of the functioning of the consumer fuel installation. Waste may include hazardous waste associated with the handling of hydrocarbon products etc. Contaminated soil and water is considered as hazardous wastes. Domestic waste will be generated by the facility and related operations. Waste presents a contamination risk and when not removed regularly may become a fire hazard.

**Desired Outcome:** To reduce the amount of waste produced, and prevent pollution and littering.

#### **Actions**

##### **Prevention:**

- ◆ Waste reduction measures should be implemented and all waste that can be re-used / recycled must be kept separate.
- ◆ Ensure adequate disposal storage facilities are available.
- ◆ Ensure waste cannot be blown away by wind.
- ◆ Prevent scavenging (human and non-human) of stored waste.

##### **Mitigation:**

- ◆ 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).
- ◆ See the material safety data sheets available from suppliers for disposal of contaminated products and empty containers.
- ◆ Liaise with the municipality town council regarding waste and handling of hazardous waste.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ A register of hazardous waste disposal should be kept. This should include type of waste, volume as well as disposal method/facility.



#### **4.1.10 Groundwater, Surface Water and Soil Contamination**

Heavy machinery may present a contamination risk to the soil, surface and groundwater through breakdowns resulting in leaks of fuel, oil or hydraulic fluid. Operations will entail the storage and handling of diesel which present a contamination risk. It may contaminate surface water, soil and groundwater. Contamination may either result from failing storage facilities, or spills and leaks associated with fuel handling.

**Desired Outcome:** To prevent the contamination of water and soil.

##### **Actions**

###### **Prevention:**

- ◆ All vehicles should be maintained to be in a good working condition during operations.
- ◆ Employ drip trays during the fuelling of vehicles to collect any spilled diesel.
- ◆ Proper training of operators must be conducted on a regular basis (fuel handling, spill detection, spill control).

###### **Mitigation:**

- ◆ Any spillage of more than 200 litre must be reported to the Ministry of Mines and Energy.
- ◆ Spill clean-up means must be readily available on site as per the relevant MSDS and any spill must be cleaned up immediately.
- ◆ Plastic sheeting must be available on site and if any soil is contaminated, such soil should immediately be collected and stored on the plastic sheeting to prevent infiltration into deeper soil and possibly the groundwater. Such soil should then be remediated or disposed of according to industry standards.

###### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

###### **Data Sources and Monitoring:**

- ◆ A report should be compiled of all spills or leakages reported. The report should contain the following information: date and duration of spill, product spilled, volume of spill, remedial action taken, and a copy of documentation in which spill was reported to Ministry of Mines and Energy.

#### **4.1.11 Cumulative Impact**

Possible cumulative impacts associated with the construction and operational phase include increased traffic, dust and noise in the area.

**Desired Outcome:** To minimise cumulative all impacts associated with the facility.

#### **Actions**

##### **Mitigation:**

- ◆ Addressing each of the individual impacts as discussed and recommended in the EMP would reduce the cumulative impact.
- ◆ Reviewing 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

##### **Responsible Body:**

- ◆ Proponent

##### **Data Sources and Monitoring:**

- ◆ Summary report based on all other impacts must be created to give an overall assessment of the impact of the facility.

## **5 CONCLUSION**

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The EMP should be used as an on-site reference document for all the operational activities. Parties responsible for transgression of the EMP should be held responsible for any rehabilitation that may need to be undertaken. The Proponent should use/develop their own in-house safety, health and environmental policies and standards in conjunction with the EMP. It is imperative that all construction and operational personnel are taught the contents of these documents to ensure better environmental practises all round.