

**ENVIRONMENTAL ASSESSMENT AND MANAGEMENT PLAN FOR A
RADIOACTIVE SOURCE MATERIAL STORAGE AND HANDLING FACILITY ON
ERF 1591, EXT 14, WALVIS BAY, ERONGO REGION**

BACKGROUND INFORMATION DOCUMENT



Prepared by



Prepared for



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1 INTRODUCTION

Baker Hughes Energy Services Namibia (Pty) Ltd (the Proponent) has an existing integrated multi-modal facility with advanced testing and maintenance equipment to support offshore oil and gas exploration. The facility is located on Erf 1591, on the corner of Logistics and Inventory Streets, Extension 14, Light Industrial Area, Walvis Bay, Erongo Region (Figure 1). The facility includes the storage and handling of radioactive source material used in support of specialised drilling equipment, including well logging equipment, used in the offshore oil and gas exploration industry. Baker Hughes already holds a licence from the National Radiation Protection Authority (NRPA) for the radioactive source material stored and handled at the facility. The radioactive source material is used under controlled conditions by suitably trained and authorised personnel for activities associated with the calibration, testing and servicing of drilling-related equipment.

The Proponent has requested Geo Pollution Technologies (Pty) Ltd (GPT) to apply for an environmental clearance certificate (ECC) for the facility and its operations. The ECC is required as per the Environmental Management Act No. 7 of 2007 (EMA). As part of the ECC application, an environmental assessment report and environmental management plan (EMP) will be submitted to the Ministry of Environment, Forestry and Tourism's Directorate of Environmental Affairs (DEA).

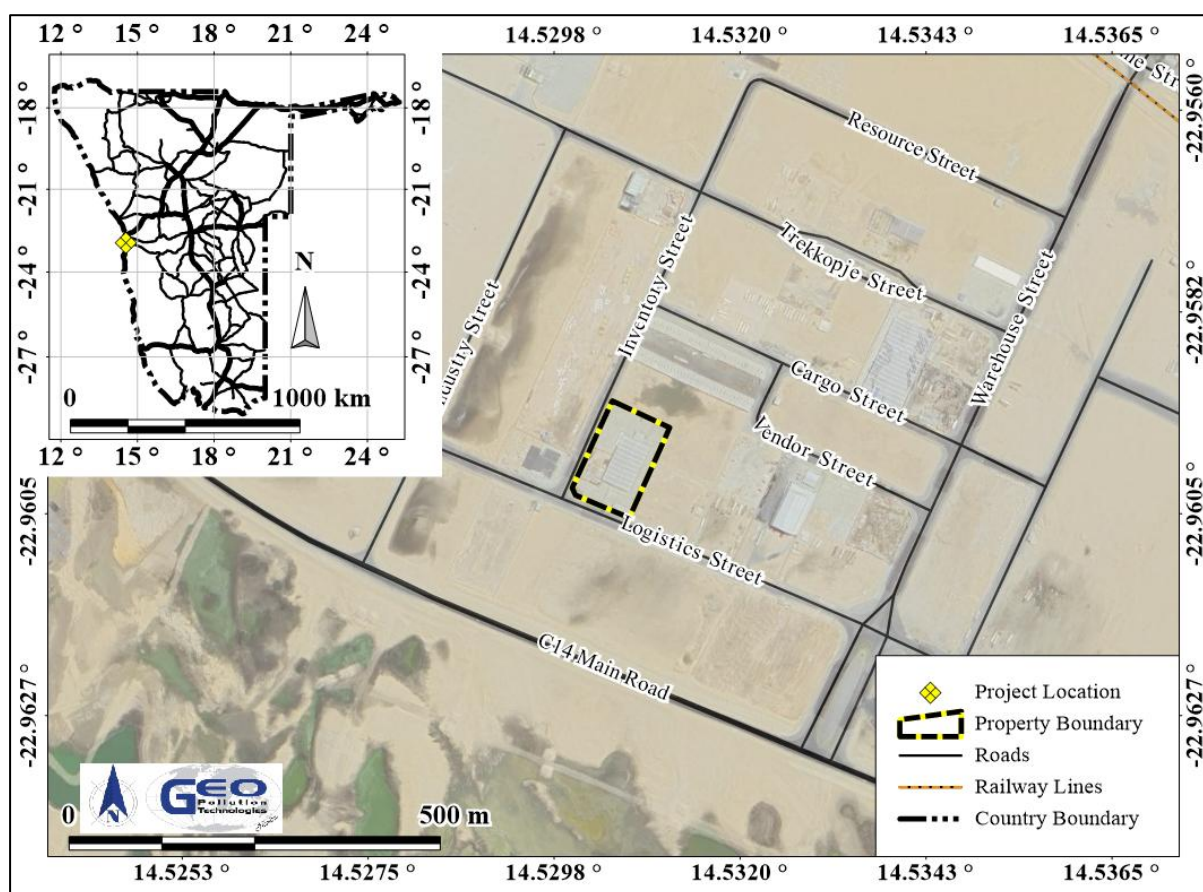


Figure 1 Project location

2 PURPOSE OF THE BID

With this background information document (BID), GPT aims to provide the DEA, authorities and interested and affected parties (IAPs) with information about the facility, and to register the ECC application with the Ministry of Health and Social Services, NRPA and the DEA. IAPs are also invited to register with GPT in order to receive more information on the project, to provide comments, and to review all documents submitted to the DEA as part of the application for an ECC.

3 PROJECT DESCRIPTION

Activities considered for the assessment have been divided into the following phases: planning, construction and maintenance, operational and a decommissioning phases. A brief outline of expected activities for each phase is detailed below.

3.1 PLANNING PHASE

The facility has already been constructed. During operations, some construction related activities for upgrades and maintenance will be performed. Continuously during construction and operations, and prior to possible future decommissioning activities of the project, it is the responsibility of the Proponent to ensure they are and remain compliant with all legal requirements. The Proponent must also ensure that all required management and safety measures are in place prior to, and during all phases, to ensure potential risks and impacts are minimised. Typical planning activities include:

- ◆ Where not in place, obtain permits and approvals from local and national authorities including authorisation from the NRPA and municipal consent.
- ◆ Make provisions to have a health, safety and environmental coordinator to implement the EMP.
- ◆ Ensure provisions for a fund to cater for restoration or rehabilitation activities in the event of environmental incidents or pollution.
- ◆ Ensure all appointed contractors and employees enter into an agreement with the Proponent which includes adherence to relevant sections of the EMP.
- ◆ Maintain a reporting system to report on aspects of construction and maintenance, operations and decommissioning as outlined in the EMP. This is a requirement of the DEA.

3.2 INFRASTRUCTURE, CONSTRUCTION AND MAINTENANCE

The facility has already been developed and includes the infrastructure required for the storage and handling of radioactive source material. This includes a bunker constructed for the safe and secure underground storage of radioactive isotopes. The main infrastructure component is a state-of-the-art workshop for the maintenance and calibration of logging while drilling tools, utilising radioactive isotopes. Additional infrastructure includes an administrative office block, guardhouse, wash bay and perimeter wall with security-controlled gates.

Routine maintenance, repairs, upgrades and refurbishments may be undertaken throughout the life of the facility to ensure that the integrity, safety, security and operational efficiency of the infrastructure are maintained. Such activities may include cleaning, painting, replacement or servicing of equipment, maintenance of access control and security systems, servicing of fire and emergency equipment, and general upkeep of the workshop and storage areas.

3.3 OPERATIONAL PHASE

The radioactive isotopes that will be stored and used on site are Caesium-137 (Cs-137), Americium-241/Beryllium (Am-241/Be), Radium-226 (²²⁶Ra) and Hydrogen-3 (³H) (also called Tritium). The isotopes are sealed inside capsules and are referred to as sources. The sources are in turn stored inside locked containers (called pigs) made of material that shields radiation from the sources. The pigs are in turn stored in the underground radioactive bunker when sources are not being used inside the workshop or shipped offshore to exploration sites.

Only suitably trained, qualified and authorised personnel will have access to the radioactive source material storage area, and only authorised personnel may handle or work with such material. Access to the storage area and any movement of radioactive source material will be strictly controlled and recorded. Radioactive source material must be logged out when removed from storage and logged back in once returned, in accordance with Baker Hughes' internal procedures, NRPA licence requirements and applicable radiation protection controls.

Radiation exposure monitoring will be undertaken to ensure that occupational exposure remains within the approved limits. Where required, personnel working with or near radioactive source material will make use of appropriate monitoring devices and radiation protection measures. Regular

leak tests will be performed in accordance with the requirements applicable to the individual sources, to confirm that the sources remain sealed and within the required threshold limits.

Radioactive source material that is faulty, damaged, obsolete or no longer required, will not be disposed of locally, but will be managed in accordance with NRPA requirements and returned to the supplier or another authorised facility for safe handling and disposal. The necessary security controls, emergency response procedures and radiation management measures will be implemented at all times to ensure the safety of employees, visitors, neighbouring properties, the surrounding community and the environment.

3.4 DECOMMISSIONING PHASE

Decommissioning of the facility is not foreseen during the validity of the ECC. Decommissioning will however be assessed. Decommissioning will entail partial or complete removal of all infrastructure. Where decommissioning occurs, rehabilitation of the area may be required. After decommissioning, any pollution present on the site must be removed or remediated.

3.5 PRELIMINARY IDENTIFIED IMPACTS

During the preparation of the environmental assessment and EMP, all components of the environment will be considered. However, only those components which are, or may be, significantly impacted, or are deemed to be sensitive, will be assessed. These include the following:

- ◆ Human component (employee, visitor and community health and safety)
- ◆ Infrastructure (aesthetics, fire, integrity, damage to services, etc.)
- ◆ Neighbours (noise, aesthetics, waste, traffic)
- ◆ Groundwater, surface water and soil (radioactive pollution, hydrocarbon spills, waste)
- ◆ Ecosystem and biodiversity (habitat, pollutants, birds)
- ◆ Socio economic characteristics (service to the oil exploration industry, employment, training and skills development, revenue)

4 PUBLIC CONSULTATION

Public consultation is an integral part of all environmental assessments. Geo Pollution Technologies thus invites all interested and affected parties (IAPs) to provide in writing, any issues and suggestions regarding the project. This correspondence must include:

- ◆ Name and surname
- ◆ Organisation represented or private interest
- ◆ Position in the organisation
- ◆ Contact details
- ◆ Any direct business, financial, personal or other interest which you may have in the approval or refusal of the application.

All contributions by IAPs become public knowledge and will be circulated along with the reports as per the EMA requirements. The comments, inputs and suggestions will also be submitted to the DEA along with how any issues have been addressed in the EIA. The public participation process will remain ongoing during the environmental assessment. However, all comments and concerns should be provided timeously to ensure incorporation into the final report. The deadline for submission of comments will be communicated to all registered IAPs.

For any additional information the project team may be contacted at:



Your Rights as an IAP according to the Environmental Management Act, No7 of 2007, Government Notice No 30 (Environmental Impact Assessment Regulations)

Section 23.

- (1) A registered interested or affected party is entitled to comment in writing, on all written submissions made to the Environmental Commissioner by the applicant responsible for the application, and to bring to the attention of the Environmental Commissioner any issues which that party, believes may be of significance to the consideration of the application, as long as -*
 - (a) comments are submitted within 7 days of notification of an application or receiving access to a scoping report or an assessment report;*
 - (b) the interested and affected party discloses any direct business, financial, personal or other interest which that party may have in the approval or refusal of the application.*
- (2) Before the applicant submits a report compiled in terms of these regulations to the Environmental Commissioner, the applicant must give registered interested and affected parties access to, and an opportunity to comment in writing on the report.*
- (3) Reports referred to in sub regulation (2) include*
 - (a) scoping reports;*
 - (b) scoping reports amended and resubmitted;*
 - (c) assessment reports; and*
 - (d) assessment reports amended and resubmitted.*
- (4) Any written comments received by the applicant from a registered interested or affected party must accompany the report when the report is submitted to the Environmental Commissioner.*
- (5) A registered interested or affected party may comment on any final report that is submitted by a specialist reviewer for the purposes of these regulations where the report contains substantive information which has not previously been made available to a registered interested or affected party.*

Section 24:

The applicant responsible for an application must ensure that the comments of interested and affected parties are recorded in reports submitted to the Environmental Commissioner in terms of these regulations, and comments by interested and affected parties on a report which is to be submitted to the Environmental Commissioner may be attached to the report without recording those comments in the report itself.