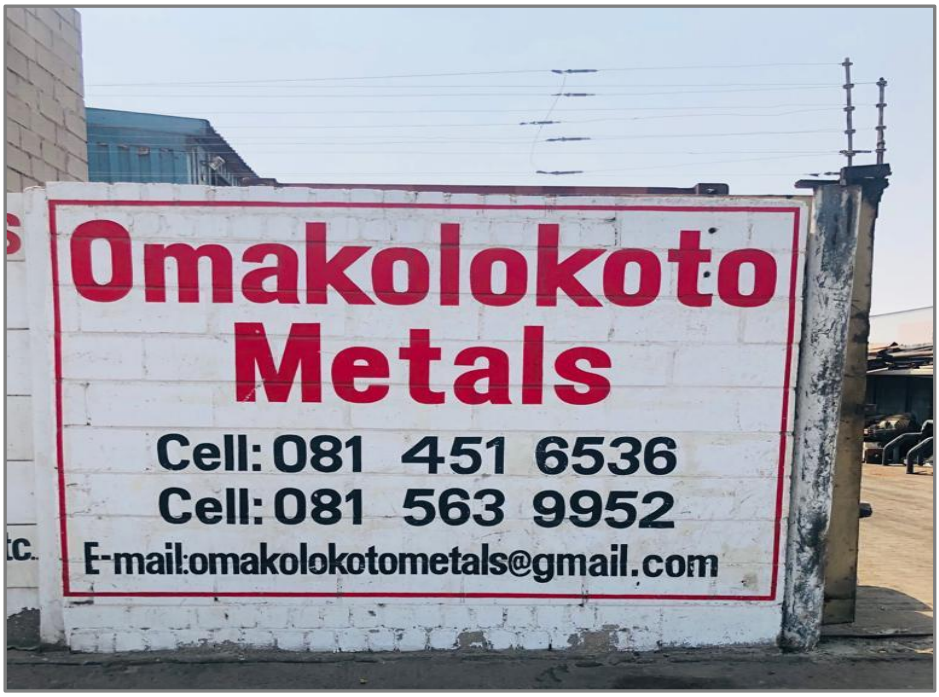
UPDATED ENVIRONMENTAL MANAGEMENT PLAN FOR THE ENVIRONMENTAL CLEARANCE CERTIFICATE RENEWAL OF

OMAKOLOKOTO METALS CC

Scrap Recycling, Flame Cutting and Salvage Activities



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Prepared for:	Omakolokoto Metals cc 12A Grand Avenue, Main Industrial Area Walvis Bay Namibia Tel: 064-200352 Fax: 064-221194 omakolokotometals@gmail.com
Lead Consultant	Gea Source Investment cc P.O. Box 8390 Swakopmund Namibia Tel. +264 813320920 geasource.investment@gmail.com
Main Project Team	**Faye Brinkman** PhD (Fisheries and Aquatic Sciences); MSc (Water and Coastal Management); BSc (Biology and Chemistry)
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1. BACKGROUND OF THE ENVIRONMENTAL MANAGEMENT PLAN

Omakolokoto Metals cc operates a scrap-metal recycling, flame-cutting, and salvage facility in Walvis Bay. Gea Source Investment cc was appointed by the proponent to manage the application for renewal of the Environmental Clearance Certificate (ECC).

An initial Environmental Management Plan (EMP) for the operations was completed in 2019, followed by an updated EMP in 2022, both of which identified and proposed management measures to minimise the environmental impacts associated with routine activities.

In accordance with the Environmental Management Act No. 7 of 2007 and the Environmental Impact Assessment Regulations, Omakolokoto Metals cc is therefore required to renew its Environmental Clearance Certificate for the following listed activities:

- the import, processing, use, recycling, temporary storage, transit, or export of waste; and
- the manufacture, storage, handling, or processing of hazardous substances as defined in the Hazardous Substances Ordinance, 1974.

An Environmental Management Plan (EMP) is a proactive management tool designed to identify and address potential environmental issues before they arise, thereby reducing the need for corrective actions. Where necessary, additional mitigation measures may be incorporated. The EMP serves as a stand-alone document applicable throughout all phases of a project, including planning, construction, operation, and decommissioning.

The primary purpose of this EMP is to ensure that the project complies with the objectives of the Namibian Environmental Management Act (No. 7 of 2007) and the Environmental Impact Assessment Regulations.

The specific objectives of the EMP are to:

- incorporate all components of the proposed activities;
- prescribe best practicable control measures to minimise environmental impacts associated with the operations;
- monitor and audit the performance of operational personnel in implementing such controls; and
- ensure that responsible personnel receive appropriate environmental training.

Omakolokoto Metals cc may elect to implement an Environmental Management System (EMS). Central to an EMS is the principle of continual improvement in environmental performance, which can lead to enhanced operational efficiency, financial savings, and reduced environmental, health, and safety risks.

An effective EMS should incorporate the following key elements:

- a documented environmental policy defining the organisation's desired level of environmental performance;
- a comprehensive environmental legal register;
- an institutional framework outlining responsibilities, authority, communication channels, and resources required to implement the EMS;
- identification of environmental, health, and safety training requirements;
- environmental programme(s) establishing objectives and targets, together with operational controls and work instructions to ensure compliance with the environmental policy; and
- regular internal and external audits and reviews of environmental performance and the effectiveness of the EMS.

2. SUMMARY OF APPLICABLE LEGISLATION

In order to protect the environment and promote sustainable development, Namibian legislation requires that all projects, plans, programmes, and policies that may result in adverse environmental impacts obtain an Environmental Clearance Certificate (ECC). The Environmental Impact Assessment (EIA) process in Namibia is governed by a range of legislative instruments applicable to the proposed development.

As the primary source of law, the Constitution of the Republic of Namibia (1990) provides for the promulgation and enforcement of environmental legislation. In accordance with its constitutional mandate, Namibia has enacted various laws aimed at protecting the natural environment and mitigating potential adverse environmental effects.

Within the context of the proponent's operations, several relevant laws and policies are applicable and are summarised in Table 2.1.

Table 2.1: Relevant legislation applicable to the proponent's operations

Legislation/Policy/Guideline	Relevant Provisions	Implications for the project
The Constitution of the Republic of Namibia (1990)	Article 91 (c) and Article 95 (i)	The proponent should ensure that their operational activities coexist with the natural environment and most importantly, the well-being of the Namibian citizens in terms of facilities and services.
Environmental Management Act EMA (No. 7 of 2007)	Section 58, Section 56, Section 27	The EMA and its regulations inform and guide the EA process.
Environmental Impact Assessment (EIA) Regulations of 2012 (GN 28-30)	GN 30 S21 Scoping Report (GN 30 S8) Assessment Report (GN 30 S15)	
Labour Act 11 of 2007	Details requirements regarding minimum wage and working conditions (Section 39).	The proponent should ensure that all workers involved in their operational activities comply with

Legislation/Policy/Guideline	Relevant Provisions	Implications for the project
Public Health Act 36 of 1919	Section 119	this Act.
Health and Safety Regulations GN 156/1997 (GG 1617)	Details various requirements regarding health and safety of labourers.	Omakolokoto Metals should ensure that the safety and welfare of workers are not compromised during the operational activities.
Forestry Act 12 of 2001 Nature Conservation Ordinance 4 of 1975	Section 22 Section 23	The Directorate of Forestry do not have jurisdiction within townlands however the provisions are guidelines for conservation of vegetation. The proponent should notify the relevant authorities in order to be allowed to construct in their jurisdictions. If there are any protected species, a permit to remove them is required.
Atmospheric Pollution Prevention Ordinance (11 of 1976)	The control of noxious or offensive gases; and Dust control	Omakolokoto Metals should adhere to the requirements of the ordinance.
Water Resources Management Act (No. 11 of 2013) Water Act 54 of 1956	The Water Resources Management Act 24 of 2004 does not have regulations as yet; therefore the Water Act No 54 of 1956 is enforced which: Prohibits the pollution of underground and surface water bodies (Section 23). ▪ Liability of clean-up costs after closure/ abandonment of an activity (Section 23).	The protection of ground and surface water resources should be a priority. The main threats will most likely be hydrocarbon spills during operation and maintenance.
The Pollution Control and Waste Management Bill (in preparation)	The entire Bill	The proponent should apply emissions and management measures and acquire the necessary permits.
Regional, Town and City Structure Plan (1996) Townships and Division of Land Ordinance 11 of 1963	Details the functions of the Township Board including what they consider when receiving an application for Township Establishment (Section 3).	The proposed layout and land uses should be informed by environmental factors such as water supply, soil etc. as laid out in Section 3.
Walvis Bay Town Planning Scheme No. 40: Town Planning Ordinance 18 of 1954	Subdivision of land situated in any area to which an approved Town Planning Scheme applies must be consistent with that scheme (Section 31).	The proposed use of the project site must be consistent with the Walvis Bay Town Planning Scheme
Road Ordinance 1972 (Ordinance 17 0f 1972)	Width of proclaimed roads and road reserve boundaries (Section 3).	The limitations applicable on Roads Authority proclaimed roads should inform the proposed layout

Legislation/Policy/Guideline	Relevant Provisions	Implications for the project
	Control of traffic on urban trunk and main roads (Section 27). Rails, tracks, bridges, wires, cables, subways or culverts across or under proclaimed roads (Section 36). Infringements and obstructions on and interference with proclaimed roads. (Section 37). Distance from proclaimed roads at which fences are erected (Section 38).	and zonings where applicable.

3. DESCRIPTION OF THE SITE

3.1 SITE LOCATION, TOPOGRAPHY AND SURROUNDING LAND USE

Omakolokoto Metals cc is situated at 12A Grand Avenue in the industrial area of Walvis Bay, zoned for light industrial use (-22.945016° S, 14.519689° E) (Figures 1 and 2). The site is located approximately 1.27 km from the B2 highway. The facility is roughly 9 km from an artificial bird guano platform, 5 km from the Walvis Bay Lagoon, and 3 km from the effluent ponds of the Walvis Bay municipal wastewater treatment plant. These nearby coastal habitats are ecologically significant, particularly for avian species.

The site does not lie within the catchment area of any major rivers or channels. Walvis Bay is located within Namibia's Central Western Plain, with the Kuiseb River forming the southern boundary of this landscape unit. South of the Kuiseb River lies the Namib Dune Field. The bay itself is formed by a peninsula commonly known as Pelican Point, with a lagoon situated at its southern section that historically marked the mouth of the Kuiseb River.

Topographically, the area is generally flat with a gentle downward slope towards the west. Dune fields are present to the southeast and further northeast of Walvis Bay. Overall runoff in the area is poorly developed and infiltration into the ground is fast, but rainfall frequency and volumes are typically very low. Storage and use of hazardous materials must be strictly controlled according to MSDS specifications to prevent any pollutants from reaching nearby receptors such as the ocean. The ground water table is shallow. Flooding is not normally a concern in the area.

Implications and Impacts
The location, topography, and surrounding land use of the Omakolokoto Metals cc site have several operational and environmental implications. Situated within a light industrial zone, the site benefits from reduced conflict with residential areas and good access to the B2 highway. The generally flat terrain with a gentle westerly slope and poorly developed drainage requires careful stormwater and runoff management, particularly given the region's low annual rainfall (<50 mm).

Proximity to ecologically sensitive coastal habitats, including the Walvis Bay Lagoon and artificial bird guano platforms, as well as nearby municipal wastewater effluent ponds, necessitates robust dust, waste, and environmental management measures to prevent adverse impacts on the surrounding environment.

Figure 1. Location of Omakolokoto Metals premises

Figure 2. Existing Site Layout

2.2 CLIMATE

Walvis Bay is situated in the most arid part of the Namib Desert. The climate is characterized by mild summers and cool winters, with average minimum and maximum temperatures ranging between 10˚C and 24˚C. The cold water Benguela system along the coast controls the coastal climate. Winds generated from the high-pressure cell over the Atlantic Ocean blow from a southerly direction when they reach the Namibian coastline. As the Namibian interior is warm (particularly in summer), localised low pressure systems are created which draws the cold southerly winds towards the inland desert areas (Mendelsohn et al. 2002).

These wind systems typically manifest as strong prevailing south-westerly winds, averaging approximately 20 knots (37 km/h) during winter months and reaching up to 60 knots (110 km/h) in summer (Christian 2006). Winds in the Walvis Bay area exhibit two dominant seasonal patterns: high-velocity, high-frequency south to south-westerly winds during summer, and high-velocity but lower-frequency east to north-easterly winds during winter.

During winter, easterly winds originating over the heated Namib Desert significantly influence local temperatures, which may rise into the upper 30 °C range. These winds also transport substantial quantities of sand inland and across the coastal zone (Christian 2006).

Fog is a frequent feature of the central coastal Namib and often represents the principal source of moisture for succulent and lichen communities within the desert environment.

In spring and summer, sea breezes transport moist air inland, promoting fog formation during the early morning and late afternoon. In winter, fog is more commonly associated with moist oceanic air moving onshore (Mendelsohn *et al.* 2002).

Annual rainfall is highly variable, and many biological communities within this environment rely heavily on the regular occurrence of fog. The period from January to April has the greatest probability of rainfall events. Long-term mean annual rainfall at Walvis Bay is less than 20 mm, with recorded totals ranging from 0 mm to approximately 100 mm per annum. Annual evaporation rates are relatively high and occur throughout the year. Although evaporation is moderated by frequent fog and low daily temperature ranges, the persistently high wind speeds substantially increase moisture loss. Given the minimal rainfall, most waste streams are expected to dry rather than undergo rapid decomposition (Mendelsohn *et al.* 2002).

Water is therefore a scarce and highly valuable resource in Namibia, particularly within the Namib Desert. Rainfall events are infrequent, and recurrent fog conditions provide a critical source of moisture for many desert-adapted species (Mendelsohn *et al.* 2002).

Implications and Impacts

The arid and windy climate of Walvis Bay has important implications for the operations of Omakolokoto Metals cc. Strong prevailing south-westerly winds and occasional high-velocity easterlies can increase dust generation and pose safety risks during scrap handling, storage, and

processing. High summer temperatures may affect worker comfort and productivity, while the low and highly variable annual rainfall limits the availability of water for operational needs such as dust suppression and material cleaning. Frequent fog and coastal moisture can contribute to surface corrosion of stored metal scrap, potentially affecting material quality. Consequently, operational planning, dust and water management, material storage, and worker health and safety measures must take these climatic conditions into account to ensure safe, efficient, and environmentally compliant operations.

2.3 GROUNDWATER QUALITY

Groundwater in the Walvis Bay region is strongly influenced by the semi-arid climate and geological setting of the Kuiseb Basin, where alluvial and sedimentary aquifers exhibit variable water quality controlled by rock-water interaction and limited recharge (Kalola et al., 2021; Christelis & Struckmeier, 2011). Studies using isotopic tracers indicate that salinity and major ion composition reflect both geogenic processes and minimal rainfall recharge, with most water types falling within acceptable limits for many physico-chemical parameters (Kgabi et al., 2018).

2.4 AIR QUALITY

Metal particulate matter emissions are generated during large-scale industrial cutting of scrap metal for recycling. Metal cutting encompasses a range of destruction processes, including shredding and torch cutting, with the latter being of particular concern because it produces fine airborne particulate matter. Increasing scientific evidence indicates that short-term exposure to particulate air pollution is associated with adverse health outcomes, including morbidity and mortality, especially in relation to fine particles with an aerodynamic diameter of less than 2.5 μm (Raun et al. 2012).

There is also growing recognition that the chemical composition of particulate matter is a critical factor in determining potential health effects (Raun et al. 2012). Although particulate emissions from metal recycling activities have not been extensively characterised, they are likely to contain metals commonly present in surface coatings (e.g. arsenic, cadmium, chromium, mercury, lead, and selenium) as well as alloy constituents being processed (e.g. iron, chromium, copper, cobalt, manganese, and nickel), some of which are known to be toxic.

Impacts and Implications

Fumes, smoke, dust, and odours generated during welding and flame-cutting activities present potential health risks to workers and may cause nuisance impacts to surrounding land users. The proponent may therefore be required to implement effective engineering and administrative controls, including localised fume extraction systems and the use of suitable respiratory protective equipment (RPE), to minimise occupational exposure and reduce the risk of respiratory illness. Contaminants such as oils, grease, paints, and surface coatings on scrap materials can substantially increase fume generation and introduce highly toxic substances into the emissions stream. In particular, hot-work activities on materials coated with lead-based paints, chromium (chromate)

compounds, or cadmium plating are considered especially hazardous and require strict handling and control measures.

Scrap-metal recycling and salvage operations in Namibia are subject to the Atmospheric Pollution Prevention Ordinance (No. 11 of 1976) and the Public Health Act, together with the Regulations Relating to the Health and Safety of Employees at Work (No. 156 of 1997). Although air emissions from certain area sources, including metal recyclers, are not always required to be formally measured, inventoried, or dispersion-modelled, this regulatory context creates uncertainty regarding the magnitude of emissions and their potential off-site impacts. Consequently, precautionary operational practices, monitoring where feasible, and the adoption of best practicable means to reduce emissions are essential to limit risks to human health and the surrounding environment and to demonstrate regulatory compliance.

2.5 INCREASED TRAFFFIC AND INFRASTRUCTURE

Traffic volumes in the area are expected to increase slightly, which could exacerbate congestion during peak periods and potentially raise the risk of vehicle collisions. The site is located within an already busy industrial area that experiences regular pedestrian movement and vehicular traffic; consequently, any additional traffic may heighten the likelihood of accidents involving both pedestrians and vehicles.

Local road infrastructure may also experience incremental wear as a result of increased vehicle use. During the operational phase, the anticipated rise in traffic is likely to be driven primarily by light vehicles associated with additional employment generated by the facility, rather than heavy-duty transport.

Impacts and Implications

Some traffic-related impacts are anticipated as a result of increased operational activities; however, the implementation of appropriate mitigation measures is expected to substantially reduce their significance. A slight increase in vehicle movements may contribute to congestion during peak hours and elevate the risk of traffic incidents, particularly given existing pedestrian and industrial traffic in the area. Increased traffic volumes may also accelerate wear on local road infrastructure, potentially affecting road surfaces, access points, and drainage systems.

Additional indirect impacts may include elevated noise levels, dust generation from vehicle movements, and minor increases in exhaust emissions within the surrounding area. Without effective management, these factors could inconvenience nearby road users and businesses. Consequently, the adoption of traffic management measures—such as designated access routes, speed controls, scheduling of deliveries outside peak periods, clear signage, and coordination with local authorities—will be necessary to ensure road safety, protect infrastructure, and minimise disturbance to surrounding land uses during the operational phase.

3. THE OPERATIONAL COMPONENTS

Omakolokoto Metals cc’s operations comprise two primary components:

- the salvage and recycling of scrap metal sourced from engineering and manufacturing industries in Walvis Bay; and
- the export of recyclable scrap metal to international markets.

The relevance of the potential environmental aspects and associated impacts arising from these activities is presented below in relation to the operational processes undertaken at Omakolokoto Metals cc. Aspects requiring further consideration were assessed using available baseline information and evaluated in terms of the management and mitigation measures necessary to minimise or prevent potential adverse impacts.

3.1 The Salvage and Recycling of Scrap Metals

The scrap-metal recycling industry encompasses a broad range of materials. The most commonly recycled metals by volume include iron and scrap steel, copper, aluminium, lead, zinc, and stainless steel. Scrap metals are generally classified into two main categories: ferrous and non-ferrous. Ferrous scrap contains iron, and both iron and steel can be repeatedly processed and re-melted to manufacture new products.

Common non-ferrous metals include copper, brass, aluminium, zinc, magnesium, tin, nickel, and lead, as well as precious and specialty metals. Precious metals—such as gold, silver, and platinum—are characterised by their high market value, while specialty or exotic metals contain rare elements including cobalt, mercury, titanium, tungsten, arsenic, beryllium, bismuth, cerium, cadmium, niobium, indium, gallium, germanium, lithium, selenium, tantalum, tellurium, vanadium, and zirconium.

At Omakolokoto Metals cc, both ferrous and non-ferrous scrap metals are processed through sorting and cutting operations. These materials are sourced from a variety of origins, including:

- scrap from manufacturing and engineering industries in Walvis Bay;
- used construction beams, plates, pipes, tubes, wiring, and shot;
- end-of-life vehicles and other automotive scrap;
- railway infrastructure and railcar scrap; and
- miscellaneous scrap metal.

The salvage and recycling processes employed at the facility fall into several basic operational categories:

- loading and unloading;
- separating and sorting;
- breaking of scrap;
- baling and compacting; and
- gas flame cutting.

Each of these activities forms an integral component of the recycling process and presents occupational health and safety risks typical of industrial material-handling operations. These may include flying debris, exposed moving machinery parts, fire hazards, and elevated noise levels.

Hazardous chemical exposures to employees are most likely to arise from hot-work activities that generate fumes—such as torch cutting and welding—or from mechanical processes that produce dust, including cutting and breaking operations. These processes are discussed in further detail below.

3.1.1 Loading and Unloading

The first stage of the scrap-metal recycling operation at Omakolokoto Metals cc involves the collection and preliminary sorting of materials into appropriate processing groups. Scrap metal is either collected from client premises or delivered directly to the Omakolokoto Metals site, where it is unloaded and subjected to an initial inspection to identify metal types and to determine weights prior to further processing.

At the facility, loading and unloading activities are undertaken using light and heavy-duty trucks, mobile cranes, and forklift trucks. The operation of this equipment presents hazards typical of material-handling environments, including collision risks, falling loads, and worker exposure to moving machinery.

At present, loading and unloading operations require adequate open space to be conducted safely. Accordingly, operational scheduling and housekeeping measures—such as regular clean-up campaigns and the clearing of entrance and working areas—must be incorporated to ensure sufficient manoeuvring space and to maintain safe access for vehicles and personnel during loading and unloading activities.

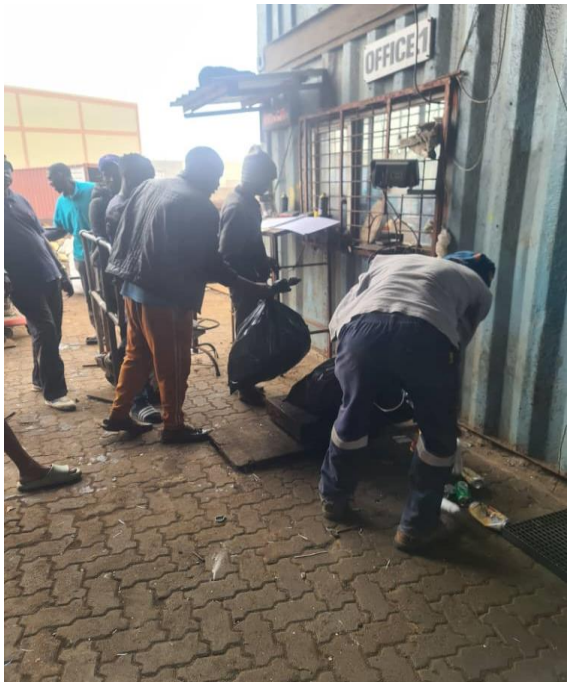

Photo 1. The weighing scale of scrap materials upon arrival. Photo 2. The loading and unloading of trucks.

3.1.2 Separating and Sorting

The next stage in the scrap-recycling process at Omakolokoto Metals cc involves separating materials according to metal type and removing non-processable items. Materials that cannot be treated on site are transported to appropriate recycling facilities, hazardous-waste facilities, or licensed landfill sites, as applicable. Separation and sorting activities are undertaken manually or with the assistance of mobile cranes.

During manual sorting, employees are required to wear suitable personal protective equipment (PPE), particularly gloves, where skin contact with metals or other substances may pose health risks. Even where metals are not chemically hazardous, handling sharp or protruding scrap presents a significant risk of cuts and abrasions. Employers must therefore ensure that workers are provided with and consistently use appropriate PPE, including gloves, durable protective clothing, and eye protection such as safety goggles, to guard against injury from sharp edges and flying fragments.

Forklift and crane operators must be properly trained and authorised to operate such equipment and are required to conduct pre- or post-shift inspections in accordance with company procedures. Consideration should be given to equipping vehicles with protective guarding to prevent incidental damage to vulnerable components, such as brake lines, during operations. Employees must also be familiar with first-aid procedures, medical-response protocols, and incident-reporting requirements in the event of injury.

At Omakolokoto Metals cc, the separating and sorting process should be subject to continual improvement through weekly operational planning to maximise available working space and maintain clear walkways. Housekeeping schedules should include regular clean-up activities and periodic adjustments to the site layout to facilitate safe and efficient separation and sorting of scrap materials.

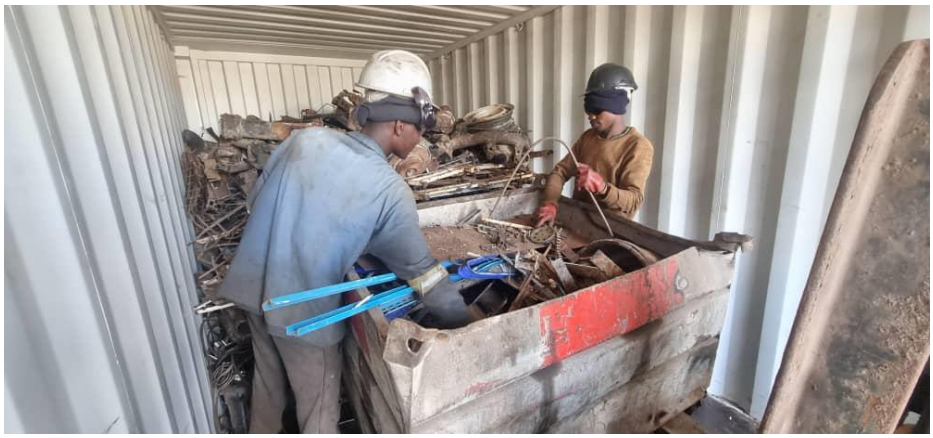

Photo. 3. The sorting and separating of scrap metals.

3.1.3 Breaking of Scrap

The subsequent stage in the scrap-recycling process at Omakolokoto Metals cc involves basic metal-breaking operations to reduce the size of scrap materials. These processes often require manual effort to dismantle large or complex scrap assemblies or to cut and break pieces into smaller, more manageable sizes.

Employees engaged in metal-breaking activities may be exposed to hazards from flying debris generated during impact. To mitigate these risks, employers must implement protective measures such as performing tasks remotely, installing barriers or shields around the work area, or ensuring the use of appropriate personal protective equipment (PPE), including face shields and body protection.

Metal-breaking operations can also generate significant noise levels. Employers are required to implement feasible engineering or administrative controls to reduce noise exposure. Where such controls are insufficient, employees must be provided with suitable hearing protection—such as earplugs, canal plugs, earmuffs, or other devices—in compliance with OSHA's Occupational Noise Exposure standards.

3.1.4 Baling and Compacting of Scrap

At Omakolokoto Metals cc, baling and compacting—particularly of automotive scrap—are undertaken to reduce the volume of scrap metal and improve handling and downstream processing efficiency. Scrap is typically compacted using hydraulic balers, which compress loose metal into dense blocks. These machines contain powerful moving components that must be adequately guarded to prevent contact with operators or other personnel. Vehicle flatteners operate on similar principles and present comparable hazards.

Although balers are generally automated and allow operators to remain at a safe distance during operation, caution is still required when feeding raw materials into hoppers or conveyor systems. Physical barriers, such as railings or exclusion zones, should be installed to prevent accidental falls or access to hazardous areas.

Some balers and shredders are equipped with advanced safety systems, including heat sensors that detect human presence and automatically stop machinery, or wearable magnetic devices linked to interlock systems (Nijkerk 2001). Where practicable, such systems could be incorporated into metal-processing equipment to provide an additional layer of protection against mechanical hazards and exposure to contaminants within the scrap stream.

Employees must receive comprehensive training on the operation and safety features of all equipment and must adhere to procedures for controlling hazardous energy, particularly during maintenance or repair activities. For machinery into which scrap metal is fed directly—whether manually, via hoppers, or by conveyor belts—appropriate guarding must be installed to prevent contact with moving parts. This applies to equipment such as alligator and guillotine shears, rotary shears, and rotary shredders. Operators must maintain safe working distances from active machinery, and shields should be installed to prevent fragments of metal from being ejected during processing. Employees must also be trained to recognise which materials are suitable for processing to avoid equipment malfunction or unsafe operating conditions.

In addition to physical hazards, baling, compacting, and shredding operations generate significant quantities of dust. If uncontrolled, these dusts may pose inhalation risks to workers and, under certain conditions, explosion hazards. Appropriate control measures include:

- installing dust extraction and ventilation systems at source;
- fitting explosion detection or suppression systems where combustible dust may accumulate;
- implementing regular housekeeping and cleaning programmes to prevent dust build-up;
- enclosing processing equipment where feasible; and

- requiring the use of suitable respiratory protective equipment where engineering controls alone are insufficient.

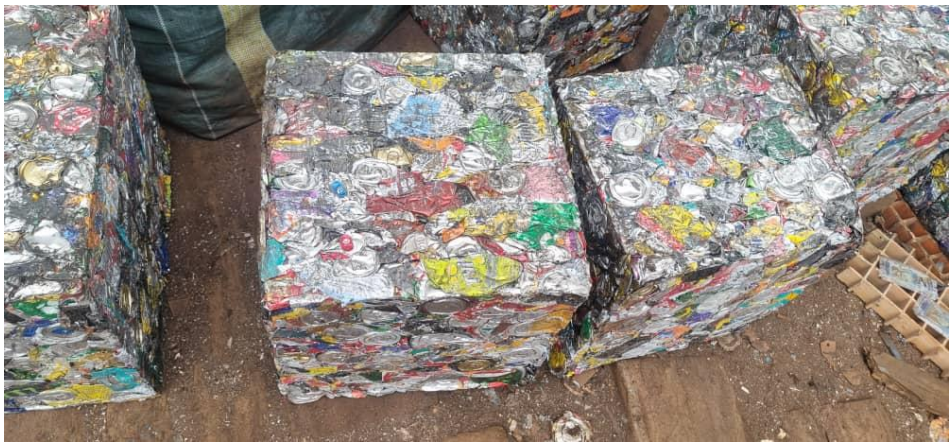

Photo 4. The compacted scrap metals in block

3.1.5 Gas Torch (Flame) Cutting

The subsequent stage in the scrap-recycling process at Omakolokoto Metals cc involves cutting scrap metal into smaller sections—typically approximately 1.5 × 1.5 m—using gas torches (Photo 5). Size reduction is an essential component of recycling operations, and gas cutting torches are commonly used to dismantle large steel components and other bulky metal items.

Thermal cutting exposes employees to multiple hazards, including showers of sparks and fine metal particulates, extreme heat, and intense light that may damage the eyes both within and beyond the visible spectrum, as well as exposure to combustion gases. Earlier cutting systems relied on hydrogen–oxygen mixtures, whereas modern torches commonly use acetylene, propane, carbide, petrol-oxygen, or similar fuel combinations.

Compressed gases present significant safety risks, as they may be flammable or explosive and may cause toxic or asphyxiant conditions in the event of leaks. Cylinders may also become projectile hazards if subjected to excessive heat or mechanical damage. Occupational health and safety standards, including those of OSHA, prescribe requirements for the safe storage, handling, and use of compressed gases, together with additional provisions for gases employed in welding and cutting operations.

Torch-cutting activities inherently pose a fire risk, particularly when undertaken on materials that contain combustible or explosive components, such as end-of-life vehicles with plastic components or fuel tanks, or objects incorporating timber structures. The on-site storage of flammable gases further elevates this risk and must therefore be carefully managed.

At present, improvements are required at Omakolokoto Metals cc with respect to the storage, handling, and use of compressed gases, including the installation of appropriate safety signage and the provision of compliant storage facilities in line with recognised occupational safety standards (Photo 6). These upgrades should form part of routine housekeeping and clean-up programmes. The implementation of a comprehensive Health, Safety and Environmental Management System would further support continual improvement in the management of compressed gases and associated risks.

Employees undertaking thermal cutting may be exposed to metal fumes, smoke, hot working conditions, and heated materials, and may come into contact with metals that present hazards through both inhalation and skin contact. Employers must ensure that workers are equipped with suitable eye and face protection, such as welding helmets, as well as heat-resistant or aluminium-lined protective clothing to safeguard against burns and radiant heat, recognising that these activities present hazards similar to welding operations.

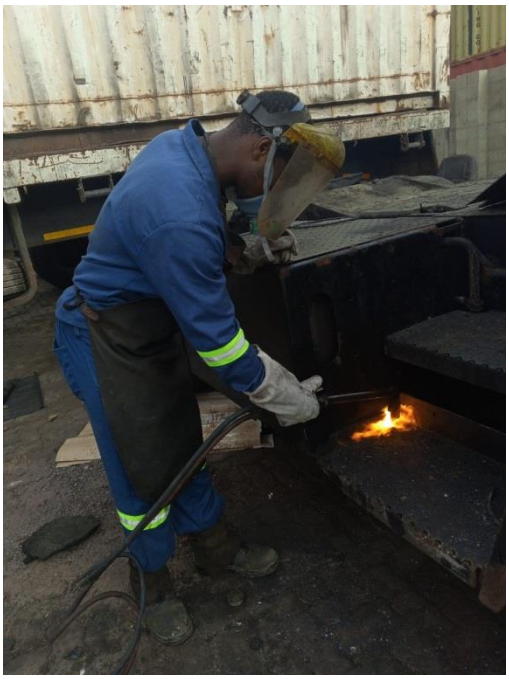

Photo 5. Compressed gas cylinders storage **Photo 6. Truck cut into squares**

3.2 The export of scrap metal materials

The final step in the scrap recycling process at Omakolokoto Metals is the loading of the processed (sorted, cut and/or compacted) scrap metal on a truck for export purposes. A final inspection is done to ensure all requirements are met for export. The final inspection will check the weight, contents and supporting documents of the scrap metal materials before the truck is transported to clients.

4. THE EMP

The following general guidance for the EMP is based on the findings of the risk assessment carried at Omakolokoto Metals site.

4.1 Land Use, Planning, Design, and Operations – Identified Impacts and Mitigating Measures

The assessment identified that the existing zoning permits scrap-recycling, flame-cutting and salvage activities at the site. However, the use of compressed gas cylinders presents a potential risk of fires or explosions, which could have significant consequences for adjacent industrial properties if not properly managed. Mitigation measures must therefore include comprehensive safety training for workers, the secure storage and handling of gas cylinders, and the installation of flashback arrestors. Accidental spills and releases of vehicle fluids represent a further environmental risk, particularly during storage, drainage and transfer operations, and should be prevented through the implementation of strict housekeeping and spill-prevention practices. In addition, Omakolokoto Metals cc must improve operational efficiency and safety through re-organisation of the site layout and the establishment of a structured clean-up campaign to create safe walkways and designated storage areas. This programme should also address existing soil contamination by removing and rehabilitating affected areas or replacing contaminated material, with hydrocarbon-impacted soil transported to the Walvis Bay Municipal Hazardous Waste Facility for approved disposal. The clean-up campaign must further ensure that all standards relating to the safe handling and operation of sorting, breaking and baling equipment, as well as compressed gas cylinders, are fully implemented to maintain a clean, orderly and safe working environment.

4.2 Responsibilities and Implementation of the EMP

Omakolokoto Metals holds overall responsibility for environmental management during both the operational and decommissioning phases of its scrap-recycling, flame-cutting and salvage activities, and is accountable for ensuring that all commitments contained in this Environmental Management Plan (EMP) are implemented during the planning, operational and decommissioning phases. This responsibility includes ensuring that all contractors comply with the EMP requirements and that their activities are adequately monitored. The EMP sets out the environmental commitments to be undertaken by Omakolokoto Metals and its contractors, with Tables 4.1 to 4.2 detailing the management measures for environmental elements potentially affected by project activities during the planning, operational and decommissioning phases. These measures should be incorporated into a comprehensive Health, Safety and Environmental (HSE) Management System to ensure systematic implementation, monitoring and continual improvement.

Table 1. Planning Phase

Activity	Objective	Action	Timing	Proof of Compliance	Responsible Body
Compliance	To comply with all legal requirements for the operations of the facility in Namibia.	Ensure that all the necessary permits from the various ministries, local authorities and any other bodies that govern the operations are available.	During operations.	All contracts, permits, certificates and other legal documents on file.	Proponent
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 a contractor and employees and enter into an agreement which includes the EMP. Ensure that the contents of the EMP are understood by the contractor, subcontractors, employees and all personnel who will be present on site.	During operations.	Contracts on file.	Proponent, Contractor
Clean-up Campaign	To organise and schedule for a clean-up campaign initiative to ensure clean and safe environment	Make a cleaning schedule and proposed new site layout that includes all existing processes of the proponent. Thereafter, cleaning of the scrap yard within an agreed time period.	During operations.	Cleaning schedule with new site layout of processes. Photos of before and after cleaning and clearing/sorting of scrap materials.	Proponent, Contractors
Management	Establish a management system to implement and monitor Health, Safety and Environment.	Make provisions to have a 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	During operations.	Documentation on file Personal Protection Equipment (PPE) on site. Document the operational procedures. Signage related to restricted areas, dangerous areas, and PPE requirements on site. Emergency response material on site.	Proponent, Independent Specialist Consultant

Activity	**Objective**	**Action**	**Timing**	**Proof of Compliance**	**Responsible Body**
		insurance cover for incidents; Comply with the provisions of all relevant safety standards; Procedures, equipment and materials required for emergencies.			
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 site should operational activities cease and the site is decommissioned and environmental restoration or pollution remediation is required.	During operations.	Insurance or warranty statement of restoration fund/insurance	Proponent
Reporting	To establish a reporting system to report on monitoring aspects of operation and decommissioning as outlined in the EMP	Establish a reporting system to report on aspects of construction, operation and decommissioning as outlined in the EMP. Keep monitoring reports on file for submission with Environmental Clearance Certificate renewal applications where needed.	During operations.	Monitoring Reports.	Proponent; Contractor
Environmental Clearance Renewal	To renew the Environmental Clearance Certificate every three years	Appoint a specialist environmental consultant to update the 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. Operational Phase

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Enhanced skills transfer and technology transfer to Walvis Bay and subsequent promotion of economic development	People need skills to perform their jobs. The technology to do something is often not found locally. Development of people and technology are key to economic development.	None required.	Annual summary report based on actual training and the enhancement of skills and transfer of technology should be compiled.	Proponent
Increased spread of HIV/ AIDS; Increased influx to Walvis Bay; Increased informal settlement and associated problems; Reduced property values	Even existing operations 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 Walvis Bay could contribute to the spread of HIV / AIDS.	The implementation of an educational program on HIV /AIDS for all the staff, in particular the truck drivers, are imperative. Restricted employment for Walvis Bay dwellers 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.	Annual summary report based on educational programmes and training conducted. Annual report and review of employee demographics	Proponent
Employment, secure steel supply and scrap recycling	The continued operation of the facility aid in securing steel supply to the marine, manufacturing and engineering industry. A recycling metal facility reduces pollution, saves resources, reduces waste going to landfills and prevents the destruction of habitats from mining new ore. The facility provides employment to locals.	None required.	Annual summary report based on employee records.	Proponent

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Traffic	The site is located in the town's industrial area. Due to the nature of the neighbouring industries trucks will frequent the areas around the site. This may cause traffic disruptions and impact on nearby businesses when trucks are parked in the street.	Careful planning and directing of trucks arriving for loading and unloading events might be required. Trucks should not be allowed to park, outside the premises, for extended periods of time. The speed limit imposed on the area must be adhered to.	A complaints register must be maintained, in which any traffic related complaints from the community must be logged. Complaints must be investigated and if appropriate, acted upon.	Proponent
Security	Unauthorised entry leading to theft of equipment and/or product and/or fire hazard (not intentional arson).	Security procedures and proper security measures must be in place. Strict security that prevents unauthorised entry. Patrolling perimeter fence. Alarm systems and security personnel should be utilised. Strict security at the entry points must be adhered to. Fitness for work certificates for every security officer to be issued on a monthly basis.	A report should be compiled containing all security related incidents.	Proponent, Security Contractor
Fire and Explosion Hazard	Products such as the compressed gas cylinders stored on site are flammable and therefore a fire risk exists. Workers are use compressed gas cylinders for Gas Torch (Flame) Cutting activities. The primary causes of fire and explosion accidents may include human error, technical failures and inadequate maintenance. If preventative measures for fire and explosions are not taken safety risks become more	Storage and handling of flammable products in particular gas cylinders should be according to their MSDS instructions. Regular maintenance, good housekeeping and training of personnel reduce the risk of fire. Further measures to be taken are: • Site inspection and maintenance • Operational procedures and training • Mechanical and electrical inspections • Fire extinguishers • Trained personnel • Good housekeeping • Reporting of leaks/spills ***Fire Fighting and Fire Prevention:*** All fire precautions and fire control at the operations must be up to date. Fire fighting	A report should be compiled containing all incidents. The report should contain dates when fire drills were conducted and when fire equipment was tested and replaced.	Proponent

Criteria	Nature	Mitigation	Monitoring	Responsible Body
	probable.	measures as per the Material Safety Data Sheets of the product should be adhered to. 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 the vicinity of the flame cutting activities. Regular inspections should be carried out to check for these materials at the site. It must be assured that sufficient water is available for fire fighting purposes. A holistic fire protection and prevention plan is needed. This holistic plan must include an emergency response, fire fighting plan and spill recovery. Regular inspections of the fire-fighting equipment and water supply should be carried out as per the EMP. Employers must ensure that employees use appropriate eye and face protection such as a welder's helmet and heatproof and or aluminum lined clothing to protect their bodies from the output of the flame cutting operations, which have similar hazards to welding. Experience has shown that the best chance to rapidly put out a major fire is in the first 5 minutes. It is important to recognise that a responsive fire prevention plan does not solely include the availability of fire fighting equipment, but more importantly, it involves premeditated measures and activities to timeously prevent, curb and avoid conditions that may result in fires.		

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Health & Safety	During operational times all procedures for loading and unloading, storage and gas flame cutting are subject to various risks to human beings. These risks are assessed in terms of the predicted impact if realised. Typical examples are:- *Loading and Unloading/ Breaking and Separating:* • Material handling hazards such as flying pieces of material, exposed moving parts, • Slipping on wet surfaces • Scrap metal contact with eyes, hands, feet and skin • Staff not wearing protective clothing • Staff operating light or heavy vehicles, forklift trucks and cranes without the adequate training *Storage:* • Slipping on wet surfaces • Trip and fall • Product contact with eyes and skin • Staff not wearing protective clothing • Working at heights • Muscular injury from incorrect lifting technique *Baling and Compacting* • Electrical hazards • Trip and fall • Dust	All Health and Safety standards specified in the Labour Act should be complied with. The responsible contractor must ensure that all staff members are briefed about the potential risks of injuries on site. It is imperative that adequate measures must be brought in place to ensure safety of staff on site at all times. Typical mitigating measures within the health and safety management systems are:- ➢ Adhere to Health and Safety Regulations pertaining to personal protective clothing, first aid kits being available on site, warning signs, etc. ➢ Equipment that will be locked away on site must be placed in a way that does not encourage criminal activities ➢ Ensure suitable personal protective equipment is in place for workers as well as permit to work systems ➢ Forklift and crane operators must be properly trained in the use of such equipment. Operators must conduct pre- or post-shift vehicle inspections depending on vehicle use. Employers must consider equipping vehicles with guarding to protect any vulnerable brake lines from incidental damage during operation ➢ Baling machinery operators must be properly trained in the use of the equipment. ➢ Proponent should install guards on machinery to prevent any employees from contacting moving parts. ➢ Flame cutting activities must be supervised and operators should have received necessary training on how to use, handling and storage of compressed gases. ➢ Employees must follow lockout/tagout	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 itself. The proponent must ensure that adequate emergency facilities, including first aid kits are available on site. Selected personnel should be trained in first aid. The numbers of all emergency services must be readily available.	Proponent

Criteria	Nature	Mitigation	Monitoring	Responsible Body
	Gas Flame Cutting: • Trip and fall hazards • Slipping on wet surfaces • Staff not wearing protective clothing • Working at heights • Working in confined spaces • Fire hazards	procedures to de-energize all equipment prior to cleaning or performing maintenance.		
Dust generation from handling, sorting, breaking and vehicle movement	• Apply water spraying or misting during dry and windy conditions • Maintain clean, designated work areas • Cover or contain fine materials	• Visual inspection of dust levels on site • Record complaints from neighbouring properties • Check effectiveness of dust suppression measures	Daily (visual) As required (complaints) Maintain an air quality incident and complaints register	Proponent (Site Manager / HSE Officer)
Emissions from flame cutting and welding (fumes, smoke, particulates)	• Install localised fume extraction systems where feasible • Use appropriate respiratory protective equipment (RPE) • Remove oils, paints, and coatings from scrap prior to cutting where possible • Restrict cutting during high wind conditions where necessary • Restrict cutting to areas further away from neighbours	• Visual observation of smoke/fume emissions • Inspection of PPE use compliance • Maintenance checks of extraction systems	Daily inspections Monthly equipment checks Maintain an air quality incident and complaints register	Proponent (Site Manager / HSE Officer)
Hazardous emissions from coated or contaminated scrap (e.g. lead, chromium, oils)	• Identify and segregate hazardous materials prior to processing • Avoid cutting of highly contaminated materials where possible • Ensure proper storage and handling of hazardous waste • Train workers on hazardous	• Inspection of incoming scrap • Record of hazardous materials removed or segregated • Training records	Continuous Monthly review Maintain an air quality incident and complaints register	Proponent (Site Manager / HSE Officer)

Criteria	Nature	Mitigation	Monitoring	Responsible Body
	material handling			
Vehicle exhaust emissions	• Maintain vehicles and machinery regularly • Minimise idling of vehicles	• Vehicle maintenance records • Visual smoke checks from exhausts	Continuous Monthly review Maintain an air quality incident and complaints register	Proponent (Site Manager / HSE Officer)
Odour nuisance	• Maintain good housekeeping practices • Prompt removal of waste materials • Proper storage of contaminated scrap	• Record and investigate complaints • Site inspections for odour sources	Continuous Monthly review Maintain an air quality incident and complaints register	Proponent (Site Manager / HSE Officer)
Waste Production	The ability of products to act as a waste which must be cleaned up or removed off-site to an appropriate waste disposal facility. These can be soils that become contaminated with fuel. Domestic waste from bins, offices and ablution facilities and other scrap material.	The contractor must ensure that adequate temporary disposal facilities are available at on-site. Products that can be re-used or re-cycled should be kept separate. Waste should be disposed of regularly and at appropriate disposal facilities. Due to the nature of some hazardous materials they should be disposed of in an appropriate way at an appropriately classified waste disposal facility. Make use of the Material Safety Data Sheets available from suppliers if the user is not sure how to dispose of the substance.	A register of hazardous waste disposal should be kept. This should include type of waste, volume as well as disposal method/facility. Hazardous waste disposal receipts should be kept on file. Any complaints received regarding waste should be recorded with notes on action taken. All data to be compiled in a monitoring report.	Proponent
Groundwater, Surface Water and Soil Contamination	Soil may become contaminated over time by the slow accumulation of many small drips and spills, or all at once by a single spill event. Spills can occur if fluids are left in the vehicle when stored in the yard, when the fluids are intentionally removed from the vehicle, and when the fluids are transferred into or	Using good housekeeping practices can avoid potentially costly remediation of contaminated soil due to accidental drips and spills. When spills do occur, the release should be stopped and cleaned up immediately. If the spilled material was hazardous waste, then the contaminated soil will likely be a hazardous waste as well. If hazardous, you must dispose of it as hazardous waste: • the contaminated soil must be stored in	Mitigation measures for handling and storage of hydrocarbon and hazardous materials onsite and offsite. Make use of spill kits (spill clean-up material), spill drip trays and funnels to transfer hydrocarbons. Should any spills occur, contaminated soil is to be removed and rehabilitated or replaced with uncontaminated soil and a spill report	Proponent

Criteria	Nature	Mitigation	Monitoring	Responsible Body
	out of storage containers and tanks. Porous surface substrate can allow unwanted hazardous and ecologically detrimental substances to seep down to the water table table either at the site of spill or after being washed away by surface flow. Leakages from accidental spills of hydrocarbons (fuel and oil) from scrap vehicles might occur. Groundwater might spread pollutants to neighbouring receptors and may create an impact on underground infrastructure. However, due to the small scale of the project and the scarcity of surface water and groundwater in the area, the risk of hazardous spills can be effectively managed. Groundwater is not utilized in the area for human consumption but should still be protected at all costs. Limited surface runoff from the site is expected.	containers labeled "Hazardous Waste – Contaminated Soil;" • all hazardous wastes count toward your monthly hazardous waste generator accumulation total; • Contaminated soil should be containerized or stored covered on bermed plastic sheeting until a decision is made on how it will be managed. DO NOT store contaminated soils indefinitely. If the spilled material was non-hazardous waste, then the contaminated soil will also be non-hazardous.	form must be completed by the contractor. The spill report form must include the nature, extent and location of the hazardous spill and the actions taken to contain it.	
Ecological Impact	The effect of operational activities on the ecosystem functioning and biodiversity. Bright lights may impact on birds flying in the area at night. This may lead to collisions.	The operations take place within an industrial area where most biodiversity has been removed long ago. To prevent the impact of lighting on birds all lighting at the premises must be directed downwards and the minimum lighting required must be used at night. The nesting of birds should be discouraged.	A record should be kept of any extraordinary fauna sightings or encounters on site. Complaints register must be maintained, in which all complaints from the community must be logged.	Proponent

Criteria	Nature	Mitigation	Monitoring	Responsible Body
		Rodents and other infestation should be discourage and effectively managed. Regular inspection must be performed to monitor for fauna impacts and mitigation measures investigated if required.	All data to be compiled in the monitoring report.	
Visual Impact	This is an impact that affects the aesthetic appearance. The infrastructure does not have a significant effect on the visual horizon as it will be similar to the other structures in the industrial area and to that which is already present at the scrap metal recycling premises.	No specific measures need to be implemented to maintain a similar visual impact to other industrial buildings. Routine maintenance on infrastructure will ensure that the longevity of structures is maximised. However, it is important that the real integrity of the structures is considered in the long term and not just appearances.	A complaints register must be maintained, in which all complaints from the community must be logged. Complaints must be investigated and if appropriate, acted upon.	Proponent
Cumulative Impact	These are impacts on the environment, which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of who undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time. In relation to an activity, it means the impact of an activity that in itself may not be significant, may become significant when added to the existing and potential impacts resulting from similar or diverse activities or undertakings in the area. Possible cumulative impacts	Addressing each of the individual impacts as discussed and recommended in the EMP would reduce the cumulative impact. Reviewing biannual and annual reports for any new or reoccurring impacts or problems would aid in identifying cumulative impacts and help in planning if the existing mitigations are insufficient.	Annual summary report based on all other impacts must be created to give an overall assessment of the impact of the Operational Phase.	Proponent

Criteria	Nature	Mitigation	Monitoring	Responsible Body
	associated with the operational phase include increase in traffic frequenting the site and along the sections of roads near the facility. An increase in emissions from these vehicles will decrease the air quality around the facility. Wear and tear on the roads and increased risks of road traffic incidences could increase. Additional traffic and operational noise would further increase noise impacts in the area. Other companies are using the roads to access the area. The cumulative effect of lighting on birds due to industrial developments may increase the risk of collisions and interference with bird flight paths at night.			

Table 3. Decommissioning Phase

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Employment	Decommissioning of the site premises 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.	During normal operations of the facility an annual report must 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
Ecological Impact	Operations spanning many years may create new habitat for fauna and flora. Upon decommissioning these habitats will be destroyed	The Applicant would have to take into consideration any new flora and fauna habitats created. Before decommissioning, the HSE officers would need to inspect every structural facility to ensure that the dismantling and removal of any structure would not affect any organism that has become dependent on those structures for survival, shelter or breeding. Where new habitats were created and occupied by fauna or flora, The Applicant must contact MET or other appropriate organizations to establish the conservation status. The possibility of relocating the fauna or flora must be investigated and executed. Should the species be listed as vulnerable to extinction, a meeting should be held with MET in order to determine the appropriate handling of the situation.	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**.**	Proponent, Contractor
Dust	Dust will be generated during the Decommissioning Phase and might be aggravated during periods of strong winds. This occurs regularly in Walvis Bay during the	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	Proponent, Contractor

Criteria	Nature	Mitigation	Monitoring	Responsible Body
	winter months when easterly winds occur.	Accumulation of rubble should not be allowed and must be taken to the dumpsite within reasonable time.	and, if appropriate, acted upon.	
Air Quality	The fumes from welding and flame cutting metals is harmful. Dirt, grease and other contamination increases the amount of fume generated and can introduce very toxic substances to it. Hot work on items with lead paint, chromium (chromate) paint or cadmium plating is particularly hazardous.	The contractor may need fume extraction and/or filtering respirators (respiratory protective equipment or RPE) to reduce the risk of ill health. Consider controls in this order for all welding work: Avoid or reduce exposure Use local exhaust ventilation (LEV) to take the fume away at source. Use suitable respiratory protective equipment (RPE), for example a facemask, to protect workers from inhaling fumes 1. Avoid or reduce exposure To protect your workers from the health risks of inhaling welding fume, first think about if you can use alternative joining, cutting or surface preparation methods that produce less fume or dust. Consider if you could avoid or reduce exposure by doing the job in a different way. For example, can you: • automate or mechanise the process, by using distance welding, turntables or enclosing the work • reduce the amount of welding use materials or a process that generates less fume, for example using MIG welding (an arc welding process) instead of MMA welding (stick welding) use clean metals, for example pre-fabrication shaping or better machining 2. Use local exhaust ventilation (LEV) If you can't avoid welding in your workplace, use local exhaust ventilation systems for indoor working to help remove fume at its source. This is also known as extraction or fume control.	When the proponent provides RPE for workers: Ensure to use an FFP3 disposable mask or half-mask with P3 filter (PDF), for work of up to an hour use battery-powered air-fed protective equipment for longer duration work, with a minimum assigned protection factor of 20 (APF20) ensure RPE wearers are clean shaven and provide face-fit testing for them For welding outdoors, local exhaust ventilation will not work, so workers should use suitable RPE to control exposure. The proponent should always provide appropriate personal protective equipment for your welders shielding to protect other workers from eye damage. Proponent to ensure to keep records of PPE provided to workers. The proponent shall ensure that welding and flame-cutting activities are carried out at a sufficient distance from the SPCA to minimise potential disturbance.	Proponent

Criteria	Nature	Mitigation	Monitoring	Responsible Body
		This will protect your welder from exposure to welding fume. It will also help to protect others nearby. 3. Use suitable respiratory protective equipment (RPE). If you cannot achieve adequate control from LEV alone, or if it is not reasonably practicable to provide LEV, you must provide your workers with suitable respiratory protective equipment (RPE). For example, if they're welding with LEV but not all the fume is captured you might be able to see residual uncaptured fume, or in the case of TIG welding, smell uncaptured ozone, then you're not controlling the risk and you should also provide respiratory protective equipment. 4. Erect solid screening walls or sheeted fencing along the boundary facing the SPCA. 5.Use windbreak netting or solid cladding to reduce dust and fume drift. 6. Ensure scrap cutting areas are positioned downwind (based on prevailing wind direction).		
Waste Production	The ability of product to act as a waste which must be cleaned up. Upon decommissioning waste will be produced in the form of building rubble, obsolete equipment and structures, obsolete or residual products and equipment or structures that can be used elsewhere or sold as scrap.	To reduce the amount of waste all re-usable pipelines, pumps, tanks, valves and other equipment must be removed to another site owned by Omakolokoto Metals or sold. Those items that cannot be used again must be scrapped in the appropriate manner. Upon demolition of the buildings and concrete the rubble must be removed from the property and taken to an approved dumpsite designated by the Walvis Bay Municipality. Rehabilitation if necessary are to be done using funds designated for the purpose.	Regular visual inspection. A register of waste produced and disposal methods should be maintained.	Proponent; Contractor

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Noise	Noise pollution will exist due to heavy vehicles accessing the site to collect rubble from demolished building materials.	The facility is situated in an industrial area so there is no restriction on the times of operation. The Walvis Bay Municipality does not have any guidelines with respect to noise levels but the World Health Organization (WHO) guideline on maximum noise levels (Guidelines for Community Noise, 1999) to prevent hearing impairment is followed. This limits noise levels in industrial areas to an average of 70 dB over a 24 hour period with maximum noise levels not exceeding 110 dB during the period. During decommissioning noise levels might be higher. This will however be short lived. All personnel must be issued with hearing protectors and neighbours must be notified of the time and duration of 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.	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
Groundwater, Surface Water and Soil Contamination	Porous surface substrate can allow unwanted hazardous and ecologically detrimental substances to seep down to the water table.	All precautions are to be taken to prevent contamination of the soil as this could enter the ecosystem. Leakages from vehicles might occur especially if they are serviced on site. Care must be taken to avoid contamination of soil and groundwater. Groundwater might spread pollutants to neighbouring receptors and may create an impact on underground utilities (i.e. fresh water supply to buildings, sewerage system). Pollutants in the soil and building rubble must be transported away from the site to an approved, appropriately classified waste disposal site. Confirm MSDS information for any remaining fuels, oils or lubricants that must be discarded.	Mitigation measures for handling and storage of hydrocarbon and hazardous materials onsite and offsite. Should any spills occur, contaminated soil is to be removed and rehabilitated or replaced with uncontaminated soil and a spill report form must be completed by the contractor. The spill report form must include the nature, extent and location of the hazardous spill and the actions taken to contain it.	Proponent, Contractor

Criteria	Nature	Mitigation	Monitoring	Responsible Body
		Regulations on sewerage discharge and the chemicals that may be put into the sewerage system must be followed.		
Health, Safety and Security	During decommissioning times all procedures for loading and unloading and demolishing of buildings are subject to various risks to human beings. Different excavation, earthmoving and transport equipment will be onsite. This increases the possibility of injuries. A high risk to site security and personnel health and safety exists during this period.	All Health and Safety standards specified in the Labour Act should be complied with. The responsible contractor must ensure that all staff members are briefed about the potential risks of injuries on site. The Contractor should be obliged to adhere to the ➢ following:encourage criminal activities ➢ Adhere to Health and Safety Regulations pertaining to personal protective clothing, first aid kits, warning signs, etc.; Ensure that adequate emergency facilities, including first aid kits, are available on site; ➢ The contractor must use local media to make the public aware of construction activities that may pose safety risks; ➢ Proper barricades and signage must be in place to warn and direct pedestrian and vehicle traffic away from construction site; ➢ Equipment that must be locked away on site and must be placed in a way that does not encourage criminal activities (e.g. theft); ➢ Induction training for all who enter the site is required; and ➢ Security personnel to prevent unauthorised entry of the site	Receive a weekly planning sheet from Contractor to know when traffic authorities and the general public need to be informed of construction areas to avoid. A register of all incidents must be maintained on a daily basis. This should include measures taken to ensure that such incidents are not repeated. All information and reporting to be included in a final report once construction finishes and the site is handed over to MME.	Proponent, Contractor
Fire and Explosion Hazard	Residual Hydrocarbons could be present and might pose a risk to the teams dismantling the various structures. Fire and/or explosion events are	All relevant regulations and precautions should be in place before commencing with decommissioning activities. All personnel have to be sensitised about	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 itself.	Proponent; Contractor

Criteria	Nature	Mitigation	Monitoring	Responsible Body
	still possible.	responsible fire protection measures and good housekeeping such as the removal of flammable materials including rubbish, dry vegetation, and hydrocarbon-soaked soil from the vicinity of the site. Regular inspections should still be carried out to inspect and test fire fighting equipment and pollution control materials at the scrap recycle premises. All fire precautions and fire control at the fuel storage facility must be in accordance with SANS, or better. The holistic fire protection and prevention plan should still be utilised. Experience has shown that the best chance to rapidly put out a major fire is in the first 5 minutes. It is important to recognise that a responsive fire prevention plan does not solely include the availability of fire fighting equipment, but more importantly, it involves premeditated measures and activities to timeously prevent, curb and avoid conditions that may result in fires.		
Rehabilitation	Should the premises ever be decommissioned the entire premises must be rehabilitated as much as possible to its original condition.	Removal of all infrastructure and waste produced after decommissioning is crucial. Any residual hydrocarbon polluted soil must be removed to a classified waste disposal site.	During normal operations a rehabilitation fund must be established to prepare for possible decommissioning	Proponent

5. CONCLUSION

The updated Environmental Management Plan is prepared for scrap recycling, flame cutting and salvage operations of Omakolokoto Metals cc in Walvis Bay. The updated EMP if properly implemented will help minimise 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 review of the Environmental Management Plan found it practical and efficient towards the improvement of environmental sustainability. Omakolokoto Metals cc have implemented an HSE Management System upon recommendation of the EMP (their HSE MS and other HSE documents are attached).

The updated Environmental Management Plan should be used as an on-site reference document during all phases of the proposed 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.

Provided that the recommended mitigation measures are successfully implemented, there is no environmental reason not to issue an environmental clearance certificate for the existing scrap recycling, flame cutting and salvage operations.

Gea Source Investment cc
Faye Brinkman
PhD Fisheries and Ocean Sciences
Project Manager

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Appendix A: Background Information Document (BID) - Omakolokoto Metals cc

Appendix B: Omakolokoto Metals HSE Plan & Supporting Documents

Appendix C: Neighbours and Municipality Consent

Appendix D: Environmental Practitioners CV